



6-19-2019

## **Stark Choices: Work-Family Trade-Offs among Migrant Women and Men in Urban China**

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Zhao, Menghan and Hannum, Emily, "Stark Choices: Work-Family Trade-Offs among Migrant Women and Men in Urban China" (2019). *Gansu Survey of Children and Families Papers*. 58.

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This working paper was published in a journal:

Zhao, Menghan and Emily Hannum. 2019. "Stark Choices: Work-Family Tradeoffs among Migrant Women and Men in Urban China." *Chinese Sociological Review* 51(4):365-396. <https://doi.org/10.1080/21620555.2019.1635879>.

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# Stark Choices: Work-Family Trade-Offs among Migrant Women and Men in Urban China

## Abstract

China's so-called "floating population" of rural-urban labor migrants includes rising numbers of couples and families migrating together. Labor market outcomes may differ for migrant men and women, in part due to family obligations, but few recent studies have investigated this possibility. This paper focuses on the relationship of labor outcomes with family obligations among migrant men and women and considers whether this relationship differs among those with higher and lower earnings potential. We perform nested logit models of employment status and OLS regression analyses of income, using a nationally-representative survey collected in 2013. For migrant women, childcare responsibilities are negatively associated with employment and income. In contrast, for migrant men, being co-resident with children has no bearing on probability of being employed full-time and is sometimes positively associated with income. Further, the "motherhood penalty" in income is most pronounced among migrant women with the least education. Results illustrate the embeddedness of individual migration decisions and outcomes within families. Findings also highlight a stark choice facing many migrant women: between earning for their children and living with them.

## Keywords

migration, gender differences, family-work conflict, motherhood penalty, floating population

## Comments

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**Title:**

**Stark Choices: Work-family Trade-offs among Migrant Women and Men in Urban China**

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**Acknowledgements**

We thank the editor and anonymous reviewers for their comments and suggestions

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## **Women and Men in Urban China**

### **Abstract**

China's so-called "floating population" of rural-urban labor migrants includes rising numbers of couples and families migrating together. Labor market outcomes may differ for migrant men and women, in part due to family obligations, but few recent studies have investigated this possibility. This paper focuses on the relationship of labor outcomes with family obligations among migrant men and women and considers whether this relationship differs among those with higher and lower earnings potential. We perform nested logit models of employment status and OLS regression analyses of income, using a nationally-representative survey collected in 2013. For migrant women, childcare responsibilities are negatively associated with employment and income. In contrast, for migrant men, being co-resident with children has no bearing on probability of being employed full-time and is sometimes positively associated with income. Further, the "motherhood penalty" in income is most pronounced among migrant women with the least education. Results illustrate the embeddedness of individual migration decisions and outcomes within families. Findings also highlight a stark choice facing many migrant women: between earning for their children and living with them.

**Key words:** migration; gender differences; family-work conflict; motherhood penalty; floating population

## 1. Introduction

The “floating population” (流动人口, *liudong renkou*) in China is defined as migrants residing in a location that is different from their place of household registration (户口, *hukou*) for at least six months (Liang, Li, and Ma 2014).<sup>1</sup> Since market reforms dating from the late 1970s, the population of migrants, thus defined, has increased dramatically. The total population of migrants was estimated at 241 million in 2018 (National Bureau of Statistics of PRC 2019) —a number that is comparable to the population of the world’s fourth most populous country (Indonesia, with 265 million in 2018 (Population Reference Bureau 2018)).

A large body of research has emerged to study different aspects of internal migration in China and especially the constraints imposed by *hukou* (Kuang and Liu 2012; Zhang and Treiman 2013), which limits access to various entitlements in China. In recent years, researchers have noted emerging patterns of feminization of the migrant population (Fan 2008). This trend brings China in line with patterns of global migration: since the 1960s, women and girls have accounted for almost half of global migration (Zlotnik 2003). Compared to their pre-migration circumstances, women migrants may be more likely to work for paid jobs and increase their bargaining power within households, but many studies of international migration have suggested that migration is not necessarily a liberating experience and women’s economic gains can be modest and complicated. For example, in the United States, though the relative employability of Asian women immigrants increased over that of some men, patriarchal family relations that discouraged employment were resistant to change (Espiritu 1999). Pessar (2001) found that Guatemalan refugee women insisted on gaining full autonomy and equality in exile, but their rights and overall empowerment were eroded after they returned to local communities.

Some early Chinese studies on the labor market position of migrant women have also suggested that gender differences in the migration experience may be substantial (Fan 2000; Huang 2001). Some part of this difference may be rooted in employment discrimination. One recent study found that 88 percent of the gender difference in wages of Chinese migrants is due to gender discrimination (Min et al. 2016:176). But some part of this difference may be related to the embeddedness of women migrants in couples and families—recent research has documented a rise in “couple migration” in China (Duan, Lv, and Zou 2013; Sheng 2013). Because care work obligations tend to fall disproportionately on women in China, the prospects for economic advancement through migration could operate very differently for women than for men. Care work obligations may be especially salient among the most socioeconomically vulnerable migrants, who have few resources at their disposal to help balance work and family. However, few recent studies have paid attention to how family obligations might be shaping the experience and outcomes of migration differently for men and women.

Capitalizing on newly-available data from the 2013 National Floating Population Dynamics Monitoring Survey in China (NFPDMS), a nationally representative survey of the floating population conducted in 31 provinces, this study investigates gender differences in the relationship between labor outcomes—employment and income—and family obligations—marital status and parenthood status—among the migrant population. In addition, we investigate whether implications of family obligations for labor outcomes differ by educational attainment. We argue below that it is critical to consider embeddedness in families as a factor shaping the experience of labor migration, because migrant women’s economic outcomes are considerably more tightly tied to familial obligations than are migrant men’s. Our analyses show significant gender differences in employment status and income of migrants and link these differences to family obligations. Specifically, results show that for migrant women but not men, those who have more family

obligations (those who have childcare obligations) are more likely to be unemployed. Further, among parents, female but not male migrants' childcare burden tends to be negatively related to income. Finally, the "motherhood penalty" in income is concentrated among less educated migrant women. The challenge of combining work and childrearing among migrant women is likely a major contributor to China's massive "left-behind children" (留守儿童, *liushou ertong*) phenomenon in the countryside.

Our study is novel in employing recent, national data and in analysing differences in outcomes between migrant parents who have children left behind and those who have co-resident children. Earlier work has used much older, sometimes geographically-limited data and has not focused on the implications of co-residency status. For example, Liang and Chen (2004) focused only on data from the Shenzhen Special Economic Zone, extracted from the 1990 census. Their analysis only suggested that the impact of marital status on employment differed by gender, indicating that "For men, being married increases the likelihood of obtaining professional and managerial jobs; for women, however, marriage is a constraint that decreases the likelihood of obtaining professional or managerial jobs." (Liang and Chen 2004: 437) They did not focus directly on children or co-resident children. Maurer-Fazio et al. (2011) investigated the association of having children present with labor force participation using census data collected in 1982, 1990 and 2000, but emphasized the comparison between married migrant and nonmigrant women. This paper makes a distinction between parental status— having children or not—and co-residency status—whether children are "left-behind" or "brought along". As we will show below, for migrant women, the co-residency distinction is critical: mothers with children somewhere else and mothers with children in the home have quite distinct employment and income profiles.

## 2. Background and research context

Globally, women accounted for 48 percent of all international migrants in 2017 (UNPD 2017:4). Since 1990, women migrants have constituted a majority of migrants in developed countries, and the proportion of women among international migrants increased all world regions except Africa and Asia (UNPD 2013b). The drop in proportion female among migrants in Asia was primarily the result of a rapid increase in the number of male migrants in Western Asia, because the annual increase in the number of women migrants remained as high as 1.9 percent since 2000 in Asia, while the annual increase of male migrants was about 3.1 percent (UNPD 2013a:3).

Early economic theories of migration implied an intra-family trade-off in gains and losses from migration: gains of husbands induce a decline of labor supply and earnings of wives, but wives' potential losses from migration reduce the chance of migrating, and thus the observed migrants are those who are more likely to benefit from migration (Mincer 1978). Later, Stark and his colleagues (1985; 1982) proposed the new economics of labor migration, which emphasized that migration decisions are made collectively by families or households and that people in less developed countries migrate not only to maximize income but also to reduce overall risk by diversifying sources of income. Over time, gender came to be seen as an important source of differences in migration experience. Grasmuck and Pessar (1991) studied Dominican immigrants in the U.S. by introducing a multidimensional framework that involved economic, political, and socio-cultural factors, and suggested that there is a gendered attitude towards migration and return. Focusing on Mexican immigrants in the U.S., Hondagneu-Sotelo (1994) found that migration resulted from negotiations fraught with conflict in families and also transformed family relationships in an egalitarian direction. As suggested by these studies, studying the migration process can contribute to understanding of the transformation of gender relations (Herrera 2013). Women's migration is often associated with increased wage employment, which may enhance status in the



domestic sphere. Studies have suggested that migration is often accompanied by an increased say over household budgeting and other realms of decision making for women, which provides leverage to demand greater contributions from men to housework (Pedraza 1991; Gamburd 2000; Resurreccion and Van Khanh 2007).

However, other studies have cautioned that even with changes brought by migration, gender regimes are still resistant to change and traditional divisions of labor remain largely intact (Pedraza 1991; Espiritu 1999; Gamburd 2000; Parreñas 2005). Empirical research points to the enduring importance of gender-role ideology in the fact that women in families with young children are most likely to be out of employment after family migration (Boyle et al. 2001, 2003). Based on data from the National Survey of Families and Households in the United States, one study of family migration of matched married-couple families found an increase in husbands' income and no change in wives' income, even when wives had higher earnings potential (Cooke 2003). Shauman and Noonan (2007) estimated the wife-husband difference in the mover-stayer difference and constructed two counterfactual scenarios to test the hypothesis that female disadvantage in the returns to family migration is due to 1) the distribution of individual, family or occupational characteristics or 2) the influence of gender roles. They concluded that the differentiating influence of gender roles contributed to female disadvantage in the returns, including employment consistency and earnings growth, to family migration in the U.S.

In China, the size of the floating population and its proportion in the total population have increased tremendously during the last two decades, growing from 71 million (5.9 percent of the total population) in 1995 to 241 million (more than 17.0 percent of the total population) in 2018 (National Bureau of Statistics of PRC 2019). Accompanying this overall rise in numbers is a rise in couple migration. Based on 2010 census data, one study (Duan, Lv, and Zou 2013) found that the majority of married migrants moved with their spouses. This phenomenon also corresponds with

the increasing feminization pattern of the floating population revealed in previous studies (Fan 2008). Although individuals are moving with spouses, economic motivations remain the main reason for migrant women moving to cities (Duan et al. 2008).

In the early 2000s, some studies started to examine the role of gender in Chinese migration (Fan 2000, 2003). Scholars have argued that female labor migrants suffer in the labor market from both gender discrimination (Meng 1998; Liang and Chen 2004) and disadvantages linked to their agricultural *hukou* status (Huang 2001). Analyzing data from the 2002 China Household Income Project, Magnani and Zhu (2012:779) found that male migrants earned 30.2 percent more hourly wages than female migrants, and discrimination effects contributed more to the wage gap than endowment effects. Capitalizing on data from the 2010 NFPDMS, one recent study found that male migrant workers earn 26 percent higher hourly wages than their female counterparts, with 88 percent of the difference resulting from discrimination towards female migrant workers (Min et al. 2016:176). A study based on more recent data from the 2012 NFPDMS showed that gender differences in income were more severe for those with low levels of education, agricultural *hukou* status, and jobs in labor-intensive industries (Luo and Tong 2015).

Studies using samples from the general population find that female disadvantages in income and employment are concentrated among wives and mothers. One study using multi-city labor survey data found that working wives and mothers spend much more time on housework than working husbands and fathers do (Zhang, Hannum, and Wang 2008). According to analyses of the 2008 China Time Use Survey, the interference of unpaid work with paid work lowers earnings more for women than for men, and unpaid work accounts for 28 percent of the gender earnings gap (Qi and Dong 2016:143). Childcare responsibilities for young children also have a negative association with the earnings of women (Xiu and Gunderson 2013). The presence of day care programs in a community is positively associated with mothers' labor force participation, according to analyses

using data from the China Health and Nutrition Survey for the years 1991 to 2006 (Du and Dong 2013).

Among women migrants, a handful of studies exist about work-family tradeoffs. Analyzing migrants in Shenzhen using 1990 census data, Liang and Chen (2004) found that migrant women are much more constrained by family obligations than men. Analysis of census data from 1982 to 2000 suggests larger negative effects on women's labor force activities associated with having young children in the household for married, rural-to-urban migrants than for their non-migrant counterparts (Maurer-Fazio et al. 2011). For migrant women, work-family conflict may have stark implications. These women may have to make a choice between raising children but suffering work-family conflict or leaving children behind for higher income in urban labor markets. Thus, the family obligations faced by migrant women are a likely contributor to China's huge left-behind children problem (Duan et al. 2013; Duan and Yang 2008; Mu and Brauw 2015). However, to our knowledge, no studies using data more recent than the 2000 census have emerged to address how family obligations shape gender differences in migrant experiences and labor outcomes.

Overall, global research suggests that women's direct economic gains from migration are constrained by family obligations. Research focused on samples of the general population in China has suggested that 1) there is an increasing trend of separation and interaction between the private families and the public sphere (Ji and Wu 2018; Ji et al. 2017), and women's position in the labor market has deteriorated in urban China (Wang 2005; Li and Ma 2007; Li and Li 2008; Zhao 2018); 2) the worsening trend is concentrated among mothers (Zhang and Hannum 2015); and 3) the conflict between employment and family care obligations among migrant women is tightly linked to the unfolding phenomenon of left-behind children in China (Su et al. 2013; Huang et al. 2016; Zhou, Murphy, and Tao 2014). Drawing on these findings, we propose *Hypothesis 1: Gender*

*differences in employment status and income of the migrant population are associated with family obligations.*

Though few studies in China on gender differences in migrants' labor outcomes focus on disparities among subgroups, literature has revealed heterogeneous linkages between family and employment outcomes among women in different subgroups in the United States, such those defined by race and ethnicity, age at birth, and level of human capital. For example, a life course analysis indicated that the marriage premium declines with years of marriage toward being negative among white women, yet it grows steadily among black women (Cheng 2016). Childbearing age may also matter--postponement of childbearing substantially affects the impact of children on mother's wages (Taniguchi 1999; Amuedo-Dorantes and Kimmel 2005). Some studies suggest that the mechanisms that lead to motherhood wage penalties operate differently across the earnings distribution (Budig and Hodges 2010). Specifically, higher-income women are less likely to be negatively affected by children and there is even a motherhood earnings bonus for women at the top of the earnings distribution (Budig and Hodges 2014; Glauber 2018).

In China, several factors might lead to this inequality among mothers. First, the intensity of intrahousehold specialization tends to be lower for women with higher earnings potential. Using data from the 2010 China Family Panel Studies, Yu (2014) found that wives' absolute earnings were negatively associated with time spent on domestic chores because of higher bargaining power within household. Examining data from the Beijing College Student Panel Survey, He and Zhou (2018) argued that college-educated women who hold more progressive gender attitudes demonstrate an advantage in becoming managers and professionals, who usually earn higher pecuniary income than other occupations. Also, women at the top of the earnings distribution generally have access to more resources to protect their productivity after having children, such as high-quality childcare or funds to pay for domestic workers (Su, Ni, and Ji 2018).

In short, for various reasons, women located on the higher end of the earnings distribution may experience less difficulty combining work and family obligations. In addition, women at the top of earnings distribution might obtain more job-specific skills, so that their earnings are determined by specific skills rather than time spent on jobs. Consequently, the income of women with more earnings potential is less susceptible to family obligations. In this paper, we test whether the relationship between women's economic outcomes and family conditions may vary across subgroups with different earnings potential. Treating educational level as a proxy for earnings potential, we propose *Hypothesis 2: The relationship between income and family obligations varies by educational level.*

### **3. Data and Methods**

#### **3.1 Data source and sample**

The National Floating Population Dynamics Monitoring Survey (NFPDMS) is an annual cross-sectional survey (Min et al. 2016; Min, Zhuang, and Liu 2015). We use data collected in the 2013 survey, which was conducted in migrants' destination cities in 31 provinces. It was commissioned by the National Health and Family Planning Commission of China and coordinated by the China Population and Development Research Center. This cross-sectional survey collected nationally representative data by adopting a stratified three-stage probability-proportional-to-size sampling method on the sampling frame of the 2012 floating population registration system (National Health and Family Planning Commission of China 2013). This survey obtained information from 198,795 individuals, of which 53.69 percent were men, who had moved across a county (县, *xian*) boundary from their registered residence (*hukou*) and had lived at their current place for more than one month. For this study, to comport with the definition of floating population of the National

Bureau of Statistics and most Chinese studies, we restricted our analysis to subjects who have lived in current places for at least six months (176,643 individuals).

### 3.2 Analytical approach and variables

We analyze employment status and income. First, we investigate the relationship between family circumstances and employment status for migrant men and women. We define employment status to include three categories: working full-time, if subjects had worked at a paid job during the week before the survey and worked at least 40 hours per week, on average;<sup>2</sup> working part-time, for those who had worked at a paid job but worked less than 40 hours; or unemployed. Using this definition, around three-fourths of migrant women were employed full-time and more than 90 percent of migrant men were employed full-time. The proportion of the sample that is employed part-time is around 3 percent for both men and women.<sup>3</sup> In models estimating employment status, because this variable has three categories, we use nested logit models. The nested logit model relaxes the assumption of independence of irrelevant alternatives (IIA) inherent in multinomial logit models by clustering similar alternatives into “nests”. In this study, we cluster having part-time work and full-time work into the nest of having paid work.<sup>4</sup> Second, using the working subsample without missing values in income, we perform a linear regression of the logarithm of monthly income, separately for migrant men and women. Average income is more than 3600 *yuan* for male workers, while it is only about 2784 *yuan*—23 percent lower—for female workers. In both analyses, robust standard errors are obtained by clustering at the provincial level, leading to a less biased estimation of variance and test statistics.

Key analytic variables are those measuring family circumstances. First, we define marital status as married versus unmarried. People who are divorced or widowed are not distinguished from the unmarried; they collectively account for less than 2 percent of the full sample. 81

percent of migrant women are married, compared to only 76 percent of migrant men. We also define a set of variables measuring whether the respondent has children ages 15 and under. Because children at different ages imply different demands for care, we define three age groups: very young children (3 years old or younger), young children (between 4 and 6 years old) and school-age children (between 7 and 15 years old). For women, about 21.2 percent have very young children, 17.6 percent have young children, and 34.3 percent have children at school age. For men, the corresponding percentages are 19.2 percent, 14.8 percent, and 30.7 percent, respectively. For people who have children under 15 years old, we also examine whether they are co-residing with children<sup>5</sup> with the same age distinction: whether they are residing with very young children, young children, or children at school age.<sup>6</sup> For migrants who have very young children, 81 percent of the women are co-resident with their children, and the corresponding figure is 76 percent for men. For people who have young children, the proportion is 76 for women and 73 for men. For migrants who have children at school age, 73 percent of women live together with them and almost 70 percent of migrant men reside with their children.

Other individual attributes are also controlled in our analysis. Demographic variables, including age, *hukou* status (agriculture, non-agriculture) and educational levels (primary school or lower, middle school, high school or above) are controlled in all models. A variable indicating whether living with mother or mother-in-law is also included to account for the possibility that the respondent's mother or mother-in-law helps take care of young children. Relevant spousal characteristics, such as age, educational levels and co-residence status (co-resident, not co-resident), which might be related to individual's employment status and income are also included in our analysis.

Variables accounting for migration histories — age at first migration and age at the start of the current migration spell — are also controlled in the model. We also included whether the

subjects have any kind of residence permit in the destination cities as a control variable for underlying unobservable heterogeneity. This variable includes three categories: resident permit, temporary resident permit, and no permit. Additionally, the distance of migration (inter-province versus intra-province) and administrative level of the destination cities (capitals of provinces or specialized cities versus other cities) are controlled. Further, the purpose of the current migration spell--employment-motivated, not employment-motivated--is also included to control for migration selection related to employment status and earnings potential. This measure was reported retrospectively. For the linear regression models of logged value of monthly income, the logarithm of years of consecutive work at the current place is used to adjust for experience. Finally, dummy variables for economic macro-regions (East coast, West, Northeast, and Central China) are also included to capture regional variation. The final analytic sample consists of 175,147 observations (81,826 women and 93,321 men) with full information.<sup>7</sup> For the analysis on income, we only include those who have jobs and report positive income; the sample size is 147,775. The descriptive statistics for the analytical sample, overall and tabulated by sex, are shown in Table 1.

TABLE 1 ABOUT HERE

## **4. Results**

### **4.1 Gender differences in employment status**

Table 2 and 3 present results from nested logit regressions of employment status, estimated separately for migrant women and men.<sup>8</sup> In each table, model specification M1 shows the results for the full sample, and focuses on the differences between those having different marital statuses. Specification M2 focuses only on married samples and shows how different parenthood stages



(having children at different ages) are associated with employment status. Specification M3 further includes variables with additional information about living arrangements with children.

#### TABLE 2 ABOUT HERE

Results of the model estimated for all women (Table 2, M1) indicate that, compared to unmarried women, married women have higher chances of being unemployed (versus employed full-time). In contrast, for migrant men, marriage is negatively associated with their chances of being unemployed (Table 3, M1). To test the first hypothesis that the gender differences are associated with family obligations after adjusting for other factors, we further conduct analyses on a married subsample. We first include the variable of whether one has children in model specification M2. The results show that married women who have very young children or young children show higher risks of being unemployed than married women who do not, while there is no difference for women with and without school-age children. Women who are co-resident with their husbands show higher risks of being unemployed than those who are not, which might result from their responsibilities of taking care of other family members. The chance of being employed part-time is significantly lower than having full-time jobs for women having young children. However, after we include the variable indicating the living arrangement with children in model specification M3, having young children is not significantly associated with women's chance of being employed part-time. Model specification M3 also suggests that women who have young children or children at school age but do not co-reside with them are less likely to be unemployed than married women who do not have young children or school-age children.<sup>9</sup> However, as the coefficients show, for children at all age groups, mothers living with their children show higher risks of being unemployed, compared to non-co-residing counterparts, suggesting a stark tradeoff between work and parenting for women. In contrast, migrant men's living arrangement with children appears unlinked to their chances of being unemployed (see model specification M3 in

Table 3). The coefficients of living arrangements differ significantly between men and women as indicated by Wald tests.

Because we adjust for purpose of the current migration spell (i.e. whether the migration is employment-motivated) in models, the positive relationship between living with children and women's chances of being unemployed should not result from endogenous reasons of migration. However, to further control for the migration selection that women who gave birth before migrating to current places are more likely to migrate for urban jobs, we further constrain our sample to those who have children and include the variable of whether the child was born at the current place in models. Results are consistent (available upon request).

TABLE 3 ABOUT HERE

To facilitate interpretation, Figure 1 and Figure 2 display the predicted probabilities of different employment statuses by family circumstances separately for married women and men. The predicted probabilities were derived from model specifications M3 in Table 2 and Table 3, and calculated with covariates other than family circumstances held at the observed values.

FIGURE 1 ABOUT HERE

FIGURE 2 ABOUT HERE

Among women, the probability of having part-time work is around 3 percent for each subgroup. The unemployment rate is highly correlated with coresidence status with children. As shown, for those who have children but do not coreside with them, the probability of being unemployed is less than 10 percent for each subgroup. In other words, most of those women migrants who have left their children behind are working. However, for those who coreside with very young children, about 35 percent are not employed. For those who have young children and children at school age, the figures are about 18 percent and 15 percent, respectively. For men, the probability of having full-time jobs is higher than 90 percent, on average, and this is higher than

women's corresponding figures. Because most men work full-time, the differences in the probabilities of unemployment or part-time employment for those with different living arrangements with children are trivial. The probability of being unemployed or employed part-time is similar between those who do not have children and those who co-reside with children. For those who have non-co-residing children, the probability of having full-time work is about 4 percent higher than other subgroups.

#### **4.2 Gender differences in income**

For migrant workers, the gender difference in monthly income is also striking. We compare the ratio of monthly income of migrant men to women by age group and family obligations (Figure 3). Overall, migrant men's income is higher than migrant women's across age groups and family arrangements. For all age groups, the ratio is smallest among unmarried migrant men and women. For the unmarried who are younger than age 45, the ratio is less than 1.2, while it is larger than 1.2 for all the married groups. For most married migrants, the ratio tends to be larger for those who have children under age 15 than among those who do not.

FIGURE 3 ABOUT HERE

Results of linear regression models examining the relationship between logged monthly income and family circumstances for migrant workers are shown in Table 4. For both women and men, monthly income is positively associated with being married, but the estimated magnitude appears larger in the male subsample (23 percent) than for female workers (less than 4 percent). This difference is statistically significant at the 0.001 level by a Wald test. After we restrict to married subgroups, women who have very young children tend to have higher income than those who do not, which might result from the selection that women who have very young children have strong incentives to earn higher income or people with higher income are more likely to give birth.

However, this positive relationship is no longer significant once we include the variable indicating living arrangement with very young children in M3. For women who have non-co-residing young children or children at school age, their income is respectively 3.4 and 4.3 percent more than those who do not have young children or school-age children. However, women who live with young children earn 4.3 percent lower income than those who do not. It is 6.8 percent lower for women living with school-age children, while no negative relationship is found for male workers. For men who live with very young or young children, their income is significantly higher than those who do not.<sup>10</sup>

#### TABLE 4 ABOUT HERE

Results in Table 5 further show that, compared to others' income, the income of highly educated people is less tied to childcare obligations. That is, for women who have very young children, living together with these children is associated with about 7.2 percent lower income for women who have primary school or lower education, but 5.4 percent higher ( $\exp^{(-0.075+0.128)} - 1$ ) income for women with at least high school education. For women who have young children, co-residence is associated with 11.9 percent less income for women in the least educated group, but this correlation is trivial for women in most educated group. A similar situation holds for women who have children at school age. The results support our second hypothesis and are consistent with findings from previous studies suggesting that gender differences in wages vary across subgroups with different earnings potential (Anderson, Binder, and Krause 2003; Budig and Hodges 2010; Killewald and Bearak 2014; Budig and Hodges 2014). However, for men, no significant negative association is found between co-residence with children and income.

#### TABLE 5 ABOUT HERE

Collectively, these findings shed light on the hypotheses posed at the beginning of this paper. First, gender differences in employment status and the income of migrants are tied to

family circumstances. Co-residence with children competes with job and income prospects for female migrants. For male migrants, co-residence with children is not correlated with full-time employment and is sometimes positively correlated with income. Second, the relationship between family circumstances and income varies for migrant workers with different educational levels: more educated women show less of a tradeoff between living with children and earning income.

## **5. Discussion**

Given the rise of couple migration in China, the relationship between family circumstances and economic activity has emerged as a key to understanding gender differences in the experience and economic outcomes of rural-urban labor migration in China. Our results suggest that wives and mothers who are living with children tend to have lower chances of being employed. For female workers, co-residence with children is negatively correlated with income even after we control for migration selection. This finding is consistent with prior research suggesting a deleterious impact of childcare obligations on employment and income for women (Min et al. 2016). Moreover, we also find that this motherhood penalty is concentrated among less-educated female workers. In contrast, for male migrants, being co-resident with children has no bearing on chances of being employed,<sup>11</sup> and is sometimes positively correlated with income.

Increased rural-urban migration, concurrent with China's economic transition, has substantially modified the mechanisms for allocating and compensating labor. However, as revealed in previous research, the economic transition has shifted part of the cost of childbearing and rearing back to women, resulting in lower earnings for working mothers (Jia and Dong 2012; Zhao 2018). Economic research has suggested that discrimination is most serious among low-income migrant workers (Magnani and Zhu 2012). That the conflict between care obligations for

children and income seems most pronounced among migrant women with the least education suggests that motherhood plays an important role in the income disadvantages observed among this group.

In addition to uncovering different relationships between family circumstances and economic outcomes for male and female migrants, our results highlight a conflict between raising children and earning income that is likely a contributing factor in the large number of left-behind children in less developed rural areas. According to 2010 census data, about 36 million children migrate with young couples to destination places, while the majority of migrants' children--61 million-- are left behind (Duan et al. 2013).<sup>12</sup> As suggested by our multivariate analyses, for female migrants who have children, women who leave their young children behind tend to have higher chances of being employed and earn more income, at the painful cost of separation from their children. Though the welfare of left-behind children can benefit from remittances from migrants, studies suggest the absence of parents can negatively affect the educational performance and health of left-behind children, and remittances can only partially compensate for this loss (Hu 2013; Tang 2017; for a review of mixed findings, see Hannum, Hu, and Shen 2018; Shen, Hu, and Hannum 2019). Further, longer durations of parental absence are associated with children's poorer educational performance (Zhou, Murphy, and Tao 2014). Children who are left behind and communicate less frequently with their parents tend to show greater psychological disadvantages (Su et al. 2013). These problems connect the experiences of migrant women in China very directly to many of the challenges faced by "transnational mothers" in international migration (Hondagneu-Sotelo and Avila 1997), who migrate for work that precludes co-residence and struggle to somehow offer caregiving and guidance at a distance. In short, this paper illustrates that the pressures of balancing work and family experienced by mothers in the general population can have much more

stark implications for migrant women: the need to be a breadwinner may necessitate a choice to leave children behind.

## Notes

1. For simplicity, we will use the term “migrant” to refer to the floating population sampled in this study.

2. Work hours should not be longer than 8 hours per day or 44 hours per week (“Labor Law of the People’s Republic of China”). However, for migrant workers, work hours longer than the standard are common. According to the *China Population and Employment Statistics Yearbook 2014*, the weekly work hours of urban employed persons were more than 46 hours per week, on average, since 2010 (National Bureau of Statistics of PRC 2014).

3. We include this category in the interest of comprehensively covering employment arrangements, at the helpful suggestion of a reviewer. However, given the small fraction of respondents who report part-time employment, we do not analyze this category fully.

4. A likelihood ratio test for the IIA assumption also supports the nested logit model over a multinomial logit model.

5. The survey did not ask directly whether children were residing with the respondents, instead they asked whether the children lived at current places, the places of origin or other places. We assume that the children who lived at the same places with the respondents were residing with the respondents.

6. In addition, as robustness tests, we add a variable indicating whether the respondent gave birth at the current place in models estimated for people who have children. We adopt this strategy because the estimates of the relationship between migrants’ economic outcomes and their family arrangements, especially whether they live with children, might be affected by migration

selection. That is, people who gave birth before migration tend to be those with higher chances of being employed or earnings potential in the current place because they faced higher opportunity costs when they made the decision about migration. This means, for those who gave birth before migrating to current cities, jobs and higher income might be the main incentives and they are selected to be more advantaged than those who gave birth after migration. By including the variable measuring whether a child was born at current place, this migration selection can be partly controlled. However, another source of selection—that migrants who have higher income can afford to reside with their children—remains. Thus, if women's economic outcomes are negatively associated with being able to live with children without accounting for the second selection, our analysis might give conservative estimates of the magnitude of the association of coresident children and migrant women's employment and income.

One study (Min et al. 2016), which used 2010 data from the same migration survey as this study, suggested there might be potential selection bias in that the wages of migrants who are unemployed or seeking jobs at the time of survey are unobserved. They overcame this bias by adopting a Heckman two-step correction with the age of the youngest child as the identifying variable. We do not adjust for this selection, for three reasons. First, we also conduct analysis of employment status, which can give us insights about how the employment status differs between women and men. Second, we only include migrants who have stayed in their current places more than six months, leading to limited selection bias. That is, migrants who were unemployed or looking for jobs at the time of survey are likely to be those who have stayed in the receiving cities for a short period, and thus they were not included in this sample. Finally, as discussed, a large body of studies has shown that working mothers persistently suffer from family obligations and child care responsibilities. For this reason, we treat family circumstances, including the presence of children, as analytic variables rather than identifying variables.



7. Because of the missing values in spousal characteristics, the sample size used for the analyses on married groups is smaller than the number reported in Table 1. However, the deleted individuals because of missing values only account for a small proportion (about 2%).

8. The proportion of being unemployed, part-time employed and full-time employed is 23.57 percent, 2.98 percent and 73.45 percent for married women. For married men, the proportion is 3.24 percent, 3.12 percent and 93.64 percent.

9. All the variables are not significant for the model of part-time employment after treating being unemployed as the reference category, which might result from the large standard errors of the estimates in part-time employment model.

10. We also conduct Wald tests on equal coefficients of these variables, the following variables are significantly different between men and women in M3: Coreside with very young children ( $p < 0.001$ ), Have young children ( $p < 0.01$ ), Coreside with young children ( $p < 0.001$ ), Coreside with children at school age ( $p < 0.001$ ).

11. The probability of having part-time jobs is a bit higher.

12. These numbers use the definition, children under 18 years of age with at least one parent migrating.

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## Tables

**Table 1. Description of Migrants by Demographic and Social Characteristics**

	Women (N=81,826)	Men (N=93,321)
<i>Dependent Variable</i>		
<i>Employment status (%)</i>		
Full-time employment	75.88	92.30
Part-time employment	2.98	3.02
Unemployed	21.14	4.68
<i>Income of last month for those who work (in yuan)</i>		
Mean	2784	3622
Std. Dev.	1978	2456
<i>Independent Variable</i>		
<i>Marital status (%)</i>		
Married	81.09	76.37
Unmarried	18.91	23.63
Have very young children (%)	21.20	19.20
Coreside with very young children (%)	17.22	14.50
Have young children (%)	17.57	14.79
Coreside with young children (%)	13.39	10.74
Have children at school age (%)	34.30	30.68
Coreside with children at school age (%)	25.07	21.28
<i>Control Variables</i>		
Age (mean age in years)	33.00	34.42
<i>Hukou (household registration) status (%)</i>		
Non-agriculture	14.97	15.00
Agriculture	85.03	85.00
<i>Educational level (%)</i>		
Primary school or lower	17.60	12.62
Middle school	53.02	55.04
High school or above	29.38	32.35
Coreside with mother or mother in-law (%)	4.67	6.02
Age of spouse	36.68	35.47
<i>Spouse's educational levels (%)</i>		
Primary school or lower	13.06	20.21
Middle school	58.26	57.56
High school or above	28.68	22.23
Coreside with spouse (%)	75.97	67.92
Age at first migration (mean age in years)	24.96	25.33
Age at the start of the current migration spell (mean age in years)	28.01	29.21
<i>Resident permit (%)</i>		
Resident permit	29.08	29.40

Temporary resident permit	38.76	39.16
No resident permit	32.16	31.44
<i>Distance of migration (%)</i>		
Inter-province migration	50.31	52.04
Intra-province migration	49.69	47.96
<i>Purposes of the current migration spell (retrospectively reported) (%)</i>		
Employment-motivated	81.39	94.66
Not employment-motivated	18.61	5.34
<i>Region of destination cities (%)</i>		
East coast	43.40	41.30
Central	17.46	17.02
West	31.95	34.04
Northeast	7.19	7.65
<i>Level of destination cities (%)</i>		
Capitals of provinces or specialized cities	48.30	45.80
Other cities	51.70	54.20
Years of working at current city for those who work for pay	4.97	5.43



**Table 2 Nested Logit Model: Employment Status (Reference=Full-time Employment) on Family Circumstances**

	M1 (all women)		M2 (married women)		M3 (married women)	
	Un-employed	Part-time employment	Un-employed	Part-time employment	Un-employed	Part-time employment
<b>Married (Ref: Unmarried)</b>	1.357*** (0.121)	-0.009 (0.091)				
<b>Have very young children</b>			1.053*** (0.054)	-0.629 (0.328)	-0.118 (0.086)	-1.698 (1.126)
<b>Coreside with very young children</b>					1.368*** (0.111)	1.616 (1.155)
<b>Have young children</b>			0.136** (0.043)	-0.956* (0.437)	-0.402*** (0.084)	-1.437 (0.997)
<b>Coreside with young children</b>					0.676*** (0.088)	1.064 (0.856)
<b>Have children at school age</b>			-0.041 (0.048)	-0.276 (0.302)	-0.543*** (0.062)	-0.802 (0.602)
<b>Coreside with children at school age</b>					0.626*** (0.067)	0.883 (0.576)
<b>Education (Ref: Primary school or lower)</b>						
<b>Middle school</b>	-0.145 (0.074)	0.111 (1.092)	-0.244*** (0.059)	-2.184* (0.892)	-0.205*** (0.059)	-1.490 (0.940)
<b>High school or above</b>	-0.297*** (0.083)	0.108 (1.071)	-0.383*** (0.055)	-1.524** (0.557)	-0.384*** (0.052)	-1.099 (0.633)
<b>Coreside with husband (Ref: not co-resident)</b>			0.742*** (0.088)	-1.021 (0.606)	0.503*** (0.080)	-0.991 (0.725)
<b>Other variables controlled</b>		Yes		Yes		Yes
<b>N</b>		81826		65030		65030
<b>AIC</b>		84860		69237		68340
<b>BIC</b>		85183		69563		68666

Note: Coefficients in cells. Robust Standard Errors adjusted for clusters in province in parentheses. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$   
Other variables controlled: **Age**; **Hukou status**: non-agriculture *hukou* (Ref: agriculture *hukou*); **Resident permit**: temporary resident permit, no resident permit (Ref: resident permit); **Co-residence with mother or mother in-law**: co-resident (Ref: not co-resident); **Age at first migration**; **Age at the start of the current migration spell**; **Purpose of the current migration spell (retrospectively reported)**: employment-motivated (Ref: unemployment-motivated); **Distance of migration**: inter-province migration (Ref: intra-province migration); **Region of destination cities**: East coast, West, Northeast (Ref: Central); **Level of destination cities**: capitals of provinces or specialized cities (Ref: other cities). Variables controlled in models for married sample : **Age of spouse**; **Spouse's educational levels**: middle school, high school or above (Ref: primary school or lower).

**Table 3 Nested Logit Model: Employment Status (Reference=Full-time Employment) on Family Circumstances**

	M1 (all men)		M2 (married men)		M3 (married men)	
	Un-employed	Part-time employment	Un-employed	Part-time employment	Un-employed	Part-time employment
<b>Married (Ref: Unmarried)</b>	-0.460*** (0.082)	0.225 (0.322)				
<b>Have very young children</b>			-0.060 (0.078)	-3.089** (1.035)	-0.039 (0.167)	-5.932*** (1.488)
<b>Coreside with very young children</b>					-0.016 (0.198)	3.712** (1.222)
<b>Have young children</b>			-0.158 (0.084)	-1.820* (0.902)	-0.292 (0.151)	-5.463* (2.221)
<b>Coreside with young children</b>					0.188 (0.156)	4.753* (2.265)
<b>Have children at school age</b>			-0.290*** (0.063)	-1.805** (0.689)	-0.341** (0.113)	-2.760** (1.056)
<b>Coreside with children at school age</b>					0.073 (0.124)	1.300 (1.020)
<b>Education (Ref: Primary school or lower)</b>						
<b>Middle school</b>	-0.708*** (0.076)	-5.823*** (1.029)	-0.592*** (0.096)	-5.925*** (1.443)	-0.589*** (0.097)	-5.881*** (1.441)
<b>High school or above</b>	-0.765*** (0.093)	-7.109*** (1.198)	-0.683*** (0.103)	-7.077*** (1.477)	-0.680*** (0.104)	-7.020*** (1.462)
<b>Coreside with wife (Ref: not co-resident)</b>			0.241 (0.126)	-1.868 (1.306)	0.209 (0.143)	-2.998* (1.354)
<b>Other variables controlled</b>		Yes		Yes		Yes
<b>N</b>		93321		69709		69709
<b>AIC</b>		54573		37163		36141
<b>BIC</b>		54911		37491		37469

Note: Coefficients in cells. Robust Standard Errors adjusted for clusters in province in parentheses. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$   
Other variables controlled are the same with models in Table 2.

**Table 4 Linear Model: Income (logged) on Family Circumstances**

	All women M1	Married women M2 M3		All men M1	Married men M2 M3	
<b>Married (Ref: Unmarried)</b>	0.038* (0.014)			0.211*** (0.014)		
<b>Have very young children</b>		0.031** (0.011)	0.018 (0.012)		0.037*** (0.008)	-0.012 (0.013)
<b>Coreside with very young children</b>			0.017 (0.013)			0.064*** (0.015)
<b>Have young children</b>		0.003 (0.009)	0.033* (0.013)		0.027*** (0.007)	-0.008 (0.012)
<b>Coreside with young children</b>			-0.044** (0.014)			0.048*** (0.012)
<b>Have children at school age</b>		-0.006 (0.006)	0.042** (0.011)		0.028*** (0.006)	0.023* (0.010)
<b>Coreside with children at school age</b>			-0.070*** (0.013)			0.008 (0.014)
<b>Education (Ref: Primary school or lower)</b>						
<b>Middle school</b>	0.097*** (0.013)	0.078*** (0.009)	0.079*** (0.009)	0.082*** (0.014)	0.065*** (0.012)	0.065*** (0.012)
<b>High school or above</b>	0.202*** (0.020)	0.161*** (0.016)	0.162*** (0.016)	0.165*** (0.019)	0.106*** (0.013)	0.106*** (0.013)
<b>Coreside with spouse (Ref: not co-resident)</b>		-0.023 (0.016)	-0.008 (0.016)		-0.011 (0.013)	-0.029** (0.010)
<b>Other variables controlled</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>N</b>	60384	45919	45919	87391	66556	66556
<b>AIC</b>	82907	67324	67231	119956	94616	94543
<b>BIC</b>	83070	67534	67467	120125	94835	94789

Note: Coefficients in cells. Robust Standard Errors adjusted for clusters in province in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$   
 Other variables controlled include variables controlled in Table 2 and **Logged years of working at current city**.

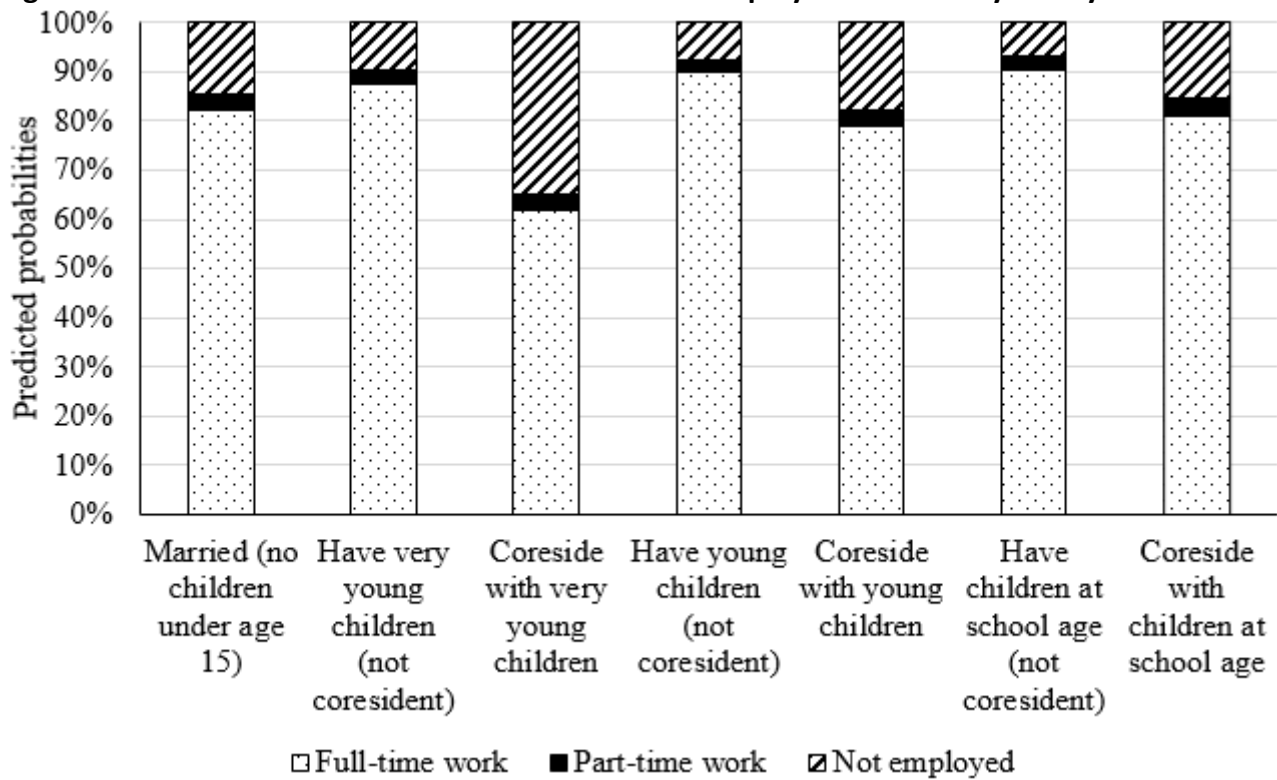
**Table 5 Linear Model: Income (logged) on Living Arrangement of Children and Interaction with Education**

	Women who have			Men who have		
	very young children	young children	children at school age	very young children	young children	children at school age
<b>Coreside with very young children</b>	-0.075*			0.019		
	(0.028)			(0.038)		
* Middle school	0.033			0.033		
	(0.029)			(0.040)		
* High school or above	0.128***			0.034		
	(0.031)			(0.044)		
<b>Coreside with with young children</b>		-0.127**			-0.010	
		(0.040)			(0.029)	
* Middle school		0.058			0.069*	
		(0.038)			(0.032)	
* High school or above		0.141**			0.079*	
		(0.048)			(0.037)	
<b>Coreside with with children at school age</b>			-0.107***			-0.043
			(0.024)			(0.027)
* Middle school			0.028			0.071**
			(0.020)			(0.024)
* High school or above			0.114***			0.071*
			(0.028)			(0.027)
<b>Education (Ref: Primary school or lower)</b>						
<b>Middle school</b>	0.033	0.067*	0.061***	0.046	0.022	0.019
	(0.023)	(0.026)	(0.016)	(0.034)	(0.027)	(0.022)
<b>High school or above</b>	0.059	0.057	0.079**	0.079*	0.045	0.069***
	(0.030)	(0.032)	(0.023)	(0.037)	(0.030)	(0.019)
<b>Coreside with spouse (Ref: not co-resident)</b>	0.008	-0.035	-0.025	0.012	-0.038*	-0.032**
	(0.026)	(0.027)	(0.017)	(0.017)	(0.014)	(0.010)
<b>Other variables controlled</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>N</b>	9637	9828	19867	16919	12985	26588
<b>AIC</b>	14103	14191	29713	23373	18334	38206
<b>BIC</b>	14275	14364	29902	23558	18513	38402

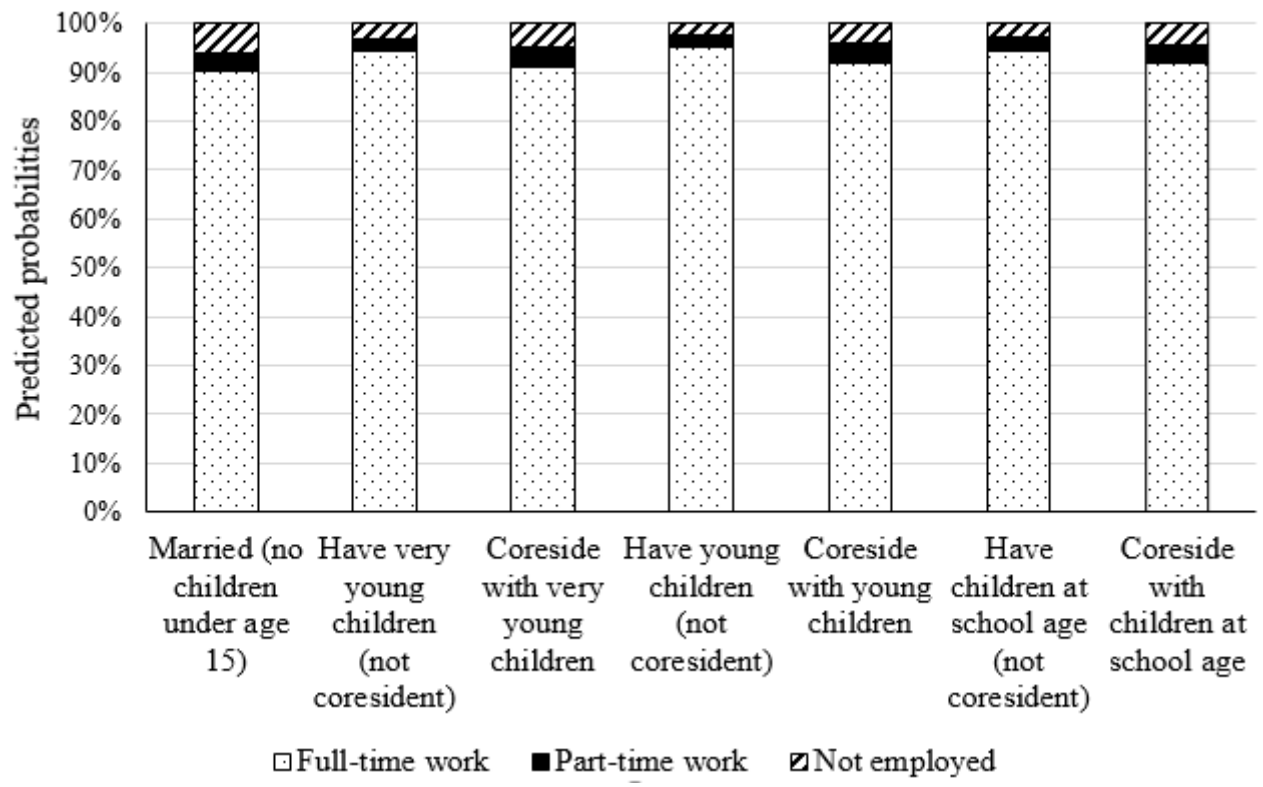
Note: Coefficients in cells. Robust Standard Errors adjusted for clusters in province in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$   
 Other variables controlled are the same with models in Table 4.

## Figures

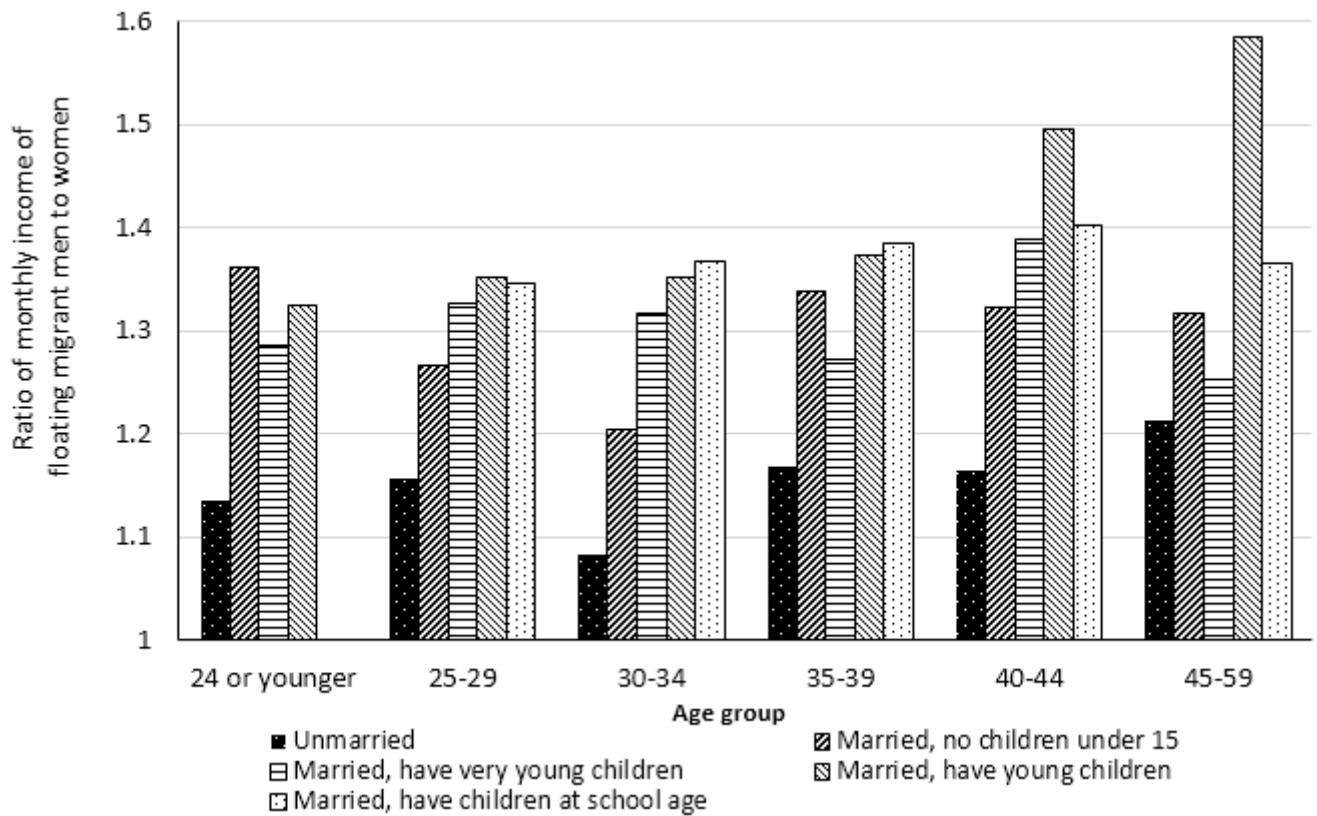
Figure 1 Predicted Probabilities of Married Women's Employment Status by Family Circumstances



**Figure 2 Predicted Probabilities of Married Men's Employment Status by Family Circumstances**



**Figure 3 Ratio of Monthly Income of Migrant Men to Women**



Note: The ratio is not shown for those who are age 24 or younger and have children at school age because of limited observations in this group.