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TITLE

Family migration in China: A longitudinal analysis of couples' migration behaviour.

ABSTRACT

This article addresses internal migration behaviour in the context of two-gender-couple households in contemporary China. Against the backdrop of increasing female education in a society where ideals in the gendered division of labour prevail, this study assesses the role of partners' education in regards to a couple's migration behaviour. Considering education to be a key resource in a couple's negotiations, we test hypotheses on gender symmetry and asymmetry of a partner's resources with regard to a couple's relocation. Additionally, we assess how the role of partners' resources varies across populations with rural and urban backgrounds, and acknowledge persistent barriers to migration due to household registration policies (*Hukou*) and the associated disadvantages faced by rural migrants and their children. For our analyses, we deploy longitudinal couple-dyadic data from the China Family Panel Studies (2010–2018) and estimate couples' inter-county moves using discrete-time event history models. Our results suggest that couple relocations are associated with higher levels of the male partner's education, and not with the female partner's education. We do not find that partners' gender ideology moderates these associations. The role of the male partner's education was found to be more relevant in couples' relocations for those with an agricultural household registration. Our research contributes importantly to debates on

persistent gender inequality and urban-rural divides in China, and how these factors permeate migration decisions.

KEYWORDS

couple dynamics, family migration, gender inequality, China

INTRODUCTION

After its entry into the World Trade Organization in December 2001, China began a period of strong economic growth that facilitated industrial production. This in turn prompted a strong demand for labor and a massive exodus of rural workers to urban areas which offered greater job opportunities and better pay. The number of people living in a region different to their origin increased dramatically from 21 million in 1990 to 246 million in 2015. The National Bureau of Statistics in China estimates that 16% of the Chinese population is made up of migrants or internally displaced persons.

While most internal movement in China involves a two-gender couple or a family (Zhou, 2004), research has rarely addressed the extent to which a household's structure matters and how its members can influence migration behaviour. So far, we do not adequately understand how migration behaviour is determined, who is moving and under what conditions. An economic rationale usually underlies households' migration decisions, and since men remain better positioned than women in the labour market, household migrations might be more responsive to the job-related demands of male partners and might contribute to the widening of gender inequalities in socio-economic achievement. Where gendered ideals in the household division of labour still prevail, however, progressive female educational achievement, which enhances women's economic independence, can break (or at least affect) the traditional male dominance in household decisions such as migration.

In this research, our main objective is to provide a more thorough understanding of

internal migration behaviour in the context of two-gender couple and in family households in contemporary China, and address whether (and how) gender inequalities permeate these behaviours. Importantly, we acknowledge that – different to other national contexts – migration behaviour in China is heavily affected by long-standing urban-biased policies that not only aggravate socio-economic gaps between urban and rural areas, but are also aimed at (directly) restricting or affecting the incentives to move across areas.

We aim to respond the following questions: *How does gender inequality in partners' resources affect two-gender couples' migration in China? To what extent is couples' behaviour influenced by context-specific mobility restrictions and incentives?*

To this end, we analyse migration behaviour among couple households using the first 5 waves of the China Family Panel Studies (2010-2018) and discrete-time event history models. We examine couples' inter-county moves to empirically test typical hypothesis from an established literature on family migration decisions in Western contexts. Hence, we address the role of spousal resources for migration behaviour. In line with extant research, we consider the education of the spouses as a measure of the potential economic return, and thus, a key resource in couple's negotiation when it comes to discussions about migration. In addition, we account for the role of cultural norms by addressing the (un)equal weight assigned to male and female partners' resources in accord with (non-)traditional gender ideology among partners. We also address whether (and how) the role of partners' resources for migration behaviour varies across couples

from rural and urban areas, and acknowledge the economic and institutional disadvantages faced by Chinese rural migrants (Qi, 2019).

Findings from our research will contribute to debates on persistent gender inequality in China, and how these factors still permeate migration behaviour despite the slow but steady gains in women's economic independence. Our research also contributes to the discussion of family migration theories in a context where rural-to-urban migration has been a dominant pattern, which underlies a growing gap in opportunities between urban and rural areas. Here, too, is where institutional discrimination of rural dwellers and migration restrictions to urban areas run through household registration policies (*Hukou*).

RESEARCH BACKGROND AND HYPOTHESES

Partners' resources and couples' household migration behaviour

Research in Europe and the US has paid extensive attention to the question of whether (and under what conditions) partners' characteristics matter in couples' migration behaviours. Most of the earlier research responded to recent declines in household migration levels. These were largely attributed to the great increase of economic resources that the female partner contributes to the household, as a result of the rise in female labour (especially for mothers and married women) in the second half of the 20th century (DaVanzo, 1976; Long, 1974). Cost-benefit models for family migration (in accord with human capital theory) were proposed as it was indicated that moves

occur if there is a positive absolute net household (income) gain from moving. Such a gain is often driven by factors such as the education, skills, earnings and career prospects of the partner who leads the move (Mincer, 1978). Other studies proposed that it is the relative gains of the spouse who contributes more resources to the household and not the absolute gains for the household that triggers family migration. In other words, migration decisions are seen as the outcome of a couple negotiating with each other, where the couple's respective resources influence the bargaining outcome (Lundberg & Pollak, 2003). These theorizations are a priori neutral on the role of gender (a.k.a. *gender symmetric perspectives*), but researchers have assumed traditional couple specialisation to be a form of equilibrium. The expectation was that men specialise in paid work and therefore lead family migrations; women specialise in domestic work and follow their partners as 'tied migrants' or 'trailing wives' (Cooke, 2001). Partnered women have been gaining more labour market resources (e.g., education, work experience, earnings and occupational status) and thus gender specialisation within couples has weakened, so total household gains relative to family migration costs decrease and women's ability to influence family migration decisions increases.

More recent research has addressed the question of why men continue to lead family migrations despite women's steady accumulation of labour market resources. It has been suggested that factors other than spousal resources underlie a couple's decisions. For instance, gender ideology was proposed as a factor underlying gendered expectations on the role of partner's resources for family migration (a.k.a *gender*

asymmetric perspective; e.g. Bielby & Bielby, 1992). Couples who hold traditional or gendered views on the division of labour often attribute less importance to the labour market resources of the female partner than to those of the male partner. Also, gendered views on the division of labour change over the life course, and often become more traditional after the birth of children (Cooke, 2001). Studies have shown that partnered women's careers worsen after family migration, particularly among mothers and around the time of childbirth (Brandén, 2014; Cooke et al., 2009).

In accordance with the findings of extant research, we formulate new expectations on the role of women's and men's resources for family migration behaviour.

In line with gender-symmetric approaches, we expect that men's and women's labour market resources (i.e., higher educational levels) are associated with a higher probability of family migration. In particular, greater labour market resources should be associated with couples' likelihood towards migration because of the expected returns of the labour market investments of partners. This is particularly salient when the partner who leads the move (generally the male) possesses higher labour market resources than the partner who follows (generally the female). The role of labour market resources for migration behaviour, however, might be compromised where partners have comparable labour market resources because of the higher veto power of each partner if the migration proposal is not attractive enough (i.e., employment conditions at the proposed destination are not the same as those of current employment conditions).

In this research, we focus on the role of each partner's education as a key resource in a

couple's negotiations. Most recent internal migrants are rural in origin and have moved to urban areas largely for a (better) job (Bernard et al., 2019). The majority of these migrants have attained junior high school education (Fan & Li, 2019), which is often required for jobs in urban areas as work experience in rural areas is seldom useful in urban areas. Despite similarities in educational achievement among men and women, within couples and in the larger Chinese society (Y. Hu & Qian, 2019), gender gaps in wages, labour market participation and leadership positions remain – or have intensified – in recent years (Chi & Li, 2014; L. Wang & Klugman, 2020). Given that, we expect that *two-gender couples' relocation behaviour will be more responsive to the resources of the male partner* (H1).

In line with gender-asymmetric approaches, we expect that men's and women's labour market resources are weighted differently or are moderated by partners' gender attitudes in family migration behaviour. On one hand, couples which subscribe to traditional or less egalitarian views towards gender might be more likely to move when the male partner has amassed higher resources and undertaken moves that prioritize his career advancement. The female partner's resources, per se, might not affect a couple's mobility among *traditional* couples because her career is not prioritised. Furthermore, male partners with traditional gender ideologies may be more inclined to relocate only for their own job, whereas female partners with traditional gender ideologies may be more inclined to follow their partner independently of their career situation (Bielby & Bielby, 1992). On the other hand, couples which subscribe to non-traditional or more egalitarian views towards gender might behave as postulated by gender-symmetric

approaches because there is no prioritising of careers based on the gender of the partners. That is, if partners' resources are similar then female partners might veto moves that may hurt their careers. Likewise, male partners might propose job-related relocations that do not negatively affect their partners' careers (Bird & Bird, 1985).

Persisting gender stereotypes and cultural norms heavily affect career chances among Chinese women, particularly after childbirth. According to prevailing traditional norms, women are seen as primary caregivers and are expected to leave paid employment to care for their families, while men are seen as responsible for the economic stability of families and are expected to invest in their careers (Jia & Ma, 2015). Despite this, the development of the market economy in the last decades has gradually shaken traditional gender ideology (Shu & Zhu, 2012), as women's education and employment opportunities have risen and forged new expectations of women with regards to family income through paid work (Qing, 2020). Given that, we expect that *the gender difference in the role of each partner's resources for two-gender couples' relocation behaviour is smaller among couples in which the partners subscribe to more egalitarian than less egalitarian gender views* (H2).

Rural-urban divides and household registration policies in China

China's economic inequalities between rural and urban areas increased during the centrally planned period as a result of the country's industrial development strategy. To subsidize rapid industrialisation, prices and investments were arranged in a manner that discriminated against agricultural and rural areas (Cheng & Selden, 1994). Urban

residents were also entitled to well-rounded social welfare, including health care, housing, education, pensions and employment rights, all of which were largely unavailable to the rural population and to rural migrants in urban areas (L. Zhao et al., 2018). This resulted in sharp, long-lasting differences in the living standards of urban and rural residents, which are greater than similar urban-rural divides observed in other developing countries (Park, 2008).

In the earlier periods of China's industrial development strategy, institutional barriers to internal migration were set to prevent the mass exodus of populations out of rural areas – or to prevent their permanent settlement in urban areas. Nevertheless, stark rural-urban inequalities *did* incentivise rural–urban migration. The resulting rapid urbanisation responded to a high demand for labour (initially in construction but increasingly in manufacturing and service industries in urban areas), which has steadily grown since the open market policies of the late-1970's. Related changes in earlier migration policy included the relaxation of restrictions to – and the encouragement of – rural to urban migration, which led to the growth of rural migrants by more than 200 million since 1980. This has largely contributed to China's rapid economic growth (L. Zhao et al., 2018). All in all, a substantial gap in opportunities between rural and urban areas – which also reflects lowered importance of agricultural production and a greater emphasis on non-agricultural market sectors (Qi, 2019) – underlies the large-scale and sustained movement of rural population into urban areas (Shen, 2012). In contrast, the opportunity differential across urban areas is narrower and, urban-to-urban movements are marginal when compared to rural-urban flows (Z. Chen et al., 2021). Some

interesting urban-rural migrations trends are also worth mentioning. Urban economic slowdown and the massive layoff of workers in recent decades has reduced job opportunities in typical urban destinations, which has led to non-trivial shares of rurally registered workers in urban areas to return to their origin areas (W. W. Wang & Fan, 2006; Y. Zhao, 2002). Also, urban-rural migrations partly reflect circular migration strategies through which migrants move back and forth between their rural origins and urban areas (W. W. Wang & Fan, 2006).

Given the important gaps in socio-economic opportunities across urban and rural areas, rural dwellers have benefitted by moving to an urban area almost irrespective of skills or occupation. Previous research has not found conclusive evidence of the role that education has for rural-urban migration (Z. Chen et al., 2021; H. Li & Zahniser, 2002; Qu & Zhao, 2014). Research also suggests that new generations of rural migrants have higher skills than their predecessors and are more spread in occupational distribution, which narrows the traditional gaps in labour market achievement between rural migrants and urban residents (L. Zhao et al., 2018). Given this, rural migrants can be positively selected on skills and occupation from the pool of rural residents. It follows that traditional gender views are more entrenched among families from rural areas than those of urban ones. In rural areas it is still the case that migrations are part of initiatives or are supported by the wider family (Luo, 2006). Conforming to traditional gender views, families disproportionately offer more support and assistance to job-related migration among younger, male family members (Davin, 2005), which in turn increases migration, occupational experience and skills among men. Accordingly, *the gender*

difference in the role of a partner's resources for a two-gender couple's relocation behaviour is greater among couples residing in rural areas than in urban areas before a potential relocation (H3). Even if our argument does not address the potentially distinct motives underlying moves towards rural and urban areas, we believe that our expectation generally holds because most migrations from both rural and urban areas have urban areas as their destination.

Recent urbanisation and the associated discrepancy in opportunities between urban and rural areas in China needs to be understood in the context of restrictive household registration (*Hukou*) policies. The household registration, or *Hukou* system, was instituted in the 1950's as a tool to monitor and regulate internal migration and population distribution across rural and urban areas in mainland China (Chan & Zhang, 2015; Luo, 2006). Initially, the registration system classified residents based on residential location (*Hukou suozaidi*, or place of registration) and socio-economic eligibility (*Hukou Leibie*, or registration status related to economic activity, divided into agricultural and non-agricultural categories). This dual registration classification specified which economic activities and social welfare rights were available to *Hukou* holders. Notoriously, non-agricultural registration holders were entitled to wide state support, including jobs in state sectors, housing, social security, health care and subsidized education, whilst state provisions to agricultural registration holders were meager and much less comprehensive (L. Zhao et al., 2018). Urban privilege and opportunity were not available to (temporary) rural migrants in urban areas because registration was based on family ascription, often inherited from a person's mother.

Conversion of agricultural to non-agricultural registration status was strictly regulated.

Reforms to registration policies seemed to adjust the *Hukou* system to the reality of migration rates (Y. Chen, 2011), making it more compatible with a more market-driven economy that thrived on labour mobility (Chen Chen & Fan, 2018; Wu & Treiman, 2007). While policy control of migration was relaxed to encourage (temporary) migration of agricultural registration holders, these reforms did not dissociate rights and benefits from registration status. Rural migrants were often granted temporary permits to work and live in urban areas, but restricted to lower status jobs with limited protection and entitlements to urban privileges and opportunities. Barriers to the conversion of registration status have since gradually lowered, thereby enabling rural migrants to *purchase* non-agricultural registration if they possess the relevant professional skills and enough capital to buy property in urban areas. This possibility, however, is not available to many because the rural migrant population largely lacks financial access to property, particularly in large, expensive urban areas¹. Thus, reforms have contributed to dramatic increases in rural-urban migration but also to growing social polarisation among urban residents with and without a rural migrant background.

Residents in urban areas with agricultural registration thus have less incentive to stay permanently than do residents with a local registration. Research has shown that many individuals with rural backgrounds experience multiple moves, including circulation

¹ Despite lower barriers to registration status conversion, many rural migrants – particularly those who own property in rural areas – are hesitant to give up their agricultural registration status which entitles them to land and its use (Chuanbo Chen & Fan, 2016).

and a return to their origin area. Most of them will experience multiple moves during their lifetimes and eventually return home (Bernard et al., 2019; F. Hu et al., 2011; L. Li, 2001). Our research argues that this registration policy affects couples' migration behaviour in households with individuals who hold an agricultural registration; these bear a higher cost of remaining in urban areas even when they have relevant labour market resources. Due the shortage of local job opportunities available to agricultural *Hukou* holders, these workers often migrate in and out of urban areas more frequently than non-agricultural *Hukou* holders (Chan, 2012). It is worth noting, however, that the disadvantages due to registration and gender intersect. Prior research shows that institutional and structural discrimination exacerbates the disadvantage among women with rural backgrounds in the labour market (Huang, 2001; L. Wang & Klugman, 2020). Compared to men, women holding an agricultural *Hukou* are more likely to be employed in less rewarding occupations after moving to an urban labour market (Huang, 2001). This enhances within-couple disadvantages among couples with a rural background living in urban areas. In accord, we expect that *among those living in urban areas (before a potential relocation), the gender difference in the role of partner's resources for two-gender couples' relocation behaviour is greater among couples that hold an agricultural than a non-agricultural registration* (H4).

METHOD

Data

The analyses of our study were performed using longitudinal data from the China

Family Panel Studies, a nationally representative, biannual longitudinal survey of Chinese communities, families and individuals launched in 2010 by the Institute of Social Science Survey (ISSS) of Peking University (CFPS; <https://opendata.pku.edu.cn/dataverse/CFPS?language=en>). The 2010 baseline survey interviewed almost 15,000 households and 30,000 individuals. New information from households and their members is collected on a bi-annual basis. The data source meets the requirements for the proposed empirical objectives. Firstly, the study follows households which change their residential address within China, enabling the study of the internal migration of couples. Secondly, it collects relevant information on key study variables, such as partner's resources (i.e., education), attitudes to families and gender, type of residential area, type of *Hukou* and other relevant control variables in models of family migration. For the analysis, we used all the available data collected in existing survey waves (i.e., 2010, 2012, 2014, 2016 and 2018).

Sample

Table 1 shows the different steps used to construct the analytical sample. Firstly, we drew a sample of two-gender couples (Step 1), and kept those that were at least observed in two waves (Step 2), and in a stable (cohabiting or married) relationship (Step 3). Our unit of analysis was the yearly observation of these couples. As our focus remains on the workforce population, we excluded observations where one of the partners was below the age of 16 or over the age of 59 (Step 4). We also excluded observations in which either partner was in full-time education, self-employed, retired, disabled or in the armed forces (Step 5). Since relocations are observed as changes in area of residence

across contiguous survey waves (e.g., information from the 2018 wave was used to measure relocations for couples observed in 2016), we excluded observations where there was no respondent participation in the subsequent wave, and the last survey wave in which a couple did participate was observed (Step 6). If a couple split in the subsequent wave, we did not exclude the observation in the prior wave to avoid inducing sample selection bias, since migration often increases the risk of union dissolution (Boyle et al., 2008). For sample homogeneity and to reduce analytical complexity, we excluded the few observations in which partners held different *Hukou* registrations (Step 7). Finally, we also excluded observations with missing information in model variables presented below (Step 8).² For the analyses, the final data set consisted of 16,174 observations from 6,582 couples.³

Measures

Our dependent variable is a measure of couple's relocations across contiguous survey waves. Our study outcome is couple relocations across county-level divisions, which is a typical administrative unit used in prior studies of job-related internal migration (Chan,

² To assess the extent to which missing data might affect our results, we conducted multiple imputation by chained equations (MICE) using the 'mice' package in R. Results from imputed models can be consulted in Table A7 to Table A9 in the appendices. Generally, results from imputed models are similar to those from our non-imputed models. While there are some marginal differences in the effect sizes for a few interaction terms of a partner's education with gender ideology and *Hukou* type, the direction of the associations remains unchanged.

³ We address the extent to which sample attrition might have affected our results by comparing typical determinants of a couple's migration between a sample of respondents that were observed until the last study wave and a sample of respondents who were not observed until the last study wave. Table A1 in the appendices suggests that most couples in our sample participated until the last wave of the study, and those who left before were slightly more likely to relocate and to have more educated female partners.

2012; Z. Chen et al., 2021; Hare, 1999).⁴ Since the survey is administered every second year, we observed internal migration on a bi-annual basis. We considered moves in which both partners lived together before and after the move. We disregarded moves in which one partner moved first and the other joined at a later point (e.g., next survey wave), partly because of low numbers, but also because it related to qualitatively different migration strategies compared to couples who moved together (or with short time lags between them). Similarly, we disregarded migrations in which partners moved in to live together (i.e., where no previous co-residence was observed) or to live apart and form separate households, because these are the result of family formation and dissolution processes. In our sample, about 6.5% of the couples relocated to another county before the end of the observation period.

We used partners' levels of education as an indicator for their resources. Schooling in China consists of primary school (6 years), junior high school (3 years), high school (3 years), undergraduate education (4 years), masters education (2 or 3 years) and doctoral education (3 or 4 years). In 1980, the State began to popularise primary education, and in 1986, it proposed a 9-year Compulsory Education System (Shi & Zhang, 2008). In our sample, 41.6% and 55.5% of male and female partners completed less than junior high school; 37.5% and 29.4% of male and female partners completed junior high school; 14.6% and 10% of male and female partners completed high school; and 6.4% and 5.2% of male and female partners completed further education past high school. In

⁴ According to the National Bureau of Statistics (2011), as of 2010, the average county size in mainland China was 3,361 square kilometers, and the average county population was 470,000 inhabitants.

line with previous research, we considered that internal migration in China will be substantial for those who have achieved at least a junior high school level (Fan et al., 2011; Fan & Li, 2019). We considered both absolute and relative measures of partners' education. To this end, we generated gender-specific indicators of female and male partners' junior high school or higher (ref. less than junior high school), as well as indicators for partners' relative education – whether both partners, only the female partner or only the male partner has completed junior high school or gone on to a higher level of education (ref. none has achieved junior high school education).

Gender ideology was measured through available information collected in 2014 on respondents' agreement with statements using the 5-point Likert scale, where 1= totally disagree and 5= totally agree. The statements were as follows: (i) Men should focus on career, while women should focus on family; (ii) Marrying well is more important for women than doing well in a career; (iii) Women should have at least one child; (iv) Men should do half the housework. The last statement was discarded because the meaning conveyed was conceptually unclear. The other statements displayed substantial internal consistency ($\alpha = 0.683$), and we combined them in a composite measure to proxy respondents' gender ideology. As in Vidal and Lersch (2019), we recoded the responses ($-2 =$ strongly agree; $2 =$ strongly disagree) and calculated their mean scores across the three statements to construct the composite measure. The resulting variable takes positive values for egalitarian or non-traditional attitudes and negative values for non-egalitarian or traditional attitudes. Furthermore, we z-standardised the composite measure, or subtracted the overall mean and divided by the standard deviation to ease

interpretation of the continuous measure. The standardised measure took a mean value of 0 and a standard deviation of 1. For each couple, we generated two gender-specific composite measures relative to the values of male and female partners respectively, as well as a couple-combined measure that added the values of male and female partners. In our sample, women displayed less egalitarian gender ideology (-0.177) than men (-0.015).⁵ We noted that our sample featured larger shares of lower-educated and rural origin groups, and the above result is consistent with previous evidence that suggests women display more traditional gender ideologies than men among those with lower levels of education from rural origins (Wang & Wu, 2019; Jia & Ma, 2015).

The household registration or *Hukou* is measured through the self-reported agricultural or non-agricultural registration status. Respondents were asked about the type of household registration in every wave. In our sample, about 81.4% of the observations were from respondents with an agricultural registration, and 18.6% were from respondents with a non-agricultural registration.⁶ Based on the data of the National Bureau of Statistics, we assigned respondents to urban and rural areas according to the community ID of the county of residence, which enabled us to build a time-varying

⁵ Table A2 in the appendices show the distributions of the responses to the original survey items. Despite the information restricted to 2014, Vidal and Lersch (2019) showed that an individual's gender role attitudes are not significantly altered after couple's relocation. In general, life course events have a limited impact on individual gender role attitudes, and we controlled for child age to rule out short-term fluctuations in gender attitudes around the time of childbirth.

⁶ Change of registration status is possible but relatively rare, particularly when transitioning from agricultural to non-agricultural status (Chan, 2013). Rural populations become permanent migrants in urban areas only if they are able to change their registration to non-agricultural status, otherwise they are considered temporary migrants for official statistics (Z. Chen et al., 2021).

indicator for residence in urban areas and rural areas. In our sample, 40.2% of the observations were from respondents in an urban area, and 59.8% were from respondents in a rural area. To assess our hypotheses, we combined the measures of household registration and residential area type to generate the following dummy variables: agricultural registration and residence in rural areas, agricultural registration and residence in urban areas, and non-agricultural registration and residence in any type of area (ref.). In our sample, 23.1% of observations were from holders of agricultural registration and residence in urban areas, 58.3% were holders of agricultural registration and residence in rural areas, and 18.6% were holders of non-agricultural registration and residence in any type of area.

Our multi-variate models accounted for relevant determinants of couple relocations that could act as confounders in the study results. These included partner-specific time-varying indicators of employment status (1=employed; 0=non-employed), self-employment (1=self-employed; 0=otherwise), age (in years, centered at age 16), and prior migration (1=migration within study period; 0=otherwise). Couple-level variables include the time since partnership formation (in years) and common children in four child-age-related groups: more than 18 years old, in-school age (above or equal to 7 years old), pre-school age, and no children in the home.

Analytical strategy

We used discrete-time event-history models to analyse the first-observed couple relocation event, and assessed the differences in relocation rates across couples with

distinct combinations of partner resources, and their interaction with gender values, residential registration and area type to test our hypotheses. Concretely, we used logistic regression on a dataset of couple-level units, with as many rows of information per couple as waves of participation in the study up to the first inter-county relocation or censoring (i.e. the end of the study). The model fitted can be written as follows:

$$\log\left(\frac{h_{tc}}{1-h_{tc}}\right) = \alpha(t) + \beta' d_{tc} + \beta' x_{tc} \quad (1)$$

Subscripts c and t stood for couple and time respectively; h_{tc} was the discrete hazard rate of couple relocations observed between time t and $t+1$; $\alpha(t)$ was the baseline discrete hazard fitted as a linear function of years elapsed since partnership formation (until couple relocation or censoring); d_{tc} were time-varying dummy variables capturing partner's relative education at time t ; and x_{tc} was a vector of time-constant and time-varying covariates measured at time t .

The basic model specification established in Equation 1 (Model 1a and 1b) enabled us to test Hypothesis 1 with a partner's education (partner-specific education and partner-relative education, separately). To verify this hypothesis, we expected that couple relocation rates would be significantly higher among couples with a male partner who gained a high school education. To assess this, we presented results from the logistic regression models as log-odd co-efficients, and assessed the direction and statistical significance of the co-efficients for a partner's education. Standard errors in all estimated models were cluster-robust to account for repeated observations of our units of analysis.

To test the subsequent hypotheses, we needed to add in Model 1a and 1b interaction terms between a partner's education and the following:

- Indicators of the partners' combined egalitarian gender attitudes (Models 2a and 2b). To verify Hypothesis 2, we expected that the gender difference in the role of partner's education to be lower among couples in which partners subscribe to more egalitarian gender attitudes, e.g. a negative co-efficient for the interaction term with a male partner's education, or a positive coefficient, for the interaction term with a female partner's education.
- Indicators of household registration and residential type (Model 3a and 3b). To verify Hypothesis 3, we expected that the gender difference in the role of a partner's education would be greater for couples residing in rural areas before a potential move, e.g. a positive co-efficient for the interaction term with a male partner's education, or a negative co-efficient for the interaction term with a female partners' education. To verify Hypothesis 4, we expected that the gender difference in the role of partner's education among couples living in urban areas before a potential move would be greater for those with agricultural registrations, e.g. a positive co-efficient for the interaction term with a male partner's education, or a negative coefficient for the interaction term with a female partner's education.

RESULTS

Descriptive findings

Table 2 displays the distributions of couple observations before and after relocations and the couples' relocation rate by partners' education (i.e. junior high school or higher). Results in this table suggest that couple relocations are associated with higher levels of education for the male and female partners. The proportion of couples with partners who attained junior high school education is higher in post-relocation observations than in pre-relocation observations (for men with junior high school: 58.1% and 70.2%, respectively; for women: 44.2% and 54.2%, respectively). Overall, moves occur more frequently when the male partner or the female partner has attained junior high school education (7.2% in both cases), than when they have attained lower levels of education (5.2% for less-educated women, and 4.5% for less-educated men). In addition, results from the partner's relative education measure suggest that couples relocate more often if both hold junior high school level or higher (7.6%). Also, couple move more often if only the male partner has been educated to junior high school level (6.5%), than if only the female partner (5.5%) has, or if neither of the partners (4.2%) hold junior high school level education. These results suggest that couple relocations occur more often if both partners or the male partner have made educational investments. This provides preliminary support for Hypothesis 1. In the next section, we test this and other hypothesised associations in a multi-variate context.

Multi-variate results

Table 3 displays the estimates of couple relocations by partner's level of education for Model 1a (gender-specific partner's education) and Model 1b (partner's relative

education). Results from Model 1a show that, controlling for sets of confounders of the study associations, couples relocate across counties more often when the male partner has attained junior high or higher level of education (co-ef. = 0.425, $p < 0.001$). The female partner's education is not statistically associated with a couple's relocations, once controlling for potential confounders of the association. Results from Model 1b corroborate the male partner's education is relevant in a couple's relocation. Couples move more often when only male partners (co-ef. = 0.395, $p < 0.01$) or when both partners (coef. = 0.575, $p < 0.001$) hold a junior high or higher level of education. Couples do not move more often when only a female partner (coef. = 0.101, $p > 0.1$) holds a junior high or higher level of education. These results are in line with Hypothesis 1, where a male partner's resources were expected to have a more relevant role in the determination of a couple's migration behaviour.

Table 4 displays the estimates of couple relocations for Model 2a and Model 2b. These added to previous model interactions of a partner's level of education, with couple's gender ideology used to assess gender asymmetric influence of partners' resources on couple relocation behaviour. Results from Model 2a and Model 2b do not show evidence for any substantive role of gender ideology moderating the study associations. We found that none of the co-efficients for the interaction terms are statistically significant at conventional levels (i.e. 95%). It is worth noting, however, that the modest co-efficient for the interaction between a male partner's education and the couple's egalitarian gender ideology is marginally significant (co-ef. = 0.142, $p < 0.1$). Since the co-efficient is positive, the interpretation is that a couple with a male partner possessing

a junior high or a higher level of education moves more often if the couple holds more egalitarian gender views.

Lastly, Table 5 shows the estimates for couple relocations for Model 3a and Model 3b. These models include interactions of a partner's level of education with their type of household registration and residential area to assess context-level influences of partner's resources on couple relocation behaviour. Results from Model 3a suggest that male partner's education is more relevant for a couple's relocations when holding an agricultural registration than when holding an urban registration. Among those with an agricultural registration, we do not find differences by type of area of residence. In fact, the co-efficients are very similar for the interactions between a male partner's education with an agricultural registration and a residence in an urban area (c-oef. = 0.846, $p < 0.05$), and with an agricultural registration and a residence in a rural area (co-ef. = 0.807, $p < 0.05$). Again, we do not find any significant co-efficient in relation to the female partner's education. Results from Model 3b are largely non-significant, with the only exception of a marginally significant interaction between a male partner's education and agricultural registration with urban residence. These results are, thus, mostly in line with our hypotheses, where the gender differences in partners' resources for couple migration behaviour was expected to be greater among couples in rural than in urban areas before a potential relocation (Hypothesis 3), and among couples with an agricultural rather than a non-agricultural registration for those residing in urban areas before a potential relocation (Hypothesis 4).

Supplementary results

To assess the robustness of our results to analytical choices, we conducted a set of sensitivity analyses. Firstly, it is possible that the role of partners' resources is less important for moves over shorter than longer distances. We assessed whether results might differ by the distance of the move, by replicating our analysis using a dependent variable with three categories: no relocation yet, relocation across counties within provinces (416 couple-observations) and relocation across provinces (72 couple-observations). The direction of co-efficients across shorter and longer moves from these models are very much alike, but the levels of statistical significance are lower, particularly for the inter-provincial moves, due to low case numbers. Secondly, we re-ran models with partner-specific measures of egalitarian gender ideology (instead of the combined measure proposed before), and the results largely supported our findings.

DISCUSSION

This study empirically addressed the role of partners' resources for inter-county relocations among two-gender couples within mainland China. Against the backdrop of increasing female educational achievement in a society where gendered ideals regarding the household division of labour still prevail, we empirically assess the role of the male and female partners' education for couple migration behaviour. This study was thus the first to address traditional hypotheses on gender symmetry and asymmetry of men's and women's resources for household negotiation on internal migration in China. The Chinese context is particularly interesting, and different to other national

contexts, due to its long-standing urban-biased policies. We consequently innovated by theorising and empirically assessing whether (and how) socio-economic gaps and mobility restrictions (i.e. household registration or *Hukou*) between urban and rural areas influence couples negotiating with each other over relocation. We tested our hypotheses using data of pooled partner observations from the Chinese Family Panel Studies (2010–2018) and discrete-time event history models.

With regards to our hypotheses: *Hypothesis 1* was supported as couple relocations were found to occur more among couples where the male partner had higher levels of education. We did not find the same result among couples where the female partner had higher levels of education. Thus, we concluded that couple behaviour is more responsive to the resources of the male partner. This finding is consistent with previous empirical research from Western countries (Cooke, 2001, 2008; Lundberg & Pollak, 2003). It is worth noting that, as in other countries, Chinese women are largely disadvantaged in the labour market in terms of pay, work hours and occupational status despite their increasing investment in education (Guo & Yan, 2015; Song, 2007; M. Wang, 2005). It is likely that migration as a household investment still relates more to men's rather than women's careers. However, when assessing couple relocations by a partner's relative education, we find that the most mobile couples are those who both possess higher levels of education, followed by those where only the male partner has higher levels of education. This suggests that the higher return of combined resources of partners might underlie the relocation behaviour of Chinese couples. We noted that by assessing and comparing associations for partner-specific and partner-relative

measures, researchers can reach a better understanding of the study associations in relation to gender differences in partners' resources.

We did not find support for *Hypothesis 2* in that the role of partner's education is not moderated by the couple's gender ideology. We expected that when partners subscribe to more egalitarian gender views, the significance of the gender difference in the role of partner resources for migration is smaller among couples in which partners subscribe to less egalitarian than more egalitarian gender views. Since the interaction terms between gender ideology and partner's education were small and largely insignificant, we concluded that differences in gender attitudes between couples might not be relevant in explaining why male resources still dominate relevant decisions for households. However, since traditional gender ideology is still prevailing among Chinese couples (see Table A2), couples might prioritise investments in a male partner's career.

We found some evidence for *Hypotheses 3 and 4* in that the gender difference in the role of a partner's education is more relevant for relocations among couples living in rural areas, and those with an agricultural registration living in urban areas before the relocation. This suggests that with the restricted entitlements for Chinese populations registered in rural areas (i.e. agricultural registration), the expected returns for migration are more strictly linked to career investments in the form of education of the head of the household – traditionally the male partner. These results are in line with prior evidence that suggests that rural populations (with an agricultural registration) are over-represented among internal migrants in China, where the dominant pattern is rural-

urban migration because of the social-economic disparity across areas (Chan, 2012), but with increasing incidence of temporary migration, i.e. return and circular migration patterns. The fact that only the education of the male partner is relevant among these rural migrants may respond to the fact that traditional gender ideology is more entrenched among rural populations, where households often prioritise educational investment in male rather than female members. Also, there is an important intersection between gender- and migrant-based inequalities, where women's labour market disadvantages are exacerbated if they are of rural origin or hold an agricultural registration (L. Wang & Klugman, 2020).

REFERENCES

- Bernard, A., Bell, M., & Zhu, Y. (2019). Migration in China: A cohort approach to understanding past and future trends. *Population, Space and Place*, 25(6), 1–15.
<https://doi.org/10.1002/psp.2234>
- Bielby, W. T., & Bielby, D. D. (1992). I will follow him: family ties, gender-role beliefs, and reluctance to relocate for a better job. *American Journal of Sociology*, 97(5), 1241–1267. <https://doi.org/10.1086/229901>
- Bird, G. A., & Bird, G. W. (1985). Determinants of Mobility in Two-Earner Families: Does the Wife's Income Count? *Journal of Marriage and Family*, 47(3), 753–758.
- Boyle, P. J., Kulu, H., Cooke, T., Gayle, V., & Mulder, C. H. (2008). Moving and union dissolution. *Demography*, 45(1), 209–222.
<https://doi.org/10.1353/dem.2008.0000>

- Brandén, M. (2014). Gender, Gender Ideology, and Couples' Migration Decisions. *Journal of Family Issues*, 35(7), 950–971.
<https://doi.org/10.1177/0192513X14522244>
- Chan, K. W. (2012). Migration and development in China: trends, geography and current issues. *Migration and Development*, 1(2), 187–205.
<https://doi.org/10.1080/21632324.2012.739316>
- Chan, K. W. (2013). China: internal migration. *The Encyclopedia of Global Human Migration*. <https://doi.org/10.1002/9781444351071.wbeghm124>
- Chan, K. W., & Zhang, L. (2015). The Hukou System and Rural-Urban Migration in China: Processes and Changes. *China Quarterly*, 1999, 818–855.
<https://doi.org/10.1017/S0305741000001351>
- Chen, Chen, & Fan, C. C. (2018). Gender and generational differences in first outward- and first inward-moves: An event-history analysis of rural migrants in China. *Environment and Planning A*, 50(8), 1646–1669.
<https://doi.org/10.1177/0308518X18782709>
- Chen, Chuanbo, & Fan, C. C. (2016). China's Hukou Puzzle: Why Don't Rural Migrants Want Urban Hukou? *The China Review*, 16(3), 9–39.
- Chen, Y. (2011). Occupational attainment of migrants and local workers: Findings from a survey in Shanghai's manufacturing sector. *Urban Studies*, 48(1), 3–21.
<https://doi.org/10.1177/0042098009360685>
- Chen, Z., Lu, Y., & Treiman, D. J. (2021). Determinants and consequences of rural-to-urban migration patterns in China: Evidence from sequence analysis. *Population*

Space and Place, October 2020. <https://doi.org/10.1002/psp.2493>

- Cheng, T., & Selden, M. (1994). The Origins and Social Consequences of China's Hukou System. *The China Quarterly*, 139(139), 644–668. <https://doi.org/10.1017/S0305741000043083>
- Chi, W., & Li, B. (2014). Trends in China's gender employment and pay gap: Estimating gender pay gaps with employment selection. *Journal of Comparative Economics*, 42(3), 708–725. <https://doi.org/10.1016/j.jce.2013.06.008>
- Cooke, T. J. (2001). 'Trailing Wife' or 'Trailing Mother'? The Effect of Parental Status on the Relationship between Family Migration and the Labor-Market Participation of Married Women. *Environment and Planning A: Economy and Space*, 33(3), 419–430. <https://doi.org/10.1068/a33140>
- Cooke, T. J. (2008). Gender role beliefs and family migration. *Population, Space and Place*, 14(3), 163–175. <https://doi.org/10.1002/psp.485>
- Cooke, T. J., Boyle, P., Couch, K., & Feijten, P. (2009). A longitudinal analysis of family migration and the gender gap in earnings in the united states and great britain. *Demography*, 46(1), 147–167. <https://doi.org/10.1353/dem.0.0036>
- DaVanzo, J. (1976). *Why Families Move: A Model of the Geographic Mobility of Married Couples*. RAND Corporation.
- Davin, D. (2005). Women and migration in contemporary China. *China Report*, 41(1), 29–38. <https://doi.org/10.1177/00094455050504100102>
- Fan, C. C., & Li, T. (2019). Familization of rural–urban migration in China: evidence from the 2011 and 2015 national floating population surveys. *Area Development*

and Policy, 4(2), 134–156. <https://doi.org/10.1080/23792949.2018.1514981>

Fan, C. C., Sun, M., & Zheng, S. (2011). Migration and Split Households: A Comparison of Sole, Couple, and Family Migrants in Beijing, China. *Environment and Planning A: Economy and Space*, 43(9), 2164–2185. <https://doi.org/10.1068/a44128>

Guo, K., & Yan, S. (2015). Gender Gap in Labor Market and the Related Regulations. *Economic Research Journal*, 7, 42–56.

Hare, D. (1999). “Push” versus “Pull” factors in migration outflows and returns: Determinants of migration status and spell duration among China’s rural population. *Journal of Development Studies*, 35(3), 45–72. <https://doi.org/10.1080/00220389908422573>

Hu, F., Xu, Z., & Chen, Y. (2011). Circular migration, or permanent stay? Evidence from China’s rural-urban migration. *China Economic Review*, 22(1), 64–74. <https://doi.org/10.1016/j.chieco.2010.09.007>

Hu, Y., & Qian, Y. (2019). Educational and age assortative mating in China: The importance of marriage order. *Demographic Research*, 41(July), 53–82. <https://doi.org/10.4054/DEMRES.2019.41.3>

Huang, Y. (2001). Gender, hukou, and the occupational attainment of female migrants in China (1985-1990). *Environment and Planning A*, 33(2), 257–279. <https://doi.org/10.1068/a33194>

Jia, Y., & Ma, D. (2015). Changes in a gender perspective from multifaceted perspective: The case with men dominating the outside while women dominating the inside of

households. *Collection of Women's Studies*, 3, 29–36.

Li, H., & Zahniser, S. (2002). The Determinants of Temporary Rural-to-Urban Migration in China. *Urban Studies*, 39(12), 2219–2235.
<https://doi.org/10.1080/004209802200003383>

Li, L. (2001). Internal population migration in China since the economic reforms: A review. *GEOGRAPHICAL RESEARCH*, 20(4), 453–462.

Long, L. H. (1974). Women's labor force participation and the residential mobility of families. *Social Forces*, 52(3), 342–348. <https://doi.org/10.1093/sf/52.3.342>

Lundberg, S., & Pollak, R. A. (2003). Efficiency in Marriage. *Review of Economics of the Household*, 1(3), 153–167.
<http://link.springer.com/article/10.1023/A%3A1025041316091%5Cnhttp://link.springer.com/article/10.1023%2FA%3A1025041316091%5Cnhttp://link.springer.com/content/pdf/10.1023%2FA%3A1025041316091.pdf>

Luo, G. (2006). China's Rural-Urban Migration: The Structure and Gender Attributes of the Floating Rural Labor Force. *Finnish Yearbook of Population Research*, 42, 65–92. <https://doi.org/10.23979/fypr.45027>

Mincer, J. (1978). Family Migration Decisions. *Journal of Political Economy*, 86(5), 749–773. <https://doi.org/10.1086/260710>

National Bureau of Statistics (2011, April 28), "Communication on Main Data of the Sixth National Population Census in 2010 (No. 1)". http://www.stats.gov.cn/tjsj/zxfb/201104/t20110428_12705.html

National Bureau of Statistics (2010, December 31), "Statistical Table of Administrative

Divisions of the People's Republic of China".

<http://xzqh.mca.gov.cn/statistics/2010.html>

Park, A. (2008). Rural-Urban Inequality in China. *China Urbanizes: Consequences, Strategies, and Policies*, 41–63.

Qi, Z. (2019). An overview of rural to urban migration in China and social challenges. *Migration Letters*, 16(2), 273–282. <https://doi.org/10.33182/ml.v16i2.664>

Qing, S. (2020). Gender role attitudes and male-female income differences in China. *Journal of Chinese Sociology*, 7(1). <https://doi.org/10.1186/s40711-020-00123-w>

Qu, Z. F., & Zhao, Z. (2014). Evolution of the Chinese rural-urban migrant labor market from 2002 to 2007. *China Agricultural Economic Review*, 6(2), 316–334. <https://doi.org/10.1108/CAER-10-2012-0113>

Shen, J. (2012). Changing Patterns and Determinants of Interprovincial Migration in China 1985-2000. *Population, Space and Place*, 18(3), 384–402. <https://doi.org/10.1002/psp.668>

Shi, Z., & Zhang, X. (2008). Education Reform: Experience from China. *Journal of Beijing Normal University (Social Science)*, 5, 22–32. <http://www.cqvip.com/qk/80307x/2008005/28490574.html>

Shu, X., & Zhu, Y. (2012). Uneven transitions: Period- and cohort-related changes in gender attitudes in China, 1995-2007. *Social Science Research*, 41(5), 1100–1115. <https://doi.org/10.1016/j.ssresearch.2012.05.004>

Song, Y. (2007). Does Gender Make a Difference? —Career Mobility in Urban China. *China Economic Quarterly*, 6(2), 629–654.

- Taber, K. S. (2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, 48(6), 1273–1296. <https://doi.org/10.1007/s11165-016-9602-2>
- Wang, L., & Klugman, J. (2020). How women have fared in the labour market with China's rise as a global economic power. *Asia and the Pacific Policy Studies*, 7(1), 43–64. <https://doi.org/10.1002/app5.293>
- Wang, M. (2005). Gender Wage Differentials in China's Urban Labor Market. *Economic Research Journal*, 12, 35–44.
- Wang, P., & Wu, Y. (2019). Socioeconomic Status, Gender Inequality, and Gender-Role Attitudes. *Sociological Review of China*, 7(2), 55–70.
- Wang, W. W., & Fan, C. C. (2006). Success or Failure: Selectivity and Reasons of Return Migration in Sichuan and Anhui, China. *Environment and Planning A: Economy and Space*, 38(5), 939–958. <https://doi.org/10.1068/a37428>
- Wu, X., & Treiman, D. J. (2007). Inequality and equality under Chinese socialism: The Hukou system and intergenerational occupational mobility. *American Journal of Sociology*, 113(2), 415–445. <https://doi.org/10.1086/518905>
- Zhao, L., Liu, S., & Zhang, W. (2018). New Trends in Internal Migration in China: Profiles of the New-generation Migrants. *China and World Economy*, 26(1), 18–41. <https://doi.org/10.1111/cwe.12227>
- Zhao, Y. (2002). Causes and Consequences of Return Migration: Recent Evidence from China. *Journal of Comparative Economics*, 30(2), 376–394. <https://doi.org/10.1006/jcec.2002.1781>

Zhou, H. (2004). An Analysis of the Trend of Family Migration in China and Its Influencing Factors. *Population Research*, 28(6), 60–69.

DATA AVAILABILITY STATEMENT

The data that supports the findings of this study is openly available from China Family Panel Studies (CFPS; <https://opendata.pku.edu.cn/dataverse/CFPS?language=en>).

TABLES

Table 1 Flow of sample selection process

	Step of sample selection	Couples	Couple observations
1	Select all couple units in the CFPS (2010–18)	20,966	80,945
2	Keep couples with at least two observations between 2010 and 2018	19,132	79,111
3	Keep observations with cohabiting or married partners	17,329	58,961
4	Keep observations where both partners are aged 16–59	13,924	42,022
5	Keep observations where both partners are in the labour force	13,175	38,536
6	Delete observations when there is no response in the subsequent survey wave	11,106	27,366
7	Keep observations where both partners have the same type of household registration (Hukou)	10245	24630
8	Delete observations with missing cases	6,582	16,174

Table 2 Couple relocations by partner's level of education

	Pre-relocation observations	Post-relocation observations	Couple's relocation rate
Female partner's education			
Less than junior high school	8,749 (55.8%)	220 (45.1%)	5.2%
Junior high school or higher	6,937 (44.2%)	268 (54.9%)	7.2%
Male partner's education			
Less than junior high school	6,578 (41.9%)	145 (29.7%)	4.5%
Junior high school or higher	9,108 (58.1%)	343 (70.3%)	7.2%
Partners' relative education (Junior high school or higher)			
None	5,050 (32.2%)	105 (21.5%)	4.2%
Only female partner	1,528 (9.7%)	40 (8.2%)	5.5%
Only male partner	3,699 (23.6%)	115 (23.6%)	6.5%
Both partners	5,409 (34.5%)	228 (46.7%)	7.6%

Source: CFPS 2010–2018. Notes: *Pre- and post-relocation observations* by partner's level of education are presented as frequencies and, in parenthesis, as relative frequencies (percentage column). *Couple's relocation rate* displays the percentage of couples that relocated during the observation window for each partner's education group, where each group reflects the level of education attained by the first couple's observation. Pearson's Chi-square tests were calculated for the differences in couple's pre- and post-relocation observations across partner's education groups, and the resulting p-values were under 0.001.

Table 3 Model estimates of a couple's inter-county relocations by partner's education

	Model 1a	Model 1b
	Co-ef.	Co-ef.
	(std.err.)	(std.err.)
Female partner's education		
Junior high or higher	.157 (.105)	
Male partner's education		
Junior high or higher	.425*** (.108)	
Partners' relative education (Junior high or higher)		
Only female partner		.101 (.195)
Only male partner		.395** (.136)
Both partners		.575*** (.132)
<i>N</i>	16,174	16,174
Log Likelihood	-2,059.434	-2,059.368

Source: CFPS 2010–2018. Note: Discrete-time event history models based on logistic regressions for a couple-period dataset. The estimates in the table are logit hazards. Standard errors in parentheses are cluster robust for multiple couple observations. Outcome variable is an indicator of a couple's intercounty relocation between observations at time t and $t+1$. Other variables in the model include measurements at time t for couple's years since partnership formation, common children, gender ideology, type of household registration, and type of residential area; and gender-specific measures for partners' employment status, self-employment, and prior migration experience. Full model results are available in Appendix Table A4.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 4 Model estimates of couple's inter-county relocations by partner's education (Interactions with a couple's gender ideology)

	Model 2a	Model 2b
	Co-ef. (std.err.)	Co-ef. (std.err.)
Female partner's education		
Junior high or higher	.150 (.104)	
Junior high or higher * Egalitarian ideology	-.069 (.066)	
Male partner's education		
Junior high or higher	.474*** (.114)	
Junior high or higher * Egalitarian ideology	.142(*) (.076)	
Partner's relative education (Junior high or higher)		
Only female partner		.098 (.203)
Only male partner		.444** (.149)
Both partners		.605*** (.142)
Only female * Egalitarian ideology		-.123 (.138)
Only male * Egalitarian ideology		.112 (.099)
Both partners * Egalitarian ideology		.059 (.090)
Couple's egalitarian gender ideology	-.095 (.067)	-.077 (.078)
<i>N</i>	16,174	16,174
Log Likelihood	-2,057.585	-2,057.474

Source: CFPS 2010–2018. Note: Discrete-time event history models based on logistic regressions for a couple-period dataset. The estimates in the table are logit hazards. Standard errors in parentheses are cluster robust for multiple couple observations. Outcome variable is an indicator of a couple's intercounty relocation between observations at time t and $t+1$. Other

variables in the model include measurements at time t for a couple's years since partnership formation, common children, type of household registration, and type of residential area; and gender-specific measures for partners' employment status, self-employment, and prior migration experience. Full model results are available in Appendix Table A5.

(*) $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 5 Model estimates of couple's inter-county relocations by a partner's education (interactions with household registration and residential area)

	Model 3a	Model 3b
	Co-ef. (std.err.)	Co-ef. (std.err.)
Female partner's education		
Junior high or higher	.459 (.353)	
Junior high or higher * T2	-.121 (.398)	
Junior high or higher * T3	-.453 (.376)	
Male partner's education		
Junior high or higher	-.320 (.300)	
Junior high or higher * T2	.846* (.363)	
Junior high or higher * T3	.807* (.327)	
Partner's relative education (Junior high or higher)		
Only female partner		.292 (.611)
Only male partner		-.520 (.668)
Both partners		.040 (.529)
Only female partner * T2		.281 (.698)
Only male partner * T2		1.214(*) (.736)
Both partners * T2		.897 (.596)
Only female partner * T3		-.623 (.667)
Only male partner * T3		.886

		(.686)
Both partners * T3		.455
		(.553)
Household registration and residential area		
T2 – agricultural registration - urban area	-.192	-.398
	(.443)	(.576)
T3 – agricultural registration - rural area	-.137	-.180
	(.418)	(.532)
<i>N</i>	16,174	16,174
Log Likelihood	-2,055.509	-2,054.027

Source: CFPS 2010–2018. Note: Discrete-time event history models based in logistic regressions for a couple-period dataset. The estimates in the table are logit hazards. Standard errors in parentheses are cluster robust for multiple couple observations. Outcome variable is an indicator of a couple's intercounty relocation between observations in time t and $t+1$. Household registration and residential area group include: T1 = non-agricultural registration – any area (ref.), T2 = agricultural registration - urban area, T3 = agricultural registration – rural area. Other variables in the model include measurements at time t for couple's years since partnership formation, common children, and gender ideology; and gender-specific measures for partners' employment status, self-employment, and prior migration experience. Full model results are available in Appendix Table A6.

(*) $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

APPENDICES

Table A1 Summary statistics for model variables by couple's participation in the last wave of data available

	Couples not observed until 2018 (N=1193)	Couples observed until 2018 (N=14981)
Couple relocations		
No	1135 (95.1%)	14551 (97.1%)
Yes	58 (4.9%)	430 (2.9%)
Female partner's education		
Less than junior high school	584 (49.0%)	8385 (56.0%)
Junior high school or higher	609 (51.0%)	6596 (44.0%)
Male partner's education		
Less than junior high school	489 (41.0%)	6234 (41.6%)
Junior high school or higher	704 (59.0%)	8747 (58.4%)
Couple's egalitarian gender ideology		
Mean (SD)	-0.0654 (1.56)	-0.202 (1.49)
Median [Min, Max]	0.108 [-2.35, 4.67]	-0.242 [-2.35, 6.07]
Partner's relative education (Junior high or higher)		
None	372 (31.2%)	4783 (31.9%)
Only female partner	117 (9.8%)	1451 (9.7%)
Only male partner	212 (17.8%)	3602 (24.0%)
Both partners	492 (41.2%)	5145 (34.3%)
Household registration and residential area		
T1	313 (26.2%)	2695 (18.0%)

T2	310 (26.0%)	3432 (22.9%)
T3	570 (47.8%)	8854 (59.1%)
Employed female partner		
No	363 (30.4%)	3043 (20.3%)
Yes	830 (69.6%)	11938 (79.7%)
Employed male partner		
No	154 (12.9%)	1249 (8.3%)
Yes	1039 (87.1%)	13732 (91.7%)
Self-employed female partner		
No	1104 (92.5%)	13953 (93.1%)
Yes	89 (7.5%)	1028 (6.9%)
Self-employed male partner		
No	1053 (88.3%)	13239 (88.4%)
Yes	140 (11.7%)	1742 (11.6%)
Female partner's age		
Mean (SD)	38.4 (10.1)	41.7 (9.05)
Median [Min, Max]	39.0 [17.0, 59.0]	43.0 [17.0, 59.0]
Male partner's age		
Mean (SD)	40.1 (10.1)	43.3 (8.99)
Median [Min, Max]	40.0 [19.0, 59.0]	44.0 [17.0, 59.0]
Male partner's migration experience		
No	1161 (97.3%)	14559 (97.2%)
Yes	32 (2.7%)	422 (2.8%)
Female partner's migration experience		
No	1162 (97.4%)	14578 (97.3%)
Yes	31 (2.6%)	403 (2.7%)
Children		

None	86 (7.2%)	474 (3.2%)
Pre-school age	253 (21.2%)	1917 (12.8%)
School age	407 (34.1%)	4882 (32.6%)
More than 18	447 (37.5%)	7708 (51.5%)
Married years		
Mean (SD)	16.0 (10.1)	19.4 (9.37)
Median [Min, Max]	16.0 [0, 42.0]	20.0 [0, 49.0]

Source: CFPS 2010–2018. Note: T1 = non-agricultural registration – any area, T2 = agricultural registration - urban area, T3 = agricultural registration – rural area.

Table A2 Summaries of gender ideology items

Q1	
Mean (SD)	3.97 (1.18)
Median [Min, Max]	4.00 [1.00, 5.00]
Q2	
Mean (SD)	3.56 (1.32)
Median [Min, Max]	4.00 [1.00, 5.00]
Q3	
Mean (SD)	4.13 (1.14)
Median [Min, Max]	5.00 [1.00, 5.00]

Source: CFPS 2014 Adult Questionnaire. Note: Q1 = Men should focus on career and women should focus on family; Q2 = Marrying well is more important for women than doing well in their career; Q3 = Women should have at least one child. Couple observations (N=31,363).

Table A3 Summary of model variables

	Couple observations (N=16174)
Couple relocations	
No	15686 (97.0%)
Yes	488 (3.0%)
Female partner's education	
Less than junior high school	8969 (55.5%)
Junior high school or higher	7205 (44.5%)
Male partner's education	
Less than junior high school	6723 (41.6%)
Junior high school or higher	9451 (58.4%)
Partner's relative education	
None	5155 (31.9%)
Only female partner	1568 (9.7%)
Only male partner	3814 (23.6%)
Both partners	5637 (34.9%)
Couple's egalitarian gender ideology	
Mean (SD)	-0.192 (1.50)
Median [Min, Max]	-0.242 [-2.35, 6.07]
Household registration and residential area	
T1	3008 (18.6%)
T2	3742 (23.1%)
T3	9424 (58.3%)
Employed female partner	
No	3406 (21.1%)
Yes	12768 (78.9%)

Employed male partner

No	1403 (8.7%)
Yes	14771 (91.3%)

Self-employed female partner

No	15057 (93.1%)
Yes	1117 (6.9%)

Self-employed male partner

No	14292 (88.4%)
Yes	1882 (11.6%)

Female partner's age

Mean (SD)	41.4 (9.17)
Median [Min, Max]	43.0 [17.0, 59.0]

Male partner's age

Mean (SD)	43.1 (9.11)
Median [Min, Max]	44.0 [17.0, 59.0]

Male partner's migration experience

No	15720 (97.2%)
Yes	454 (2.8%)

Female partner's migration experience

No	15740 (97.3%)
Yes	434 (2.7%)

Children

None	560 (3.5%)
Pre-school age	2170 (13.4%)
School age	5289 (32.7%)
More than 18	8155 (50.4%)

Married years

Mean (SD)	19.2 (9.46)
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Median [Min, Max]	20.0 [0, 49.0]
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Data source: CFPS 2010–2018. Note: T1 = non-agricultural registration – any area (ref.), T2 = agricultural registration – urban area, T3 = agricultural registration – rural area.

Table A4 Full estimates of couple's inter-county relocations by partner's education

	Model 1a	Model 1b
	Co-ef. (std.err.)	Co-ef. (std.err.)
Female partner's education		
Junior high school or higher	.157 (.105)	
Male partner's education		
Junior high school or higher	.425*** (.108)	
Partner's relative education (Junior high or higher)		
Only female partner		.101 (.195)
Only male partner		.395** (.136)
Both partners		.575*** (.132)
Couple's egalitarian gender ideology	-.031 (.033)	-.031 (.033)
Household registration and residential type		
T2	.390** (.149)	.395** (.149)
T3	.242(*) (.144)	.248(*) (.145)
Employed female partner		
Yes	-.226(*) (.127)	-.227(*) (.127)
Employed male partner		
Yes	.422* (.213)	.423* (.213)
Self-employed female partner		
Yes	.309 (.189)	.308 (.189)
Self-employed male partner		
Yes	-.202	-.202

	(.158)	(.158)
Female partner's age	.015	.015
	(.018)	(.018)
Male partner's age	.007	.008
	(.016)	(.016)
Male partner's migration experience		
Yes	.274	.275
	(.386)	(.387)
Female partner's migration experience		
Yes	1.720***	1.719***
	(.377)	(.378)
Children		
Pre-school age	-.364	-.364
	(.227)	(.227)
School age	-.385(*)	-.385(*)
	(.232)	(.232)
More_than_18	-.452	-.452
	(.294)	(.294)
Married years	-.037*	-.037*
	(.015)	(.015)
Constant	-4.302***	-4.293***
	(.495)	(.497)
<i>N</i>	16,174	16,174
Log Likelihood	-2,059.434	-2,059.368

Source: CFPS 2010–2018. Note: Discrete-time event history models based on logistic regressions for a couple-period dataset. The estimates in the table are logit hazards. Standard errors in parentheses are cluster robust for multiple couple observations. Outcome variable is an indicator of a couple's intercounty relocation between observations at time t and $t+1$. Other variables in the model include measurements at time t for couple's years since partnership formation, common children, gender ideology, type of household registration, and type of residential area; and gender-specific measures for partners' employment status, self-employment, and prior migration experience.

(*) $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table A5 Full model estimates of couple's inter-county relocation by partner's education (Interactions with couple's gender ideology)

	Model 2a	Model 2b
	Co-ef. (std.err.)	Co-ef. (std.err.)
Female partner's education		
Junior high school or higher	.150 (.104)	
Male partner's education		
Junior high school or higher	.474*** (.114)	
Partner's relative education		
Only female partner		.098 (.203)
Only male partner		.444** (.149)
Both partners		.605*** (.142)
Couple's egalitarian gender ideology	-.095 (.067)	-.077 (.078)
Household registration and residential area		
T2	.394** (.149)	.395** (.149)
T3	.245(*) (.144)	.247(*) (.145)
Employed female partner		
Yes	-.228(*) (.127)	-.228(*) (.127)
Employed male partner		
Yes	.422* (.213)	.422* (.213)
Self-employed female partner		
Yes	.308 (.190)	.308 (.190)
Self-employed male partner		
Yes	-.202 (.190)	-.201 (.190)

	(.157)	(.157)
Female partner's age	.014	.014
	(.018)	(.018)
Male partner's age	.008	.008
	(.016)	(.016)
Male partner's migration experience		
Yes	.261	.263
Female partner's migration experience	(.390)	(.391)
Yes	1.732***	1.732***
	(.381)	(.381)
Children		
Pre-school age	-.365	-.366
	(.228)	(.228)
School age	-.389(*)	-.390(*)
	(.233)	(.233)
More than 18	-.456	-.456
	(.295)	(.295)
Married years	-.036*	-.036*
	(.015)	(.015)
Female partner's education * Couple's egalitarian gender ideology		
Junior high school or higher * Egalitarian gender ideology	-.069	
	(.066)	
Male partner's education * Couple's egalitarian gender ideology		
Junior high school or higher * Egalitarian gender ideology	.142(*)	
	(.076)	
Partner's relative education * Couple's egalitarian gender ideology		
Only female partner * Egalitarian gender ideology		-.123
		(.138)
Only male partner * Egalitarian gender ideology		.112
		(.099)
Both partner * Egalitarian gender ideology		.059

		(.090)
Constant	-4.342***	-4.322***
	(.495)	(.497)
<i>N</i>	16,174	16,174
Log Likelihood	-2,057.585	-2,057.474

Source: CFPS 2010–2018. Note: Discrete-time event history models based on logistic regressions for a couple-period dataset. The estimates in the table are logit hazards. Standard errors in parentheses are cluster robust for multiple couple observations. Outcome variable is an indicator of a couple’s intercounty relocation between observations at time t and $t+1$. Other variables in the model include measurements at time t for couple’s years since partnership formation, common children, gender ideology, type of household registration, and type of residential area; and gender-specific measures for partners’ employment status, self-employment, and prior migration experience.

(*) $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table A6 Full model estimates of couple's inter-county relocations by partner's education (interactions with household registration and residential area)

	Model 3a	Model 3b
	Co-ef. (std.err.)	Co-ef. (std.err.)
Female partner's education		
Junior high school or higher	.459 (.353)	
Male partner's education		
Junior high school or higher	-.320 (.300)	
Partner's relative education		
Only female partner		.292 (.611)
Only male partner		-.520 (.668)
Both partners		.040 (.529)
Household registration and residential area		
T2	-.192 (.443)	-.398 (.576)
T3	-.137 (.418)	-.180 (.532)
Couple's egalitarian gender ideology	-.033 (.033)	-.031 (.033)
Employed female partner		
Yes	-.228(*) (.127)	-.230(*) (.128)
Employed male partner		
Yes	.430* (.213)	.433* (.213)
Self-employed female partner		
Yes	.306 (.191)	.309 (.190)
Self-employed male partner		

Yes	-.204 (.158)	-.208 (.158)
Female partner's age	.015 (.018)	.014 (.018)
Male partner's age	.008 (.016)	.008 (.016)
Male partner's migration experience		
Yes	.261 (.394)	.251 (.392)
Female partner's migration experience		
Yes	1.713*** (.385)	1.722*** (.383)
Children		
Pre-school age	-.357 (.228)	-.356 (.227)
School age	-.370 (.231)	-.372 (.231)
More than 18	-.437 (.292)	-.436 (.292)
Married years	-.037** (.014)	-.037** (.014)
Female partner's education * Household registration and residential area		
Junior high school or higher * T2	-.121 (.398)	
Junior high school or higher * T3	-.453 (.376)	
Male partner's education * Household registration and residential area		
Junior high school or higher * T2	.846* (.363)	
Junior high school or higher * T3	.807* (.327)	
Partner's relative education * Household registration and residential area		

Only female partner * T2		.281 (.698)
Only male partner * T2		1.214(*) (.736)
Both partners * T2		.897 (.596)
Only female partner * T3		-.623 (.667)
Only male partner * T3		.886 (.686)
Both partners * T3		.455 (.553)
Constant	-3.913*** (.625)	-3.811*** (.711)
<i>N</i>	16,174	16,174
Log Likelihood	-2,055.509	-2,054.027

Source: CFPS 2010–2018. Note: Discrete-time event history models based on logistic regressions for a couple-period dataset. The estimates in the table are logit hazards. Standard errors in parentheses are cluster robust for multiple couple observations. Outcome variable is an indicator of a couple's intercounty relocation between observations at time t and $t+1$. Other variables in the model include measurements at time t for couple's years since partnership formation, common children, gender ideology, type of household registration, and type of residential area; and gender-specific measures for partners' employment status, self-employment, and prior migration experience.

(*) $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table A7 Model estimates of couple's inter-county relocations by partner's education (multiple imputation)

	Model 1a	Model 1b
	Co-ef. (std.err.)	Co-ef. (std.err.)
Female partner's education		
Junior high or higher	0.138 (.089)	
Male partner's education		
Junior high or higher	.345*** (.080)	
Partners' relative education (Junior high or higher)		
Only female partner		.197 (.139)
Only male partner		.379*** (.101)
Both partners		.490*** (.109)
<i>N</i>	24,630	24,630

Source: CFPS 2010–2018. Note: Discrete-time event history models based on logistic regressions for a couple-period dataset. The estimates in the table are logit hazards. Standard errors in parentheses are cluster robust for multiple couple observations. Outcome variable is an indicator of a couple's intercounty relocation between observations at time t and $t+1$. Other variables in the model include measurements at time t for couple's years since partnership formation, common children, gender ideology, type of household registration, and type of residential area; and gender-specific measures for partners' employment status, self-employment, and prior migration experience. Full model results are available in Appendix Table A4.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table A8 Model estimates of couple's inter-county relocations by partner's education (Interactions with couple's gender ideology) (multiple imputation)

	Model 2a	Model 2b
	Co-ef. (std.err.)	Co-ef. (std.err.)
Female partner's education		
Junior high or higher	.113 (.085)	
Junior high or higher * Egalitarian ideology	-.081 (.057)	
Male partner's education		
Junior high or higher	.369*** (.092)	
Junior high or higher * Egalitarian ideology	.057 (.060)	
Partner's relative education (Junior high or higher)		
Only female partner		.161 (.146)
Only male partner		.398*** (.114)
Both partners		.488*** (.116)
Only female * Egalitarian ideology		.089 (.103)
Only male * Egalitarian ideology		.053 (.078)
Both partners * Egalitarian ideology		-.022 (.070)
Couple's egalitarian gender ideology	-.049 (.072)	-.048 (.072)
<i>N</i>	24,630	24,630

Source: CFPS 2010–2018. Note: Discrete-time event history models based on logistic regressions for a couple-period dataset. The estimates in the table are logit hazards. Standard

errors in parentheses are cluster robust for multiple couple observations. Outcome variable is an indicator of a couple's intercounty relocation between observations at time t and $t+1$. Other variables in the model include measurements at time t for couple's years since partnership formation, common children, type of household registration, and type of residential area; and gender-specific measures for partners' employment status, self-employment, and prior migration experience. Full model results are available in Appendix Table A5.

(*) $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table A9 Model estimates of couple's inter-county relocations by partner's education (interactions with household registration and residential area) (multiple imputation)

	Model 3a	Model 3b
	Co-ef. (std.err.)	Co-ef. (std.err.)
Female partner's education		
Junior high or higher	.437 (.284)	
Junior high or higher * T2	-.433 (.305)	
Junior high or higher * T3	-.274 (.290)	
Male partner's education		
Junior high or higher	-.511* (.243)	
Junior high or higher * T2	.996** (.299)	
Junior high or higher * T3	.924*** (.261)	
Partner's relative education (Junior high or higher)		
Only female partner		.335 (.402)
Only male partner		-.653 (.496)
Both partners		-.134 (.331)
Only female partner * T2		-.043 (.470)
Only male partner * T2		1.316* (.555)
Both partners * T2		.693 (.385)
Only female partner * T3		-.319 (.436)
Only male partner * T3		.994

		(.508)
Both partners * T3		.707*
		(.346)
Household registration and residential area		
T2 – agricultural registration - urban area	-.265	-.436
	(.294)	(.366)
T3 – agricultural registration - rural area	-.331	-.361
	(.270)	(.329)
<i>N</i>	24,630	24,630

Source: CFPS 2010–2018. Note: Discrete-time event history models based in logistic regressions for a couple-period dataset. The estimates in the table are logit hazards. Standard errors in parentheses are cluster robust for multiple couple observations. Outcome variable is an indicator of a couple's intercounty relocation between observations in time t and $t+1$. Household registration and residential area group include: T1 = non-agricultural registration – any area (ref.), T2 = agricultural registration - urban area, T3 = agricultural registration – rural area. Other variables in the model include measurements at time t for couple's years since partnership formation, common children, and gender ideology; and gender-specific measures for partners' employment status, self-employment, and prior migration experience. Full model results are available in Appendix Table A6.

(*) $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.