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Joint migration decisions of married couples in rural China

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ABSTRACT

In this paper we investigate whether it is empirically important to take into account the joint migration behavior of couples when examining married individuals' migration decisions in rural China. According to the National Bureau of Statistics of China (2011), more than half of rural migrant workers are married. Married couples' migration decisions are not purely individual responses to different social and economic opportunities, but jointly determined within a family unit. The current approaches that examine Chinese migration issues do not explicitly take into account the fundamental differences between personal and family decisions. We extend the current approaches to explicitly model joint migration decisions of married couples. Using the 2009 China data from the Rural–Urban Migration in China and Indonesia (RUMiCI) project, we examine the important determinants of couples' temporary migration decisions, such as the numbers of pre-school and school-age children. Our simulation and estimation results show that when analyzing married persons' migration choices, it is more desirable to use a multiple-choice model than a binary-choice model because 1) it more effectively deals with nonlinearities created by joint decision-making; and 2) it offers the possibility to study compositional change of joint migration outcomes.

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1. Introduction

In China, more than half of rural migrant workers are married, according to the National Bureau of Statistics (2011). While husband migrating alone has long been a dominant form of migration for married couples in rural China, in recent decades we see a rising number of couples migrating together as well as married women migrating alone (De Brauw et al., 2002; Roberts et al., 2004; Zhu, 2009). Earlier data do not provide sufficient data variations in the joint migration outcomes of married couples; however, with these different outcomes becoming detectable in more recent data, it is now empirically feasible to study the joint migration decision of married couples in rural China.

We investigate whether it is empirically important to take into account the joint migration behavior of couples when examining married individuals' migration decisions in this paper. Married individuals' migration decisions are neither purely individual responses to different social and economic opportunities, nor aggregate decision outcomes at the household level. Traditional approaches that examine China's migration issues do not explicitly consider the fundamental differences between individual decisions and decisions made jointly in a family context, and the interaction between the husband and wife in their migration decision making process (see Appendix Table 1).[2]

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[2] Some exceptions come from the literature of the New Economics of Labor Migration (e.g., Rozelle et al., 1999b; Taylor et al., 2003). However, they mainly focus on aggregate decision outcomes at the household level without explicitly modeling the interactions between household members. Ni and Zhao (2007) is one of the few papers that recognize the importance of the interaction between the husband and wife in their migration decision-making process, but they only use a linear probability model to examine some subsets of family migration choice.

We extend the binary individual decision models used in the traditional approach and explicitly model the joint migration decisions of married couples using a multinomial logit model. This simple extension allows researchers to jointly examine how different factors may influence a couple's decision whether or not to migrate, and if they do, whether both or only one of them should migrate. The binary choice models generally used in the literature are unable to address questions related to the compositional change in the joint migration outcomes. However, the analysis of such compositional changes is important and relevant to many current policy debates in China, such as the issues of left-behind elderly and left-behind children.

In order to evaluate the performance of a multiple-choice model and examine whether a binary-choice model can provide a good approximation to aggregate migration outcomes of married individuals, we conduct a Monte Carlo simulation experiment in which the data-generating process follows a multinomial logit model. Our simulation experiment shows that a linear specification of a multinomial logit model can introduce nonlinearity into a binary logit model. Therefore, it is crucial to conduct model specification tests if a practitioner wants to use a binary-choice model to analyze married individuals' migration decisions. In addition, we find that the common practice (see Appendix Table 1) to pool data together to estimate a binary choice model likely introduces substantial bias. The key challenge is how to incorporate the spouse's migration decision into a binary logit model given that the migration decisions are made jointly between the husband and wife. Adding the spouse's migration outcome variable into a binary choice model could resolve this issue; but the model cannot be simply estimated without dealing with endogeneity issues and model simulations can't be simply done by assuming the spouse's migration outcome stay unchanged. The mutual dependence of husband and wife's migration decisions is better modeled by a multiple-choice model.

We then conduct an empirical study using survey data from the 2009 wave of the Rural–Urban Migration in China and Indonesia (RUMiCI) project (China part). We examine the determinants of migration for married individuals using both the individual decision model (the binary logit model) and the joint decision model (the multinomial logit model). We specifically focus on the determinants regarding children, such as the numbers of pre-school and school-age children, which could influence joint migration decisions of married couples.

Our empirical results are consistent with the implications of our simulation experiments. The findings show that the multinomial logit model consistently captures an upward U-shaped relationship between the number of pre-school (as well as school-age) children and the husband's migration probability, but the binary logit model is not able to produce this upward U-shaped relationship, regardless of whether the quadratic terms of the number of children are included or not.

We explain this upward U-shaped relationship by focusing on time-input and financial-burden effects. To raise a child requires time input, which could reduce the tendency for married individuals to become migrant workers. But at the same time, raising children also requires financial resources, and with additional children, financial pressure could increase the tendency for married individuals to become migrant workers. Because a married couple can take into consideration the division of labor, the impacts of these two opposite effects could become more complex when migration decisions are made jointly between the husband and wife.

The upward U-shaped relationship emerges because initially, the time-input effect outweighs the financial-burden effect, so the probability of having dual-migrant couples decreases, couples either leave one member at home caring for children or both stay at home. The declining segment of the upward U-shaped relationship appears because the decrease in the share of dual-migrant couples is not fully offset by the increase in the share of only husband migrating, some dual-migrant couples noticeably turned to dual-stayers. As the number of children increases, although both the time-input effect and the financial-burden effect become stronger, the financial burden effect outweighs the time-input effect to push couples to send a member away to engage in more financially rewarding migratory jobs. This is reflected in the eventual decline of the share of both husband and wife stay home so that the increase in the share of only husband migrating more than offsets the decrease in the share of dual-migrant couples. A turning point takes place from two to three for pre-school children and from one to two for school-age children, producing a rising segment of the upward U-shaped relationship.

The remaining sections are organized as follows. In Section 2, we review the literature that studies the family migration decisions and point out the lack of emphasis on the family perspective (e.g., the interaction between the husband and wife) in the literature studying rural–urban migration in China. In Section 3, we provide an extension to the traditional approach and construct a Monte Carlo experiment to examine its model performances. Section 4 provides a brief discussion of data sources and Section 5 documents the changing rural–urban migration pattern of married couples in China. Section 6 presents the empirical study of the determinants of migration using the individual migration-decision model which does not explicitly take into account the fundamental differences between individual and family migration decisions. We then analyze the migration decisions using a multinomial logit model to explicitly account for the joint migration behavior of married couples in Section 7. The comparison of the two approaches is provided in Section 8. Section 9 concludes.

2. Literature review

The literature has long recognized that the migration decisions of married couples are not individuals but family decisions. Economic analysis of the migration decisions in the family context grew since the late 1970s (DaVanzo, 1976; Mincer, 1978; Sandell, 1977). Studies of the internal migration decisions of married couples in the developed countries focus on family's migration decisions that require all members move. When the optimal migration decision for the family unit does not coincide with the optimal migration decision for individual family members, some members will become tied stayers and some tied movers.[3]

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[3] A tied stayer is the family member who stays even though it was privately optimal to migrate; a tied mover is the family member who migrates even though it was privately optimal to stay (Mincer, 1978).