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Research Article

**Changing roles of marriage and family status for
labor migration? The case of rural China**

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Contents

1	Introduction	168
2	Theoretical considerations	169
3	The changing landscape of China's internal migration	172
4	Previous studies and our contribution	173
5	Data and methods	175
5.1	The 2018 CHIP	175
5.2	Variables	176
5.2.1	Outcome variable: first labor migration	176
5.2.2	Main predictors: marriage and childbearing	177
5.3	The final sample	177
5.4	Analyses	178
6	Descriptive results	180
6.1	First labor migration by gender and cohort	180
6.2	Ages at first labor migration, first marriage, and first childbearing	181
7	Model results	182
7.1	The roles of marriage and childbearing for men and women's first labor migration	182
7.2	Cohort differences in the roles of marriage and children for men and women	184
8	Concluding remarks and discussion	187
9	Acknowledgments	190
10	Funding	190
	References	191
	Appendix	197

Changing roles of marriage and family status for labor migration? The case of rural China

Weiwen Lai¹

Jing Song²

Abstract

BACKGROUND

China has witnessed a continuous rise of couple migration and family migration. These migration developments possibly signal individuals' changing considerations of marital and parenthood responsibilities in their migration decisions over time.

OBJECTIVE

We focus on one specific type of migration, first labor migration, and examine the gender and birth cohort patterns of how marriage and family status are associated with first labor migration among rural-origin Chinese individuals born between 1951 and 2000.

METHODS

Data are drawn from the 2018 round of the China Household Income Project. We calculate the median values for ages at first labor migration, first marriage, and first childbearing and use discrete-time logistics models to examine the gender and birth cohort differences in how first labor migration is related to marriage and family status.

RESULTS

First labor migration is negatively related to marriage and family status for both genders. The pattern of parents' lower migration risk is more marked among mothers than among fathers. Over birth cohorts, a lower risk of first labor migration is observed among both fathers and mothers. A cohort trend toward lower risk of first labor migration is observed for married individuals but among women only.

CONTRIBUTION

Using a precise definition of migration and a sample not conditional on migration outcomes, we have demonstrated Chinese individuals' changing patterns of life course events across birth cohorts and showed that the negative relationships between marital as

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well as childbearing responsibilities and first labor migration have grown stronger over birth cohorts, especially among women.

1. Introduction

It is not new to demographers that internal migration patterns have undergone significant transformations since the beginning of the market reforms in the People's Republic of China. Two themes have become clear from empirical evidence. First, a cohort replacement has taken place among the migrant population. China's internal migrant population is young (Yang and Chan 2025). In 2015 half of the internal migrant population consisted of those born in 1984 or later, as older migrants gradually returned to their hometowns (Fan and Chen 2013). Compared with earlier birth cohorts, individuals in later birth cohorts migrated for work at younger ages, with many starting their labor migration shortly after finishing compulsory education (Cheng 2014; Fan and Chen 2013). Considering the concurrent delaying trends in first marriage and first childbearing (Yu and Xie 2021, 2022), the life course trajectory of experiencing migration, marriage, and childbearing is expected to change over successive cohorts.

Second, couple and family migration has been on the rise (Chan and Ren 2018; Fan and Li 2019; Zhou 2004). The migration pattern among married individuals used to be characterized by husbands migrating without wives and children. However, this was gradually replaced by an increasing number of married couples migrating together, and many of them moved with their children. The male-to-female sex ratio of the migrant population declined from 124:100 to 112:100 between 1990 and 2020 (Duan et al. 2022), a trend that scholars attribute to the growing presence of migrant women. This changing sex ratio possibly indicates a shift in women's considerations of how to balance migration and their domestic responsibilities as wives and mothers. Women's migration seems less constrained by marital and childbearing responsibilities than it was in earlier decades. Central to a long line of studies about Chinese migration, both quantitative and qualitative, is the degree to which men's and women's decisions to migrate are driven or deterred by their marital and family roles (Fan 2003; Lai 2025; Murphy 2020; Yang and Guo 1999). Among these studies, an assumption stated explicitly or implicitly is that because of the gender division of labor in Chinese families, namely men as income-earners and women as caregivers, men tended to migrate for better-paid jobs in urban areas while women more often stayed in rural areas to manage households and care for family members.

In most contexts, marriage, childbearing, and migration are interlocking life events, a topic that scholars have examined extensively, including in the Chinese context

(Chuang 2016; Connelly, Roberts, and Zheng 2012; Zhang 2009, 2013). In light of the changing patterns of internal migration briefly described above, the relationship between these life events may also be subject to change. We extend prior discussions by focusing on one specific type of migration, first labor migration, and examining how it is related to marriage and childbearing from both gender and birth-cohort perspectives. We consider first labor migration because it is a unique and clearly defined migration event that signals the onset of individuals' labor migration careers. Apart from its conceptual clarity, first-time migration is an important life event to examine because it is structurally different from higher-order migration. Compared with those who have never migrated, experienced migrants can draw on their prior migration experiences, a form of migration capital that structures their future migration trajectories (Bernard and Perales 2021; Lai 2025).

We use retrospective data from the 2018 round of the China Household Income Project (CHIP) and event history techniques to study individuals' first labor migration. Because of the predominant rural-to-urban migration flow in China, this study focuses on rural-origin individuals as the study population. One of our research objectives is to provide an updated descriptive picture of how the timing of first labor migration has changed in relation to first marriage and first birth. We compare ages at first marriage, first childbearing, and first labor migration among men and women born from 1951 to 2000. Second, we use discrete-time logistic models to investigate (1) gender differences: whether the roles of marriage and childbearing for first labor migration differ between men and women, and (2) birth cohort differences: whether the roles of marriage and childbearing for first labor migration differ between men and women across birth cohorts.

2. Theoretical considerations

Economic theories have largely explained the gender differences in migration – why men tend to migrate more frequently than women – based on different variants of rational choice models in which migration is viewed as a utility-maximizing action (Geist and McManus 2012; Hughes 2021; Mincer 1978). The gender differentials in migration are often understood in relation to the Beckerian gender role specialization, which posits that men and women have comparative advantages for paid and unpaid work, respectively (Becker 1993). Viewed from this economic perspective, men's higher migration risks stem from their higher economic returns from moving to other places compared with women.

One of the critiques of the economic explanations challenges the assumption that individuals' decisions to migrate are ultimately reduced to some form of cost-benefit calculation, which strips individuals of the contexts where their decisions are negotiated

and contested (De Jong 2000; Hughes 2021). Compared with earlier economic approaches, the New Economics of Labor Migration (NELM) has partially redressed the out-of-context focus on economic rationality by highlighting that migration is a collective household strategy to minimize risks by diversifying income sources (Stark and Bloom 1985). Family members choose to migrate (or not) based on what is economically optimal for their families. Despite insightfully pointing out that migration decisions are often reached at the household rather than individual level, the NELM still appears to fall short of accounting satisfactorily for the overrepresentation of migrant men, a result of the preference of many households for having male rather than female migrant household members (Paul 2015). While individuals do consider economic gains and losses, their migration decisions are driven by factors that extend beyond economic ones (Massey et al. 1993), such as one's roles in marriage and the family.

A large body of demographic research turns to the life course theory for understanding the interdependent relationships between partnership, childbearing, and migration (Kulu and Milewski 2007; Lindstrom and Giorguli Saucedo 2007; Reed, Andrzejewski, and White 2010). The life course theory, as a theoretical orientation explicitly focusing on the development of interrelated life course events and trajectories (Elder, Johnson, and Crosnoe 2003), provides a conceptual framework for guiding empirical analysis of the social determinants of migration. Compared with, and complementing, economic theories, the added value of this theoretical perspective is its careful contextualization of migration decision-making (McCollum, Keenan, and Findlay 2020). Two principles of the life course theory – the principle of linked lives and the principle of time and space – are particularly insightful theoretical constructs for this study to investigate the gender and cohort differences in how migration is shaped by individuals' marriage and family status.

The principle of linked lives underscores the importance of social relations, such as being a spouse or parent, in understanding individuals' life course transitions, such as the undertaking of migration (Kulu and Milewski 2007). Social relations between family members prescribe a set of role-specific obligations toward one another. Whether the decision to migrate is deemed appropriate differs depending on family roles. Prior studies from low- and middle-income countries have shown that marriage and childbearing are important social correlates of migration outcomes (Lai 2025; Reed, Andrzejewski, and White 2010; Song, Lai, and Fong 2024). And often there is a gender divide. The responsibilities associated with being a spouse and a parent weigh differently in men's and women's migration decisions (Lai 2025; Lindstrom and Giorguli Saucedo 2007).

To the degree that wives and mothers usually take on a substantial amount of housework and care work in their families, women's migration, especially without family members, means a partial failure to meet their domestic responsibilities (Hoang 2011; Lee and Meng 2010; Roberts 2007). Thus they may suffer from particularly high costs of leaving their families (Contreras and Griffith 2012; Liu and Erwin 2015). In comparison,

men's decisions to migrate are expected to be less shackled by their roles as husbands and fathers because such family roles are seen more as economic than domestic. Men's economic providing responsibilities may even justify their migration decisions as a means of advancing the family's social and economic mobility (Brandén 2014; Fan 2003; Vidal et al. 2017).

Another principle of the life course theory, the principle of time and space, illustrates the embeddedness of individuals' life course events, such as migration, within broader societal backgrounds delimited by temporal and spatial axes (Elder, Johnson, and Crosnoe 2003; McCollum, Keenan, and Findlay 2020). Of particular relevance to our investigation of cohort trends in migration is the temporal dimension. One suggested way to flesh out the importance of temporal contexts is to locate individuals by birth cohort (Elder, Johnson, and Crosnoe 2003). Even reaching a similar stage of life, individuals born in different birth cohorts still likely face varying opportunities and constraints of migration, which prompt different migration outcomes.

Two elements associated with temporal contexts are critical for understanding individuals' migration decision-making. First, migration policies regulating the entry of migrants and the welfare and integration of migrants and their descendants tend to evolve over time, a macro factor beyond one's control (De Haas, Natter, and Vezzoli 2018; Wang 2019). The domestic responsibilities associated with marital and parental roles may pose weaker constraints on migration when migration policies become more inclusive and favorable (Borevi 2015). For example, child care responsibilities may be much less of a concern for parents who anticipate migrating with children when the destination society provides accessible public day care for residents, including migrants.

Second, norms about marital and parenthood responsibilities – what it means to be a good spouse and parent – are subject to change across birth cohorts (Trifan, Stattin, and Tilton-Weaver 2014). In the context of migration decision-making, leaving children behind to migrate may be deemed increasingly inappropriate if parenting norms place greater emphasis on cultivating close parent–child bonds (Carranza 2022). Alternatively, parenthood can become a greater driving force for migration given a trend of expecting parents to pave the way for their children's better life prospects. To meet such expectations, parents might opt for labor migration to prepare sufficient savings for their children's future or might migrate with children to places that can provide more opportunities for children to thrive (Morad and Sacchetto 2021; Murphy 2020).

3. The changing landscape of China's internal migration

When large-scale internal migration surfaced in China around the late 1980s, the migration population was characterized by a distorted, high male-to-female sex ratio (125:100 in 1990). Scholars have pointed out two related crucial factors underlying this gender imbalance of population composition. First, the gender norms of men as income-earners and women as homemakers and caregivers compelled men to migrate for work to provide for their families (Fan 2003, 2008). In contrast, women's migration careers were often short-lived, and women who prioritized migration over domestic responsibilities tended to face social disapproval. After getting married and having a first child, women were expected to step back from migration because they needed to care for children. Second, due to the hukou registration system, migrant children used to have very limited access to public education in the receiving place. This institutional barrier created a formidable hurdle for parents migrating with school-age children, resulting in millions of left-behind children (Chen and Fan 2018; Ye et al. 2016). This struggle was not evenly felt by fathers and mothers. As caregivers, mothers were more compelled to forgo migration so that they could stay at home to nurture their children.

China's migration patterns have been developing in two noticeable ways. First, a cohort replacement is underway, as older migrants have been replaced by younger ones. The 1960s birth cohorts were likely the first ones embracing the opportunities and freedom to migrate during their prime working ages. They made up slightly over half of temporary migrants in 1990 (Liang and Ma 2004). In comparison, by 2015 the median age of the migrant population was 31, indicating that half of the migrant population was born after 1984.³ The relatively young ages of migrants in recent years may hint at a crossover of ages at migration, marriage, and childbearing over birth cohorts. While later cohorts of Chinese individuals have been postponing first marriage and childbearing (Yu and Xie 2021, 2022), the ages at first migration have been about the same, if not younger, for later birth cohorts compared to earlier ones (Bernard, Bell, and Zhu 2019; Cheng 2014). While many older individuals' life course trajectories were marked by getting married and having children first and migrating later, among younger people, migration tended to be the first event, followed by marriage and childbearing.

Second, couple and family migration have been rising since the 1990s (Zhou 2004), indicated by the growing average size of migrant households (Fan and Li 2019). A growing number of wives and mothers chose to migrate instead of remaining as left-behind members (Fan and Li 2019; Meng, Zhao, and Liwu 2016; Zhang 2009). Such a trend has been driven by individuals' changing preferences. Unlike their older counterparts, young couples tend to favor migrating together over enduring extended periods of separation from their migrant spouses. Some young women view rural life as

³ See the UN report from UNFPA China: <https://china.unfpa.org/zh-Hans/report/20190816>.

boredom and backwardness, which they seek to escape through migration (Zhang 2013). Moreover, by taking care of grandchildren, grandparents provide the essential downward intergenerational support that makes mothers' migration possible by alleviating their burdens of child care responsibilities (Chuang 2016; Liu 2014).

The policies governing migrant children's right to education have become more inclusive. For decades, due to school admission practices that discriminated against migrant children, enrolling their children in public schools in the destination was extremely challenging for migrant parents, effectively holding back mothers in rural areas to take care of school-age children. Aware of this educational inequality, the central government began enacting policies and administrative mandates to improve migrant children's access to public education, especially in the 2010s (Chan and Ren 2018). Such policies have taken effect, resulting in a larger increase in the number of migrant children than that of left-behind children between 2010 and 2020 (Cheng and Duan 2021). For the first time, in 2020, the number of migrant children was 71.1 million, outnumbering 66.9 million left-behind children.⁴ When it becomes more feasible for parents to migrate with their children, the constraining roles of parenting responsibilities on migration may weaken, especially for mothers, who continue to bear a disproportionate share of child care responsibilities.

4. Previous studies and our contribution

An extensive line of research focuses on how marriage and childbearing affect migration decision-making in the Chinese context. However, findings from these studies are often inconsistent. While some find evidence supporting the argument that marriage and childbearing hinder people from migrating (Chen and Fan 2018; Lyu and Zhao 2022), others report that being married and having children are incentives for migration or that these factors have only minimal impacts (Lai 2025; Lee and Meng 2010; Yang and Guo 1999). When we take into consideration gender differences in marriage- and childbearing-related determinants of migration, the evidence becomes more inconclusive.

This inconsistency of empirical evidence is likely due to two reasons, apart from the different focuses across studies on geographical regions and time periods. First, unlike fertility and mortality, it is difficult to define migration as a unique demographic behavior because of its heterogeneous nature. Migration can be measured by various dimensions (Liang 2007). Migrating for work-related reasons differs from family-related migration, and first-time and higher-order migration are qualitatively different and thus likely shaped by different factors (Chen and Fan 2018). Ideally, when data are available,

⁴ According to a report from UNFPA China: <https://www.unicef.cn/reports/population-status-children-china-2020-census>.

different migration patterns should not be treated as the same. Although not necessarily problematic, this ambiguity in defining migration contributes to the inconsistency across empirical findings. The literature on Chinese migration has used different operationalizations of migration: by reasons for migration, distance of migration, and so on. A clear and consistent definition of who counts as a migrant is not always guaranteed.

Second, a key limitation of many studies is their reliance on retrospective data collected exclusively from either migrant-sending or migrant-receiving places or, at best, reliance on a comparison based on two separate datasets collected from both ends of the migration flow (e.g., Connelly, Roberts, and Zheng 2012). Such a research design is problematic because the sample is selected on migration outcomes: The analysis sample includes non-migrants or migration returnees in migrant-sending places only or includes current migrants in migrant-receiving places only. Models predicting a particular outcome yield biased estimates if an analysis sample is selected on the same outcome (Hoem 2014; Hoem and Nedoluzhko 2016). To properly examine the determinants of migration, research should use data with retrospective information collected from both migrant-sending and migrant-receiving places or use prospective panel data following a full group of individuals.

Several recent studies have shed important light on how marriage and childbearing are associated with migration outcomes in China. Using a large nationally representative sample of young women from the 2017 National Fertility Survey with retrospective information, Liu and Chen (2021) found that being married and having children were related to lower risks of first migration. Their study was limited by a women-only sample, however. Thus we know little about whether marriage and childbearing affect first migration differently for men compared to women. Chen and Fan (2018) exploited a survey collected from migrant-sending villages in Anhui, one of the major migrant-sending provinces, and reconstructed respondents' life trajectories based on rich qualitative data. They found a gender difference in the effect of having children on first migration: While women's migration was deterred by having more children, this association was not observed for men. Insightful as their findings were, the study by Chen and Fan fell short of being nationally representative. More than that, their estimates were susceptible to bias because the sample was likely selected on the migration outcome. Their analysis sample consisted only of those who were not migrants and remained in their hometowns at the time of the survey. Lyu and Zhao (2022) used the 2014 wave of the China Health and Retirement Survey (CHARLS) with detailed retrospective information on life course events. Their results showed that for the birth cohorts 1930–1969, there were remarkable gender differences in the roles of marriage and the number of children in first migration outcomes. While marriage lowered men's first migration risks, it elevated women's. This pattern of gender difference challenges the view that marriage usually limits women's migration. Lyu and Zhao also found that having more children hindered men's and women's first migration, with stronger effects for women.

Although the CHARLS is nationally representative and not selective on migration outcomes, it is similar to its counterparts in Europe (SHARE) and the United States (HRS) in that only older individuals are included by survey design.

Their insights notwithstanding, the abovementioned studies are constrained by data limitations in one way or another. Therefore the picture remains somewhat unclear about gender and birth cohort differences in how first labor migration is driven or hindered by marriage and childbearing dynamics. First, the roles of marriage and childbearing in men's and women's migration are inconsistent among existing studies reporting conflicting findings. Second, very few studies, surprisingly, turn to a birth cohort perspective to understand whether the roles of marriage and childbearing in migration decision-making have changed over time, especially considering changing migration patterns and the remarkably different policies faced by different cohorts of migrants regarding access to key social services in the destination, such as children's education.

We aim to contribute to the debate on how marriage and childbearing are linked to migration decisions by comparing these links by gender on the one hand and by birth cohort on the other. Our first expectation is that in light of the gender division of labor in Chinese families, marital and childbearing responsibilities are more constraining for women's labor migration than for men's. Our second expectation is that the roles of marriage and childbearing for labor migration have changed over time. In this study, we measure such temporal change with successive birth cohorts (Elder, Johnson, and Crosnoe 2003). Specifically, we expect the constraints of marriage and childbearing for women's migration to weaken over birth cohorts; this hypothesized weakening of constraints is expected to be less pronounced for men.

5. Data and methods

5.1 The 2018 CHIP

This study draws on data from the sixth round of the China Household Income Project carried out during April and May of 2019 (the 2018 CHIP hereinafter).⁵ The CHIP is a repeated cross-sectional survey project. The 2018 CHIP is nationally representative, as its sample is randomly drawn from a much larger nationally representative sample of the National Household Survey run annually by the National Bureau of Statistics. The response rates of the 2018 CHIP are close to 99%. Drawing five province-level administrative units from each of China's eastern, central, and western regions, the 2018 CHIP covered a total of 15 administrative units, whose combined population accounted

⁵ We follow the survey project in referring to this round of the survey as the 2018 CHIP, even although it was fielded in 2019.

for 64.4% of China's total population in 2019.⁶ It is important to note that the survey includes major migrant-sending provinces, such as Sichuan and Anhui, and major migrant-receiving provinces, such as Guangdong and Jiangsu. The original sample of the 2018 CHIP includes 71,266 respondents (36,444 males and 34,822 females). In this research, the study population is made up of rural-origin individuals, defined by the survey as those who held rural hukou at the time of the survey, including rural natives living in their hometowns and migrants living at migration destinations.

The 2018 CHIP is particularly suitable for addressing our research questions for several reasons. First, the survey has two separate samples collected from rural and urban communities. The original rural and urban samples include 35,007 and 36,259 respondents, respectively. Given the migration flow from rural to urban areas, the survey covers respondents in both migrant-sending and migrant-receiving places, encompassing both within- and cross-province migration. For rural-origin respondents, the 2018 CHIP did not select respondents based on their migration outcomes. While those who never migrated and returned from migration can be observed in the rural sample, current migrants can be observed in the urban sample. Second, the 2018 CHIP included respondents from recent birth cohorts, such as those born in the 1980s and 1990s, so we can make an extended birth cohort comparison. Third, the 2018 CHIP collected retrospective information on the timing, specifically the year, of first labor migration and first marriage, as well as detailed information on children, from which we can reconstruct respondents' birth histories.

5.2 Variables

5.2.1 Outcome variable: first labor migration

The 2018 CHIP collected information on whether and when rural-origin respondents migrated outside their township for the first time for work.⁷ The survey asked, "In which year did you migrate out for work/business for the first time to another township?" While all respondents in the rural sample were asked this question, only a subset of the urban sample, temporary migrants living in urban areas who held rural hukou, was required to answer this question. If such a migration event ever occurred, we calculated respondents' ages at their first labor migration and constructed a binary dependent variable of having experienced their first labor migration in a given year. A conceptual caveat of this

⁶ The survey included Beijing, Shanxi, Inner Mongolia, Liaoning, Jiangsu, Anhui, Shandong, Henan, Hubei, Hunan, Guangdong, Chongqing, Sichuan, Yunnan, and Gansu.

⁷ Townships are the smallest administrative units in China. In 2018 China had 39,943 township-level units nested within 2,851 county-level units nested within 333 city-level units (source: National Bureau of Statistics of China).

operationalization of first labor migration should be noted. While we label it as labor migration, respondents' decisions to migrate can be driven by multiple considerations simultaneously, of which economic reasons tend to be the primary, but not the solo, motivation.

5.2.2 Main predictors: marriage and childbearing

The 2018 CHIP asked all respondents about the timing of first marriage. Based on this information, we calculated respondents' ages at first marriage. The survey collected essential demographic information on children, such as their age, gender, and level of education, in three different survey modules: (1) a household roster enumerating all household members; (2) a module on the household head's adult children who did not live in the household; (3) a module on each household member's school-age children who did or did not live in the household (including those attending boarding schools or living in other households). This information is used to construct respondents' birth histories.

5.3 The final sample

The final sample included all respondents in the rural sample and temporary migrants in the urban sample. Migrants in the urban sample were defined by the survey as those with rural hukou registered in a county (*xian*) other than the one where they currently resided. By this definition, 4,916 of 36,259 respondents (13.6%) in the urban sample were migrants. We excluded a small number of divorced or widowed respondents because the survey did not collect the timing of these marital events. We included household heads and their spouses, children, and children-in-law in the final sample because the survey provided sufficient information to reconstruct these respondents' birth histories.⁸ We included in the sample five successive ten-year birth cohorts (respondents aged 19–68 in 2019): 1951–1960, 1961–1970, 1971–1980, 1981–1990, 1991–2000. Apart from the concern about elevated recall bias among older respondents, another important reason for excluding those born before 1951 is that their first labor migration was possibly part of political movements in the socialist era. Politically motivated migration is different from the self-initiated labor migrations experienced by later birth cohorts. Lastly, we excluded those experiencing first labor migration, first marriage, or first birth below age 16.

⁸ Those excluded are household heads' parents, parents-in-law, grandparents, grandchildren, siblings, and household members with unclear relations to the household head.

It is worth noting that the survey defined the social relations between household members with reference to the household head and did not have unique personal identifiers to link parents and children. Identifying parent–child dyads is critical to reconstructing birth histories. Thus, we excluded households for which identifying the relationships between household members was uncertain. Specifically, we excluded households in which the household head lived with two married adult children or more. In this situation, we could not determine the identity of the parents of the household head’s grandchildren. We also excluded households with duplicated records of children. The duplications are likely from the double reporting of children in different survey modules. The flow chart of constructing the final sample is shown in Figure 1. The final sample is comprised of 23,470 respondents (12,335 men and 11,135 women) and 3,373, 6,203, 4,982, 5,037, and 3,875 respondents born in the 1951–1960, 1961–1970, 1971–1980, 1981–1990, and 1991–2000 birth cohorts, respectively.

Figure 1: Sample construction (N = respondents)

Step 1: The rural and urban samples combined; keep rural residents and migrants living in urban areas (N = 39,923)
Step 2: Keep the birth cohorts from 1951–2000 (10,134 excluded) and keep household heads and any of their spouses, children, children-in-law, and unmarried grandchildren (1,074 excluded) (N = 28,715)
Step 3: Keep respondents with complete birth histories (590 excluded) and keep households with the household head living with no more than one married child (1,108 excluded) (N = 27,017)
Step 4: Drop respondents with missing information on year of first labor migration (914 excluded) and on year of first marriage (174 excluded). Drop respondents who were younger than 16 in first labor migration (525 excluded), in first marriage (14 excluded), and in first childbearing (146 excluded) (N = 23,836)
Step 5: Keep respondents without missing values in other variables (366 excluded) (Final sample, N = 23,470)

5.4 Analyses

We used standard event history techniques to examine how first labor migration is related to marriage and childbearing (Blossfeld, Rohwer, and Schneider 2019). We assumed that individuals were exposed to the risk of first labor migration at age 16, the minimal age to

work legally in China. Respondents were right censored at either age 50 or the survey year of 2019, whichever came first.

The first part of our analysis is descriptive. Using Kaplan–Meier curves, we compared men’s and women’s first labor migration patterns by birth cohort. Furthermore, we stratified the sample by gender and birth cohort to compare ages when 25%, 50%, and 75% of individuals from a specific gender-cohort group had experienced first labor migration, first marriage, and first childbearing. Comparing these ages is a straightforward way to examine these interlocking life course events and any potential differences across gender and birth cohorts.

The second part presents the results of multivariate analyses based on discrete-time logistic models of first labor migration (Blossfeld, Rohwer, and Schneider 2019). We transformed the final sample into a person-year file ($N = 476,256$ person-years). Models were fitted separately for men and women. The main explanatory variables, which are time-varying, are marital status (married vs. single) and two continuous variables measuring the number of preschool children (age 0–6) and school-age children (age 7–18) in a given year.

We include the following time-constant control variables: birth cohort, highest level of education achieved,⁹ number of siblings, birth order, whether holding rural or urban hukou at age 14 (indicating one’s type of residency in childhood), and province of origin at age 14 (where the hukou was registered at that time). Note that we include a set of time-varying period dummies to better tease out the cohort patterns of first labor migration. We follow Wang’s categorization (2019) of migration periods based on internal migration rates and hukou policy reforms to distinguish five periods: up to 1977, 1978–1983, 1984–1993, 1994–2014, and 2015–2019. We adjust for duration dependence with two time-varying indicators measuring age and age squared.¹⁰ Table A-1 shows the descriptive statistics by gender for all variables based on the sample of person-years under the risk of first labor migration.

⁹ Education is treated as time-constant because the survey did not include detailed information on education, such as when respondents started and finished each education stage.

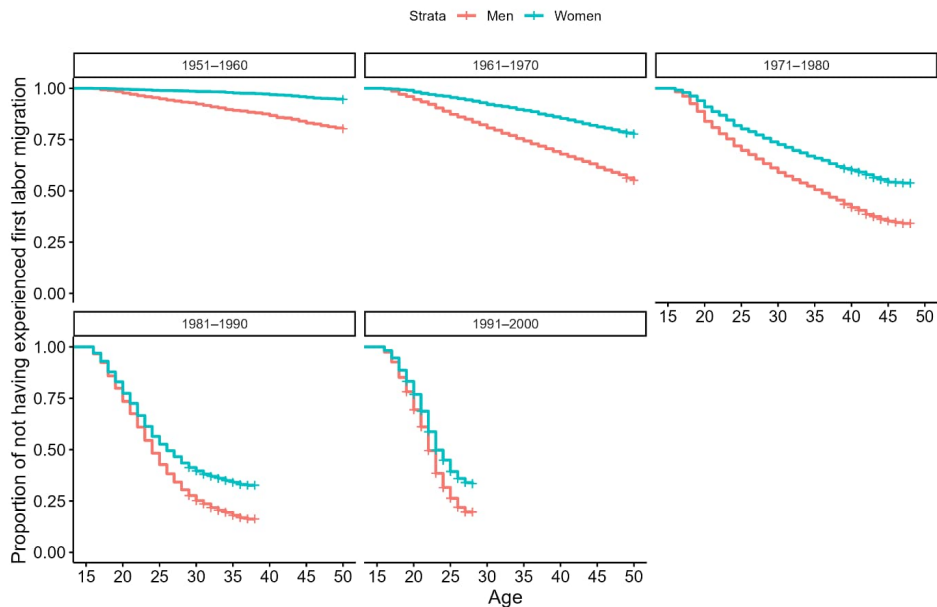
¹⁰ Note that our models have simultaneously specified age, period, and cohort (APC). We addressed, rather than solved, the APC identification problem by imposing multiple constraints on the cohort and period indicators: Several cohort groups were combined into one, as were those for the period indicator. In other words, we assume that the effects of period and cohort are the same within the same period or cohort subgroups.

6. Descriptive results

6.1 First labor migration by gender and cohort

Figure 2 presents the Kaplan–Meier curves of men’s and women’s first labor migration stratified by birth cohort. The figure shows two clear, important messages. First, for all five birth cohorts, men’s first labor migration is more intense than women’s, as indicated by men’s higher cumulative proportions of having experienced migration at any age from 16 to 50. Second, there are remarkable birth cohort differences in first labor migration. Over the birth cohorts, men and women had migrated increasingly earlier and had a higher cumulative proportion of having experienced first labor migration by any given age.

Figure 2: Kaplan–Meier curves of men’s and women’s first labor migration, stratified by birth cohort



Source: The 2018 CHIP, authors' own calculations.

6.2 Ages at first labor migration, first marriage, and first childbearing

The upper panel of Table 1 shows the ages when 25%, 50%, and 75% of men from different cohorts experienced first labor migration, first marriage, and first childbearing. The bottom panel shows the corresponding ages for women. The last column of the table shows the mean ages of respondents for each birth cohort at the time of the survey.

Table 1: Men's and women's ages of 25%, 50%, and 75% having experienced first labor migration, first marriage, and first childbearing, by birth cohort

	Age at first marriage			Age at first birth			Age at first migration			Mean age at the survey
	25%	50%	75%	25%	50%	75%	25%	50%	75%	
Birth cohort (men)										
1951–1960	23	24	26	24	26	28	—	—	—	63
1961–1970	22	23	25	23	24	27	35	—	—	53
1971–1980	22	24	26	23	25	28	23	36	—	44
1981–1990	23	25	29	24	26	31	20	24	31	33
1991–2000	25	—	—	27	—	—	20	22	26	24
Birth cohort (women)										
1951–1960	21	22	24	22	24	26	—	—	—	63
1961–1970	20	22	23	21	23	25	—	—	—	53
1971–1980	21	22	24	22	23	26	29	—	—	44
1981–1990	21	23	25	22	24	27	21	26	—	33
1991–2000	22	26	—	23	—	—	21	23	—	23

Note: Cells with missing values indicate that such ages were not observed by the time of the survey.

Source: The 2018 CHIP, authors' own calculations.

For men from the 1951–1960, 1961–1970, and 1971–1980 birth cohorts, first labor migration often occurred after first marriage and first childbearing. For these cohorts, the median value for age at first marriage was around 23 or 24, slightly earlier than their median age of 24 or 25 at first birth. Labor migration was not a common experience for either the 1951–1960 or the 1961–1970 birth cohort, with their median value for age at first labor migration not observed. For men in the 1971–1980 birth cohort, the median value for age at first labor migration was 36, more than 10 years older than the ages at first marriage and first birth. In contrast, the 1981–1990 and 1991–2000 birth cohorts illustrated a different pattern. The timing of migration relative to marriage and childbearing had largely reversed. The median age at first labor migration for the 1981–

1990 cohort was lower than median ages at first marriage and first birth. For the 1991–2000 birth cohort, the shifting life course trajectories seemed even more pronounced. By age 26, 75% of this birth cohort of men had experienced migration for work for the first time, whereas 25% of them had experienced first marriage and first birth by ages 25 and 27, respectively.

The bottom panel shows a similar pattern of changing life course trajectories over birth cohorts for women, but there are some nuanced differences between men and women. As with men, the overall trend is that later birth cohorts of women experienced first labor migration earlier relative to first marriage and first childbearing. However, the switch in the timing of first labor migration relative to first marriage and first birth occurred somewhat later for women than for men. A clear pattern of women's younger ages at first labor migration than at first marriage and first childbearing emerged only in the 1991–2000 birth cohort.

7. Model results

7.1 The roles of marriage and childbearing for men and women's first labor migration

Table 2 shows the estimates from the discrete-time logistic models of first labor migration for men (Column 1) and women (Column 2). The correlations of being married and having children with first labor migration are in the same direction for men and women. Being married, having children aged 0–6, and having children aged 7–18 are all related to lower odds of first labor migration.

The question central to this study is whether men's and women's decisions to migrate for work for the first time are related differently to marriage and childbearing dynamics. The magnitudes associated with marriage and two child-related variables seem to differ somewhat for men and women. Being married is associated with 26% lower odds for men (95% OR: 0.65, 0.83) and 33% lower odds for women (95% OR: 0.55, 0.79); having an additional child aged 0–6 is associated with 13% lower odds for men (95% OR: 0.81, 0.93) and 22% lower odds for women (95% OR: 0.71, 0.85); having an additional child aged 7–18 is associated with 17% lower odds for men (95% OR: 0.78, 0.88) and 27% lower odds for women (95% OR: 0.66, 0.80).

Table 2: Discrete-time logistic models of first labor migration (odds ratios)

	Dependent variable		
	First labor migration		Gender differences
	Men (1)	Women (2)	
Married (ref: unmarried)	0.74 (0.65, 0.83)	0.67 (0.55, 0.79)	Prob > $\chi^2(1)$ = .215
Number of children aged 0–6	0.87 (0.81, 0.93)	0.78 (0.71, 0.85)	Prob > $\chi^2(1)$ = .020
Number of children aged 7–18	0.83 (0.78, 0.88)	0.73 (0.66, 0.80)	Prob > $\chi^2(1)$ = .003
Birth cohort: 1961–1970 (ref: 1951–1960)	2.05 (1.92, 2.18)	3.00 (2.75, 3.25)	Prob > $\chi^2(4)$ = .002
. 1971–1980	3.57 (3.41, 3.72)	6.42 (6.15, 6.68)	
. 1981–1990	7.76 (7.58, 7.93)	14.29 (14.01, 14.58)	
. 1991–2000	8.96 (8.76, 9.17)	17.06 (16.75, 17.38)	
Age	1.23 (1.21, 1.26)	1.30 (1.26, 1.33)	Prob > $\chi^2(2)$ = .016
Age squared	1.00 (1.00, 1.00)	1.00 (1.00, 1.00)	
Period: 1978–1983 (ref: up to 1977)	0.96 (0.61, 1.30)	0.66 (–0.08, 1.40)	Prob > $\chi^2(4)$ = .000
. 1984–1993	1.54 (1.23, 1.85)	1.57 (0.93, 2.22)	
. 1994–2014	2.18 (1.85, 2.51)	3.25 (2.59, 3.90)	
. 2015–2019	3.71 (3.36, 4.07)	4.36 (3.69, 5.03)	
Education: high school (ref: up to middle school)	1.05 (0.99, 1.12)	1.23 (1.14, 1.32)	Prob > $\chi^2(2)$ = .000
. College	0.83 (0.75, 0.92)	1.11 (1.00, 1.21)	
Number of siblings: 1 (ref: 0)	1.08 (0.99, 1.18)	1.11 (0.98, 1.25)	Prob > $\chi^2(2)$ = .197
. 2 or more	1.01 (0.90, 1.12)	1.14 (1.00, 1.29)	
Birth order: second child (ref: first child)	0.99 (0.92, 1.05)	1.02 (0.94, 1.09)	Prob > $\chi^2(2)$ = .011
. Third or later child	1.03 (0.96, 1.11)	0.89 (0.80, 0.99)	
Urban hukou at age 14 (ref: rural hukou)	1.17 (1.02, 1.32)	1.28 (1.11, 1.44)	Prob > $\chi^2(1)$ = .449
Constant	0.0003 (–0.45, 0.45)	0.0000 (–0.77, 0.77)	
Person-years	234,494	241,762	
AIC	55,578.8	36,694.6	
BIC	56,086.7	37,214.4	

Note: Confidence intervals (95%) in parentheses. Province of hukou registration at age 14 not shown.

Source: The 2018 CHIP, authors' own calculations.

Using the same method as Yu and Xie (2015), we tested the gender differences in the abovementioned associations by comparing model fits between a fully gender-interacted model and reduced models with likelihood ratio tests.¹¹ The test results are

¹¹ We started by using the sample of men and women to fit a discrete-time logistic model of first labor migration in which gender interacts with each variable shown in Table 2. We then fitted a series of reduced models that

shown in Column 3 (full results of nested models are not shown; available upon request). The fully gender-interacted model does not yield a better model fit than a reduced model without specifying an interaction between gender and being married ($p = 0.215$). This finding about no gender differences in the association between marriage and first labor migration does not align with what we expected. In contrast, the fully gender-interacted model fits better than the reduced models without specifying an interaction between gender and number of children aged 0–6 ($p = 0.020$) or an interaction between gender and number of children aged 7–18 ($p = 0.003$). These model comparisons indicate that childbearing responsibilities are associated with a lower probability of first labor migration for women than for men, consistent with our initial expectation.

7.2 Cohort differences in the roles of marriage and children for men and women

Table 2 shows a remarkable positive gradient by birth cohorts of first labor migration risks for both men and women. Consistent with the cohort patterns shown by the Kaplan–Meier estimates in Figure 2, this model result suggests a higher risk of first labor migration over the successive birth cohorts, net of other variables. The positive gradient is more pronounced for women than for men given the gender differences in the magnitudes associated with the birth cohort variable ($p = 0.000$). Such cohort differences in the risk of first labor migration may reflect the macro social change toward more migration opportunities and more migrant-inclusive policies, which appear to be particularly encouraging for women’s labor migration. We fitted models with interactions to test cohort trends in how marriage and childbearing were related to men’s and women’s first labor migration. For ease of interpretation, we computed and plotted predicted probabilities of first labor migration for men and women from different birth cohorts based on the models with these interactions (full model results are shown in Table A-2).¹²

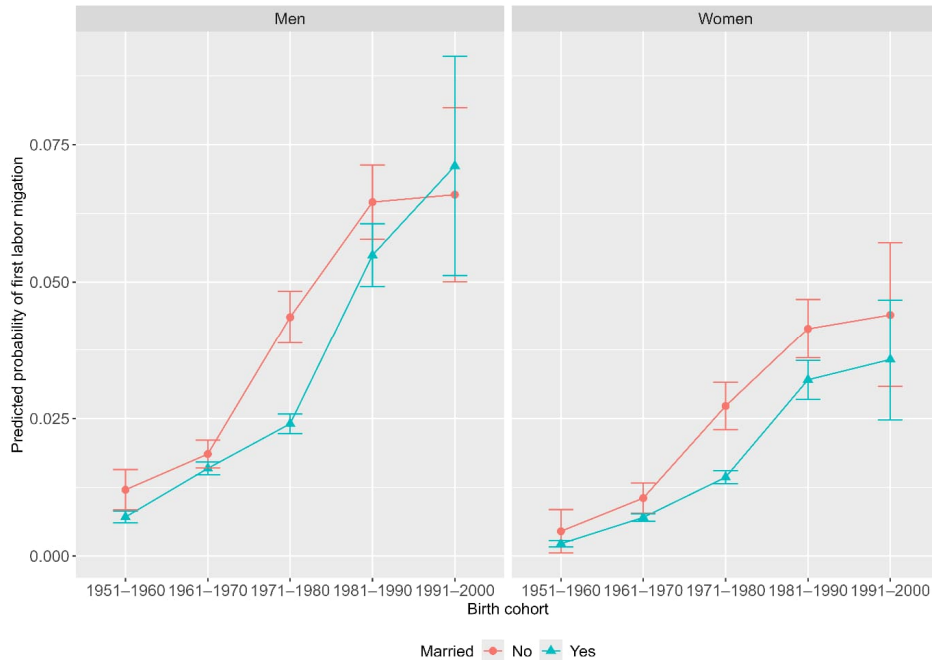
Figure 3 shows the predicted probabilities of first labor migration by marital status for men and women. Overall, we find little support for the expectation that the negative link between marriage and first labor migration has weakened over birth cohorts. In contrast, for men and women alike, the increases in the predicted probabilities associated with being unmarried are larger than those associated with being married from the 1961–1970 to 1971–1980 birth cohorts. The increases in predicted probabilities for being married and being unmarried are more or less parallel between the 1971–1980 and 1981–1990 birth cohorts. Between the 1981–1990 and 1991–2000 birth cohorts, the predicted

leave out the interaction between gender and one variable in a stepwise manner. In total, 11 reduced models were fitted.

¹² Table A-2 shows two discrete-time logistic models separately fitted for men and women (Columns 1 and 2). Each of the two models allowed the effects of marriage, the number of children aged 0–6, and the number of children aged 7–18 to vary by birth cohort by specifying additional interaction terms.

probabilities associated with being married become slightly larger than those associated with being unmarried for men, but the corresponding birth cohort trends in predicted probabilities for women seem parallel.

Figure 3: Predicted probabilities of first labor migration by marital status for men and women across birth cohorts

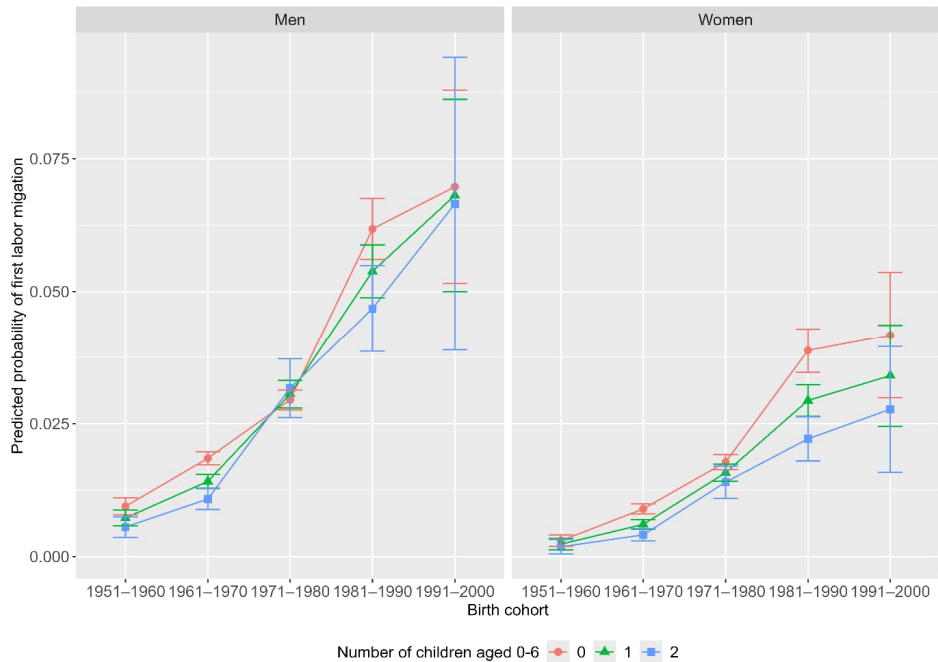


Note: Point estimates and 95% confidence intervals shown. Probabilities are based on Columns 1 and 2 of Table A-2, with other covariates held at the observed levels.

Source: The 2018 CHIP, authors' own calculations.

Figures 4 and 5 show the predicted probabilities of first labor migration by the number of children aged 0–6 and the number of children aged 7–18, respectively. For simplicity, we present only the predicted probabilities for having zero, one, and two children. The right panel of Figure 4 shows that over birth cohorts, the increases in the predicted probabilities associated with having no children aged 0–6 are larger than those associated with having one or two children among women. In comparison, the left panel shows no consistent birth cohort trends for men.

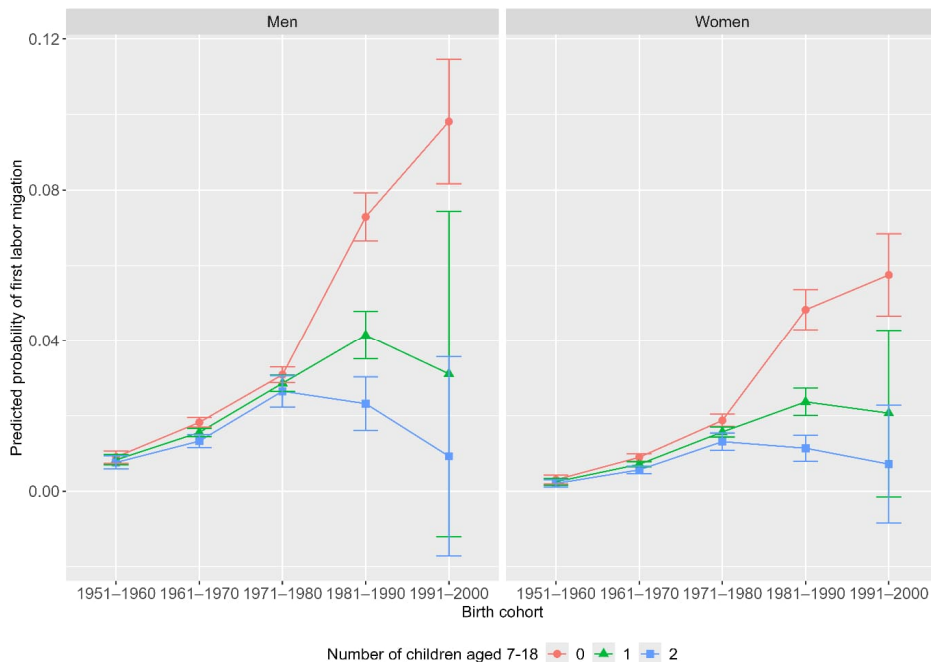
Figure 4: Predicted probabilities of first labor migration by number of children aged 0–6 for men and women across birth cohorts



Note: Point estimates and 95% confidence intervals shown. Probabilities are based on Columns 1 and 2 of Table A-2, with other covariates held at the observed levels.
Source: The 2018 CHIP, authors' own calculations.

Figure 5 shows the cohort trends of the predicted probabilities associated with having zero, one, and two children aged 7–18 for men and women across birth cohorts. For men and women alike, the increases in the predicted probabilities associated with having no children aged 7–18 are larger over birth cohorts than those associated with having one or two such children. Overall, Figures 4 and 5 underline that childbearing responsibilities have become more negatively related to first labor migration over birth cohorts, a pattern that is particularly pronounced for having children aged 7–18.

Figure 5: Predicted probabilities of first labor migration by number of children aged 7–18 for men and women across birth cohorts



Note: Point estimates and 95% confidence intervals shown; probabilities are based on Columns 1 and 2 of Table A-2, with other covariates held at the observed levels.

Source: The 2018 CHIP, authors' own calculations.

8. Concluding remarks and discussion

Before discussing the implications of our empirical findings, it is worth reiterating two methodological issues in prior works on China's internal migration and underscoring how we address both issues through the better data and research design used in this study. First, it is not uncommon for studies to define migration in a vague manner, usually because of insufficient survey information. Lumping different types of migration together – considering that migrants can move for different reasons and that there are first-time migrants and seasoned migrants – undermines comparability across studies. By focusing on the first labor migration, our study aims to be a more efficient building block for future studies. Second, unlike studies using data collected from either migrant-receiving or

migrant-sending places, we have used a nationally representative sample that includes respondents from both ends of the migration flow, therefore effectively mitigating the issue of the sample being selective on the migration outcome (Hoem 2014; Hoem and Nedoluzhko 2016).

Our study yields several important messages. Descriptively, we provide an account of updated, nationally representative estimates of the timing of first labor migration among extended birth cohorts of men and women in China. We found that across all birth cohorts from 1951–2000, women overall had lower risks of first labor migration than men and that there was a cohort trend toward younger ages at first labor migration for both genders. These findings are consistent with previous research (Chen and Fan 2018; Cheng 2014; Fan 2003). We also found remarkable changes in life course events across birth cohorts: For men born in the 1980s or later and women born in the 1990s, first labor migration tended to occur before first marriage and first childbearing, in stark contrast to their counterparts from earlier birth cohorts, whose first labor migration usually followed, rather than preceded, marriage and parenthood.

The model results provide insights into the gender and birth cohort differences in the roles of marriage and childbearing for first labor migration, though not all findings are consistent with previous studies. We found gender differentials only in the association of childbearing responsibilities with first labor migration decisions, a finding consistent with the gender division of labor in the Chinese context. Parenthood is associated with a lower chance of first labor migration for women than for men, as mothers are expected to assume the primary nurturing role for their children. The gender difference is observed for having children aged 0–6 and having children aged 7–18. Our findings also suggest a negative relationship between marriage and first labor migration, although no gender differences are observed for this relationship.

Moreover, we found little evidence for the expectation that the associations of first labor migration with marriage and childbearing responsibilities have weakened for men and women born in the cohorts from 1951 to 2000. Instead, the negative relationship between marriage and first labor migration has grown stronger for women over these successive birth cohorts. Among men and women, the negative association between parenthood and first labor migration has also grown stronger rather than weaker over birth cohorts. These patterns are more pronounced for those with children aged 7–18 than for those with children aged 0–6.

A question naturally follows. Our research findings seem somewhat counterintuitive given the development of migrant-inclusive policies and the increasing trend of couple and family migration in China. These social and demographic dynamics would have led to the weakening of the negative links between migration and marriage as well as parenthood, especially for women. That said, these potential changes in marriage and childbearing correlates of labor migration may be evident in higher-order migration rather than first-time migration. Admittedly, the exact reasons why marriage and

childbearing have evolved to be more negatively correlated to first labor migration over birth cohorts remain unclear. One possible explanation could be that parenting has become more intensive over the past few decades (Mu and Tian 2022), driving younger parents to invest more financially and emotionally in their children. Compared with earlier cohorts, parents from later cohorts may feel more compelled to prioritize staying with their children rather than leaving children behind due to migration. These young parents who have never migrated do not have firsthand knowledge of the uncertainties that labor migration will bring to them and their families. Under such circumstances, choosing not to migrate may seem a reasonable uncertainty-reduction household strategy to safeguard their children's well-being.

Readers should be aware of several limitations. First, as we drew on observational data and thus could not rule out the potential bias introduced by endogeneity and unobserved heterogeneity, the links between labor migration and marriage as well as family status should be understood as associational rather than causal, especially considering that marriage, childbearing, and migration are often interdependent life course events whose underlying causal orders are not always crystal clear. Second, due to the lack of unique individual identifiers, there can be mismatches between parents and children. We have addressed this issue by limiting the final sample in several ways. (See Figure 1 for details on sample construction.) As a robustness check, in the final sample we tried to keep only household heads and their spouses and children, for whom identifying parent-child dyads is reliable. The model results (not shown; available upon request) based on this more restrictive sample are similar to those presented here. Third, the CHIP 2018 includes current migrants in urban areas, which is a crucial advantage in the survey design compared with other studies. At the same time, readers should be cautious about who was excluded from the final sample. Among the excluded are respondents living in urban areas who had urban hukou. They consist of two groups: urban natives and permanent migrants who had converted their rural hukou to urban hukou. In other words, the first labor migration of permanent migrants is beyond the scope of this study. Fourth, although the original sample of the 2018 CHIP is nationally representative, the final sample may be less so because, for practical reasons, we excluded certain respondents and households. However, we consider that this exclusion should not be a major issue, since those excluded account for only a very small fraction of the original sample. Fifth, there may be survivorship bias among respondents born in the 1950s and the early 1960s. Despite their earlier years in life being adversely affected by the devastating, life-taking famine around 1960, they survived while many of their peers did not.

Despite these limitations, with a better methodological approach, including using a precise definition of first migration and a sample not conditional on migration outcomes, this study has vividly revealed rural Chinese individuals' changing patterns of first labor migration in conjunction with their delays in first marriage and first childbearing. As we

set our analytical focus primarily on three specific life course events, this study provides a snapshot of Chinese individuals' changing life course centering on first labor migration. Future studies aiming to capture the full dynamics of life trajectories can rely on more holistic approaches, such as sequence analysis, to examine the interlocking of the first-time and higher-order life course events of migration, partnership, and childbearing.

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Appendix

Table A-1: Descriptive statistics of person-years under the risk of first labor migration, by gender

	Men	Women
First labor migration (%)	2.9	1.8
Married (%)	61.3	71.9
Number of children aged 0–6 (mean [SD])	0.35 (0.63)	0.39 (0.66)
Number of children aged 7–18 (mean [SD])	0.44 (0.77)	0.53 (0.82)
Birth cohort (%)		
1951–1960	24.8	21.9
1961–1970	36.9	39.7
1971–1980	21.0	21.8
1981–1990	11.5	11.4
1991–2000	5.7	5.1
Age (mean [SD])	29.10 (9.77)	29.91 (9.85)
Period		
Up to 1977	5.0	4.2
1978–1983	7.7	6.8
1984–1993	22.7	21.3
1994–2014	56.9	58.4
2015–2019	7.7	9.3
Education (%)		
Up to middle school	77.4	86.3
High school	16.3	9.0
College	6.3	4.8
Number of siblings (%)		
1	6.2	3.4
2	18.0	15.3
3+	75.8	81.3
Birth order (%)		
1	32.3	31.7
2	26.7	26.4
3+	41.0	41.8
Urban hukou at age 14 (%)	2.2	1.9
N (person-years)	234,494	241,762

Note: The distribution of the province of hukou registration at age 14 is not shown.

Source: The 2018 CHIP, authors' own calculations.

Table A-2: Discrete-time logistic models of first labor migration for men and women, with interactions (odds ratios)

	Dependent variable	
	First labor migration	
	Men (1)	Women (2)
Married (ref: unmarried)	0.58 (0.24, 0.93)	0.50 (-0.42, 1.41)
Married * birth cohort 1961–1970	1.46 (1.10, 1.83)	1.34 (0.41, 2.26)
Married * birth cohort 1971–1980	0.92 (0.55, 1.29)	1.04 (0.11, 1.97)
Married * birth cohort 1981–1990	1.43 (1.06, 1.81)	1.54 (0.61, 2.46)
Married * birth cohort 1991–2000	1.86 (1.41, 2.31)	1.62 (0.66, 2.57)
Number of children aged 0–6	0.77 (0.58, 0.95)	0.79 (0.41, 1.16)
Number of children aged 0–6 * birth cohort 1961–1970	0.99 (0.79, 1.20)	0.86 (0.46, 1.25)
Number of children aged 0–6 * birth cohort 1971–1980	1.36 (1.15, 1.57)	1.13 (0.73, 1.52)
Number of children aged 0–6 * birth cohort 1981–1990	1.12 (0.91, 1.34)	0.95 (0.56, 1.34)
Number of children aged 0–6 * birth cohort 1991–2000	1.27 (0.97, 1.58)	1.02 (0.58, 1.47)
Number of children aged 7–18	0.92 (0.79, 1.04)	0.82 (0.57, 1.07)
Number of children aged 7–18 * birth cohort 1961–1970	0.93 (0.78, 1.08)	0.97 (0.69, 1.24)
Number of children aged 7–18 * birth cohort 1971–1980	1.01 (0.85, 1.17)	1.02 (0.74, 1.29)
Number of children aged 7–18 * birth cohort 1981–1990	0.60 (0.38, 0.81)	0.58 (0.27, 0.88)
Number of children aged 7–18 * birth cohort 1991–2000	0.32 (-1.14, 1.77)	0.41 (-0.72, 1.55)
Birth cohort: 1961–1970 (ref: 1951–1960)	1.62 (1.30, 1.93)	2.54 (1.65, 3.43)
. 1971–1980	3.36 (3.03, 3.68)	5.94 (5.04, 6.84)
. 1981–1990	6.78 (6.44, 7.11)	12.71 (11.80, 13.61)
. 1991–2000	7.54 (7.19, 7.90)	14.41 (13.49, 15.32)
Age	1.24 (1.21, 1.26)	1.31 (1.27, 1.34)
Age squared	1.00 (1.00, 1.00)	1.00 (1.00, 1.00)
Period: 1978–1983 (ref: up to 1977)	1.12 (0.74, 1.51)	0.74 (-0.20, 1.68)
. 1984–1993	1.78 (1.38, 2.18)	1.78 (0.83, 2.72)
. 1994–2014	2.38 (1.96, 2.79)	3.47 (2.51, 4.42)
. 2015–2019	4.18 (3.75, 4.61)	4.88 (3.92, 5.85)
Education: high school (ref: up to middle school)	1.05 (0.99, 1.12)	1.22 (1.13, 1.31)
College	0.84 (0.76, 0.92)	1.11 (1.00, 1.21)

Table A-2: (Continued)

	Dependent variable	
	First labor migration	
	Men (1)	Women (2)
Number of siblings: 1 (ref: 0)	1.09 (1.00, 1.18)	1.12 (0.99, 1.25)
. 2 or more	1.02 (0.91, 1.13)	1.16 (1.02, 1.30)
Birth order: second child (ref: first child)	0.99 (0.92, 1.05)	1.01 (0.93, 1.09)
. Third or later child	1.03 (0.96, 1.11)	0.89 (0.80, 0.98)
Urban hukou at age 14 (ref: rural hukou)	1.18 (1.02, 1.33)	1.28 (1.11, 1.44)
Constant	0.0003 (−0.46, 0.46)	0.0000 (−0.79, 0.79)
N (person-years)	234,494	241,762
AIC	55,515.3	36,662.6
BIC	56,147.56	37,307.1

Note: Confidence intervals (95%) in parentheses. Province of hukou registration at age 14 is not shown.

Source: The 2018 CHIP, authors' own calculations.

