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Risk attitudes and migration

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ABSTRACT

To contribute to a scarce literature, in particular for developing and emerging economies, we study the nature of measured risk attitudes and their consequences for migration. We also investigate whether substantial changes in the risk environment influence risk tolerance. Using the 2009 RUMiC data for China, we find that rural–urban migrants and their family members are substantially less risk-averse than stayers. We further provide suggestive evidence that individual risk attitudes are unaffected by substantial changes in the environment and that risk tolerance is correlated across generations.

1. Introduction

There is little doubt that economic migration contributes to "grease for the wheel of the labor market" (Borjas, 2001), implying that it plays a pivotal role in reallocating labor resources across countries and regions with, generally, improvements in productivity. There is also little doubt that understanding why individuals decide to migrate helps the design of effective migration and labor market policies, especially where migration is a new phenomenon.

Typically economists frame the decision to migrate as a comparison of uncertain costs and benefits of moving. Indeed, migration is a risky endeavor. Migrants have less information about opportunities and conditions in the destination labor market as well as opportunities to consume and use leisure time relative to the natives. Even after migrating they continue to face uncertainty not shared by locals, such as anti-immigration sentiments and discrimination from the native population, the possibility of being deported if migration is undocumented, or be unable to help family left behind at some critical times (e.g. sudden death of a family member). Given the additional uncertainty involved, and assuming rationality, one would expect migrants to be highly tolerant of risk for a given expected gain.

To date, there is only limited empirical evidence verifying this hypothesis, and such evidence is gathered from either laboratory experiments or data predominantly collected in high income countries with established institutions (Bonin, Constant,

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Tatsiramos, & Zimmermann, 2009, 2012; Dohmen, Falk, Huffman, & Sunde, 2012; Dohmen et al., 2011; Jaeger et al., 2010; Williams & Baláž, 2014). Evidence from countries undergoing rapid economic and social transformations is minimal (Dohmen, Lehmann, & Pignatti, 2015; Gibson & McKenzie, 2009; Hao, Houser, Mao, & Villeval, 2014). Yet it is precisely from economies in transitions that new insights on the link between risk and migration can emerge, as in such places people experience at once a wider set of choices about where to work and live and profound changes in the risk environment in which they take decisions. This paper focuses on the largest economy in transition, China, to study whether more risk-tolerant individuals in rural areas are more likely to migrate.

China is unique in that it has experienced the largest volume of internal migration (Zhao, 2005) but it operates an inflexible residence status system ("hukou"), which defines where individuals have rights to access local public goods. Residence was effectively fixed in the late 1950s and changes were permitted only in limited circumstances. Although one may not be able to change his or her residence status, internal migration in China is unrestricted. An individual with residence in A can move to B within the same or another province, but at the cost of losing access to local public goods at subsidized prices. This means that migrants have no access to subsidized housing, healthcare, unemployment insurance or pension in the cities where they moved to. Perhaps more critical in today's China is that children often cannot acquire a place in school close to where their migrant parent(s) live; hence migrants' children may have to remain in the hometown, where left-behind family members look after them.

Given the restrictions imposed by the hukou system, are rural–urban migrants less risk-averse than stayers? Do they migrate as a result of their tolerance for risk or does migrating change their level of risk-aversion? Does a person's risk tolerance reflect that of his or her parents', and does it influence his/her migration decision? We are able to advance on these questions by using the 2009 rural sample of the Survey on Rural Urban Migration in China (RUMiC; see Akgüç, Giulietti, & Zimmermann, 2014). This dataset has rich information about demographic, socio-economic and psychological characteristics of household members, including questions on risk aversion. We find that an individual's risk tolerance positively contributes to the decision to migrate. We also find suggestive evidence that causality runs from risk tolerance to migration, that risk tolerance correlates across generations but that parental risk tolerance does not affect an individual's probability to migrate.

The remainder of the paper is organized as follows: Section 2 provides a short summary of the literature on risk and migration. Section 3 describes the data and Section 4 discusses the methodology. Section 5 presents the results. Section 6 discusses additional results. Section 7 concludes.

2. Literature

The traditional economic approach to migration is to view it as the result of an individual optimization decision comparing the present value of its benefits and costs (Sjaastad, 1962). Early models do not consider individual differences in risk tolerance, and introduce uncertainty as a disturbance affecting everyone in the same way. Perhaps the best-known example is when finding employment is subject to a probability (Harris & Todaro, 1970; Todaro, 1969), which leads would-be migrants to compare expected rather than certain benefits and costs of migration, and self-select into moving or staying (Borjas, 1987) or deciding for how long to migrate (Dustmann, 1997).

Lack of empirical support that rural–urban migration occurs as a result of differences in expected incomes resulted in the formulation of new hypotheses about risk and migration, though still within the theoretical underpinning of expected utility maximization and no individual heterogeneity in risk aversion. Work in this literature has put forward the idea that risk tolerance among migrants may differ 'structurally' from that of natives. This could occur because migrants may simply be more risk-loving than natives (Sahota, 1968). Bonin et al. (2009) found the reverse suggesting that selectivity issues and general ethnic differences in risk attitudes may be possible at work: if the receiving country is a welfare state, it may receive more of the risk-averse migrants. Or the more risk-loving migrants may move onward or return home. An alternative explanation could be that the attracted migrants are from source countries with more risk averse populations. A key question is then whether migrants are more or less risk tolerant than the populations they come from.

Alternatively, the decisions of migrants may be affected by bounded rationality, which limits their ability to undertake several decisions at once, especially when information is incomplete (Simon, 1983). Migration may also occur when individuals trade off risk inter-temporally, preferring immediate higher risks for subsequent lower risks, or when capital markets are imperfect (Katz & Stark, 1986; Stark, 1981). Migration can also arise as the result of a household's, rather than an individual's, optimization to diversify earning risk among its members (Chen, Chiang, & Leung, 2003; Jalan & Ravallion, 2001; Rosenzweig, 1988; Rosenzweig & Stark, 1989; Stark & Levhari, 1982; Stark & Lucas, 1988).

The idea that individuals differ in risk tolerance is at the core of the theory of choice under uncertainty and the development of operational measures of risk aversion (Arrow, 1965; Pratt, 1964). The underlying hypothesis is that the attitude an individual has towards risk determines relevant outcomes in a variety of contexts like career decisions or the choice of a portfolio of risky investments. There is some evidence supporting that risk aversion is individual-specific (Guiso & Paiella, 2006; Williams & Baláž, 2014). Models developed outside the expected utility theory also support this hypothesis and provide additional evidence (Czaika, 2012).

Notwithstanding the literature viewing migration as a risky decision, empirical evidence of the relationship between the migration decision and the migrating individual's risk tolerance is scarce, especially in the case of economies in transition (Heitmueller, 2005; Conroy, 2009: Gibson & McKenzie, 2009; Hao et al., 2014). Jaeger et al. (2010) find that risk tolerance and migration in Germany are positively related. More risk-loving individuals are more likely to migrate after controlling for conventional migration determinants such as age, family background, and geographical measures. They argue that, at least for the German internal migration case, "general uncertainty about other locations is an important channel through which risk attitudes