

The Earnings Penalty for Motherhood in Urban China during the Economic Transition

by Jia Nan and Dong Xiao-yuan

1. INTRODUCTION

Women's reproductive activities (mainly giving birth and child rearing) are not only essential to future human development and welfare, but also important in promoting sustained economic growth as they contribute to investment in human and social capital. However, in many market economies, women's reproductive contribution is not recognized. Instead, it puts them at a disadvantage in the labor market, resulting in lower status and wages (Elson 1999). Research frequently finds that women with children make far less money than women without children (Waldfogel 1998). The term in the literature for reproduction-related income loss is "the earnings penalty for motherhood" (Budig and England 2001).

Many explanations are provided for this "penalty for motherhood". First, there is the human capital hypothesis (Becker 1964): maternity and child rearing interrupt women's participation in the labor market, which reduces women's human capital investment. Maternal concerns also force many women to take up jobs that enable them to strike a better balance between work and family, such as part-time jobs and self-employment. However, such informal employment usually provides lower and unstable pay. Women may also miss on-the-job training opportunities because they have to spend time with children. Compared with men or childless women, women with children have lower human capi-

tal, and therefore lower income. Second, there is the work effort (family responsibilities) hypothesis (Anderson, Binder and Krause 2002): mothers assume more family responsibilities than fathers. For the sake of their children, mothers spend less time and effort on work, which affects their work efficiency and earnings negatively. Third, there is the discrimination hypothesis (Waldfogel 1998): employers are reluctant to hire or promote women with children on the grounds that their commitment and efficiency are likely to be compromised by family responsibilities. This again restrains women's income growth. The negative impact of motherhood on women's income is a key factor in gender-based wage differences.

China has experienced a transition from a planned economy to a market economy over the past 30 years. The economic transition has brought about huge changes in the labor market, as well as in ways of assessing and compensating women's reproductive activities. In recent years, much literature has been generated

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about the impact of the economic transition on women's income and labor market participation. However, most researchers focus on human capital investment, gender discrimination in the labor market, and occupational segregation. Little is known about any changes which might have occurred in women's reproductive activities and their consequences. This paper tries to fill in the gap by drawing on data from the China Health and Nutrition Survey (CHNS) 1991–2006 to study the earnings impact of motherhood on married women in urban China.

2. ECONOMIC TRANSITION, WOMEN'S EMPLOYMENT AND EARNINGS

In the era of the planned economy, the Chinese government made great efforts to enhance women's participation in the labor market in order to improve their social status and to promote gender equality. Almost all women as well as men of working age got jobs after graduation from school. In urban China, the majority of the labor force worked full time in state-owned enterprises (SOEs). Female and male SOE employees had equal rights to lifelong employment, education, medical care, housing subsidies, and pensions. Employers provided subsidized child care and paid maternity leave to women workers, making it much easier for them to continue working while taking care of young children. Meanwhile, the wage structure was stipulated by the state, with equal pay for men and women. Since there was no direct link between wages and individual efficiency at work, the potential negative impact of motherhood on women was mitigated. In a sense, under central planning, although women still had to handle both work and family responsibilities, the cost of motherhood was shared among the state, the employer, and the individual woman. Consequently, few women experienced earnings losses by becoming a mother.

The economic transition that started in China in the late 1970s brought about fundamental changes in the market and labor allocation mechanisms. Although China is the most successful of all the countries that have gone through economic transition in promoting economic growth and poverty reduction, changes in the urban labor market have made it much harder for women to strike a balance between work and motherhood. SOE reorganization and restructuring in the late 1990s put an end to the various practices known as

“eating from the same big rice-pot” and the “iron rice bowl” (lifelong employment). Private businesses replaced SOEs and soon came to dominate the urban Chinese labor market. In the wake of its reform and open-door policies, the Chinese government has drawn up a series of policies and regulations to protect women in their child-bearing and rearing role. For example, the *Labor Law* stipulates that birth-giving women workers shall be entitled to maternity leave no shorter than 90 days, and that employers shall not revoke labor contracts made with women employees due to pregnancy, childbirth, and nursing. However, there are gaps in enforcement in the non-state sector (Liu Bohong, Zhang Yongying and Li Yanni, 2010). Women's employment is threatened by fiercer competition in the market. Women have to take on the double risk of lower income and unemployment if they want to become mothers. Motherhood also adversely affects women's employability and upward career mobility.

The economic transition has also brought about great changes in China's urban child care system. Reforms in this area give priority to preschool education over support for women's employment. In accordance with the *Regulations on Kindergartens* issued in 1989, state-subsidized childcare programs should no longer cover children aged 0 to 2 years for whom the provision of education is considered unimportant. The end of employer-based welfare system in the late 1990s also resulted in drastic cutbacks in motherhood and family support by the government, as well as employers, shifting most responsibilities onto families and women. Profit concerns have forced most enterprises to stop running day-care centers for workers. According to the 2006 China CSR Survey, no more than 20 percent of SOEs still had in-house child-care facilities, while only 5.7 percent of all organizations surveyed had such facilities (Du Fenglian and Dong Xiao-yuan, 2010). Since the government has cut back on investment in social services, many child-care facilities that used to receive public subsidies have gone commercial. High fees make them inaccessible to children from low-income families. As a result, mothers in those families have either to ask their parents for help or quit working. Du Fenglian and Dong Xiao-yuan (2010) and Maurel-Fazio et al. (2009) found a sharp decrease in employment among mothers of preschool children after public sector reorganization. In order to strike a balance between work and family, more

and more women are forced to join the informal sector as part-time workers with no security and low wages (Cook, 2010). Interrupted employment and changes in employment modes inevitably have a negative impact on women's earnings. Indeed, a study based on two national representative Urban Household Surveys estimated that the earnings ratio of women to men fell from 0.80 in 1995 to 0.71 in 2003 (Dong et al. 2006).

Section 3 examines, using a regression analysis, how the economic transition has affected the earnings penalty for motherhood for urban mothers. We will compare mothers' incomes before 1997 (1990–1996) with incomes after 1997 (1999–2005). We use 1997 as a dividing year because large-scale SOE restructuring was carried out in China in that year, the main phase lasting until 2002. SOE restructuring brought to an end lifelong employment for urban workers and the employer-based “from the cradle to the grave” welfare system. We will also compare the state sector with the non-state sector. We have three hypotheses: (i) The economic transition has had a negative impact on urban Chinese women's income during motherhood; (ii) the negative impact has been felt more keenly since 1997; (iii) the negative impact has been felt more keenly by mothers working in the non-state sector than in the state sector.

3. DATA, WOMEN'S LABOR FORCE PARTICIPATION AND EARNINGS PENALTY FOR MOTHERHOOD

This paper draws on panel data from the six years 1991, 1993, 1997, 2000, 2004 and 2006 gathered from nine provinces – Liaoning, Heilongjiang, Jiangsu, Shandong, Henan, Hubei, Hunan, Guangxi and Guizhou – from the China Health and Nutrition Survey (CHNS). Our subjects are wage-earning urban women between the ages of 17 and 45 in the cities and county centers. Because the earnings variables are based on the previous year's earnings, the sample period under investigation is from 1990 to 2005 and is divided into the gradualist reform period (from 1990 to 1996) and the radical reform period (from 1999 to 2005). After deleting missing values, 2,233 observations are used in the analysis: 75 per cent of all women in the sample are mothers and the remaining 25 per cent are childless women. Two indicators are used to

measure earnings: annual earnings and hourly earnings. Annual income includes base wage and bonuses, adjusted by holding the price level in 2006 constant. Annual earnings divided by total working hours in a year gives hourly earnings.

Figure 1: Labor Force Participation Rates of Women with and without Young Children

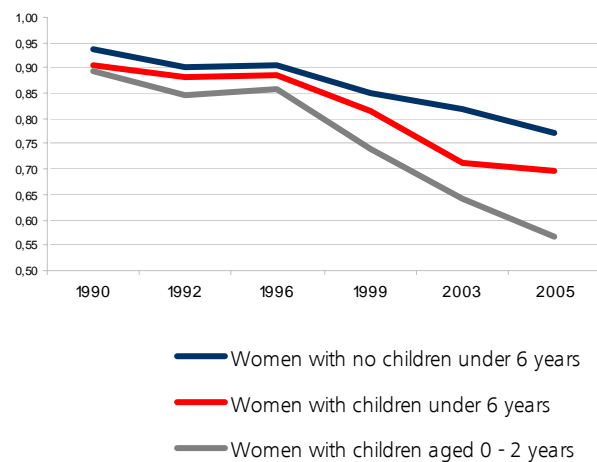


Figure 1 presents the labor force participation rates for working-age women with and without young children. We note that having young children did not make much difference with regard to women's labor force participation in 1990: more than 90 per cent of women in each group participated in gainful employment and even for women with children under three years of age, the labor force participation rate was as high as 89.2 per cent. Over the period 1990–2005, labor force participation rates declined for all three groups, much of the decline occurring in the post-restructuring period (1999 to 2005). The change was particularly dramatic for women with young children: the labor force participation rate for women without young children fell by 16.5 percentage points, from 93.6 per cent to 77.1 per cent, while the rate for women with children under three years of age fell by 32.6 percentage points, from 89.2 per cent to 56.6 per cent. Labor market interruption associated with child bearing is expected to have a serious adverse impact on women's lifetime earnings.¹

¹ As we pointed out in the introduction, labor market interruption is only one of the culprits with regard to the earnings penalty for motherhood: job performance, on-the-job training, promotion and employers' prejudices may all play a role. Unfortunately, due to the data limitations, we are unable to pin down the specific causes of the rising earnings penalty in post-reform urban China in the present study.

Figure 2: Mean Values of Annual Earnings

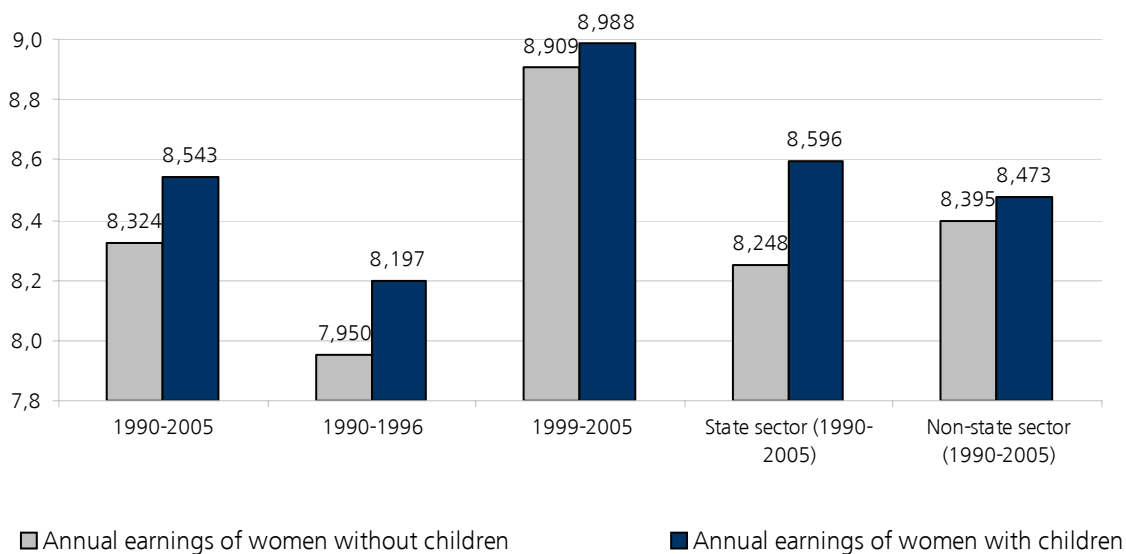
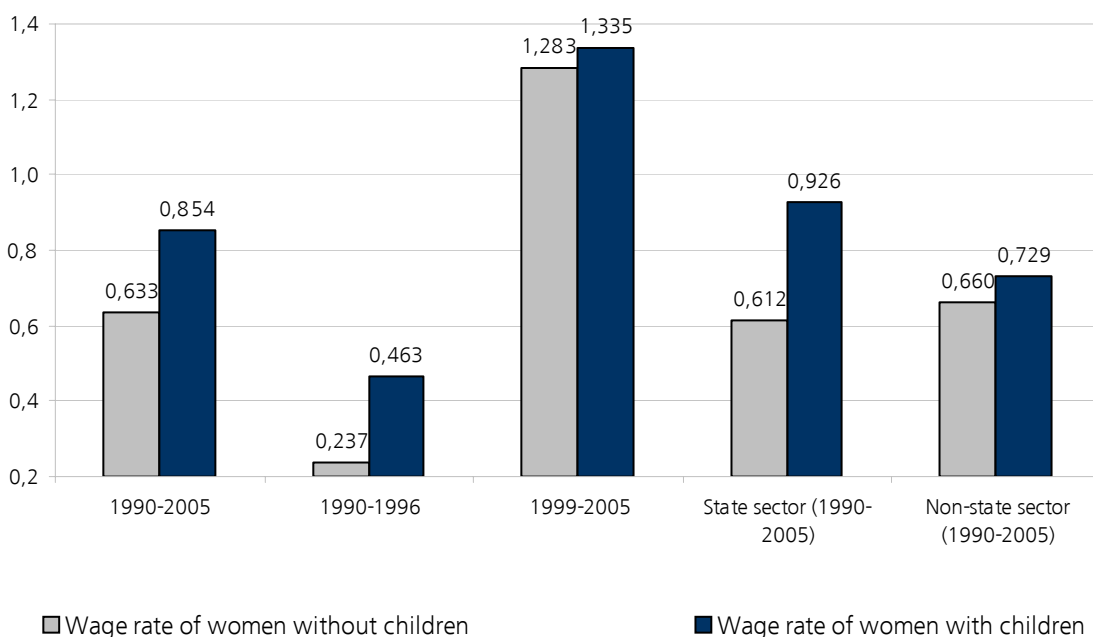
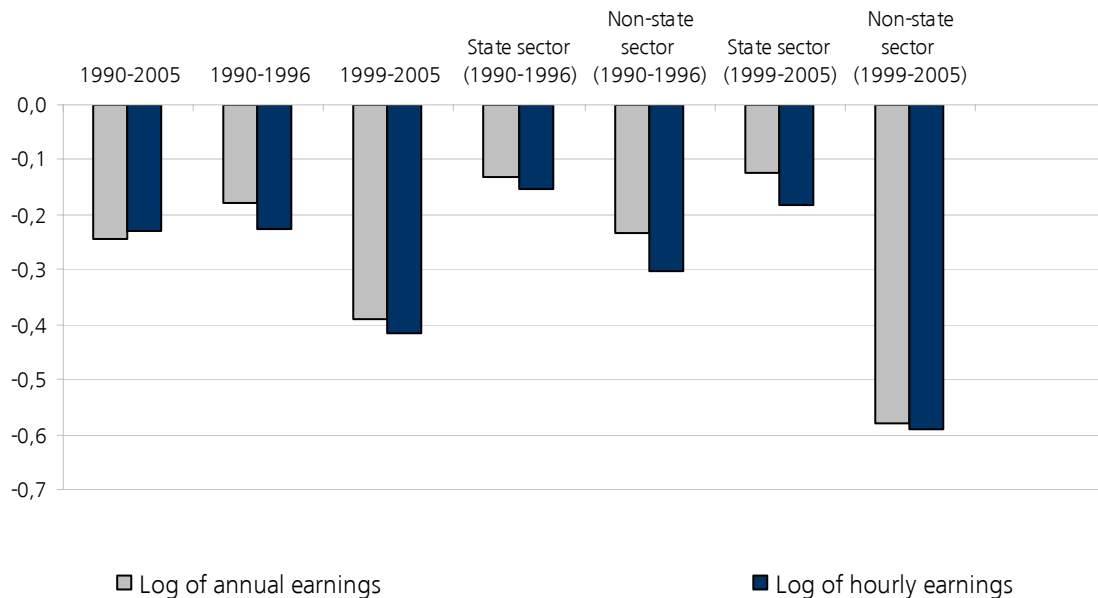


Figure 3: Mean Values of Hourly Earnings



Figures 2 and 3 present the mean values of annual and hourly wages in log form by period and by sector. The statistics presented in Figures 2 and 3 provide a broad picture of the changing earnings differentials between childless women and mothers over the period of investigation. It is noteworthy that the raw wage gaps between the two types of women are attributable to both the potential motherhood effect and the experi-

ence effect. Given that childless women in the sample are, on average, 11 years younger than mothers and therefore have less experience, the wages would be lower for childless women than mothers so long as the negative motherhood effect does not outweigh the positive experience effect. From Figures 2 and 3, we note that the annual and hourly wages of childless women are indeed significantly lower than those of mothers for

Figure 4: Earnings Effects of Motherhood on Urban Chinese Women (Fixed-effects Estimates)

the full sample period. However, the wage differentials between the two types of women changed markedly between the two sub-periods. In the period 1990–1996, the pay for childless women was significantly lower than that for mothers, by 24.7 per cent on an annual basis and by 22.6 per cent on an hourly basis; in contrast, the wage differences in the period 1999–2005 were down to 7.9 per cent and 5.2 per cent, respectively, and the differences were statistically insignificant. Evidently, the wages of childless women grew faster than those of mothers during the radical reform period. A similar pattern of differences is also observed when comparing the state and non-state sectors.² In the state sector, the annual and hourly wages of childless women are significantly lower than those of mothers (by 34.8 per cent on an annual basis and by 31.3 per cent on an hourly basis); in contrast, the earnings gaps in the non-state sector are much smaller (–7.8 per cent and –6.9 per cent, respectively) and again both are statistically insignificant. Thus, relative to childless women, mothers have evidently fared poorly in the non-state sector relative to those in the state sector.

What follows is a regression analysis of motherhood's impact on women's earnings, which allow us to control for other factors that may also affect earnings.

The two earnings measures are the dependent variables of the regression models. The independent variable of primary interest in the earnings equation is a dummy variable standing for motherhood. If a woman i delivers a baby in year t , this variable will be 1 in year t as well as in the following years. If a woman does not have any baby, the variable will remain at 0. The dummy variable coefficient measures the long-term impact of motherhood on earnings after a woman becomes a mother. The impact is considered long-term because mothers can hardly be compensated for the loss of human capital and promotion opportunities even after their children have grown up. The covariates that are controlled in the earnings equations include education, experience, the square of experience, marital status, occupational status, ownership structure of the employer, full-time or part-time job, cohabitation with parents or parents-in-law, dummy variables for geographical location and dummy variables for time trend. We use fixed-effects regression to control for unobservable differences between women with children and women without children. The resulting coefficients are consistent and reliable.

Figure 4 presents the estimated values of the impact of motherhood on the earnings of urban women in different time periods and sectors through fixed-effects

² Government agencies, state-owned enterprises and public institutions belong to the state sector, while the private sector comprises collective enterprises, privately-owned businesses, foreign-invested businesses and so on.

regression. It shows that, like many other market economies, China is characterized by a significant negative impact of motherhood on urban women's earnings. In other words, the "earnings penalty for motherhood" does exist in China. Judged by the entire sample (1990–2005), the annual earnings of women with children are 24.6 per cent lower than those of women without children, while the former's hourly earnings are 22.9 per cent lower than those of the latter. The negative impact is statistically significant.

The periodical estimation using the year 1997 as a dividing line points to a growing negative impact of motherhood on women as market reform deepened in China. In the initial stage of the reform (1990–1996), the negative impact of motherhood on income was not statistically significant. However, after 1997, with the SOE restructuring and reforms in the labor and welfare systems, the Chinese economy became more market-oriented and the negative impact of motherhood on earnings became statistically significant. To be more specific, the negative impact of motherhood on annual earnings and hourly earnings, respectively, went up from 17.8 per cent and 22.6 per cent in the period from 1991 to 1996, to 39.0 per cent and 41.7 per cent in the period from 1999 and 2005.

Sector-based regression analysis shows that the earnings penalty for motherhood exists in both state and non-state sectors. Nevertheless, the negative impact in the state sector did not change much during the two periods, and the impact was not statistically significant. By contrast, the negative impact of motherhood on women's earnings was much greater in the non-state sector. Except for the impact on annual earnings between 1990 and 1996, all the estimated values are statistically significant. Moreover, the negative impact grew as market reform deepened. To be more specific, between 1990 and 1996, motherhood cut women's annual earnings by 23.4 per cent, and hourly income by 30.1 per cent. Between 1999 and 2005, the same two measures rose to 57.9 per cent and 59.2 per cent, respectively. The findings above indicate that although the penalty for motherhood exists in the state sector as well, the negative impact of motherhood was not as bad, despite fiercer competition in the labor market, since the state sector does a better job of complying with laws and regulations protecting women workers. However, as the state sector lost its dominance and competition in

the labor market got tougher, discrimination against women who are also mothers grew in the non-state sector, resulting in a greater negative impact of motherhood on women employed by this sector.

4. CONCLUSION AND POLICY IMPLICATIONS

China's transformation from a planned economy to a market economy has fundamentally changed the allocation mechanisms for products and labor in both market and non-market areas: the private economy is growing in importance, competition in the labor market has become fiercer, the role of the state and employers in providing social products and services has been eroded, part of social reproduction and care-giving responsibilities have been shifted from the state and employers under the planned economy back to women. This paper draws on the China Health and Nutrition Survey to investigate the impact of motherhood on urban Chinese women during the economic transition. It finds that, like many other market economies, post-transition China has also seen a significant negative impact of motherhood on urban women. In other words, the earnings penalty for motherhood exists in China. This penalty is felt more keenly in the non-state sector than in the state sector, and has been aggravated by the deepening of market reforms.

This research has strong policy implications. Women bring the next generation into the world and reproduction is a public good whose cost should not be borne by women alone. Raising the penalty for motherhood widens the income gap between men and women, thereby weakening women's position in the family and society. Many research studies have found that the mother's influence is often much greater than the father's on the education, health and productivity of the next generation. A lower status for women will inevitably have a serious negative impact on the long-term accumulation of human capital in a country. The emergence and growth of the earnings penalty for motherhood will decrease not only women's willingness to participate in the labor market, but also their willingness to give birth, which will deplete China's "demographic dividend" more quickly, accelerate the aging process and aggravate labor supply shortages, resulting in many socio-economic problems. Therefore, public policymakers should not regard child bearing and rearing as something private to

families and women. The state should implement policies and laws protecting mothers in the private sector. Taxation, subsidies and awareness-raising campaigns should be used to encourage employers to mitigate the negative impact of motherhood on women's employment, on-the-job training and promotion. Governments at all levels should play a greater role in providing affordable, high quality child care services instead of letting the market take over entirely.

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