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Remittances for economic development: The investment perspective☆

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ABSTRACT

Based on the economic theory of the family, this paper constructs a model of remittances where the migrant, besides sending money to his family, also invests in his home country. The investment is looked after by a family member in return for some monetary compensation. The model focuses on two different cases: state-contingent transfers (transfers are tied to investment outcomes) and fixed transfers (transfers are mainly of altruistic motive). As the migrant derives utilities from consumption, his consumption-investment decision is driven by preferences and future investment prospects. The transfers are to increase with both business encouraging and income compensatory effects.

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1. Introduction

Recently, there has been a substantial increase in remittance flows from developed countries to developing countries. An estimate by the World Bank (2007) indicates that total remittances to developing economies amounted up to $240 billion in 2007 from $31.2 billion in 1990. The actual numbers are surely much larger given the fact that official statistics miss informal inflows. This information suggests that remittances are potentially a good source of finance for economic development, especially for the poorest countries.

There is a considerable debate on the role of remittances to economic development process of developing countries. Remittance supporters posit that remittances help improve recipients' standard of living and encourage households' investment in education and healthcare. Remittances are also necessary for financing imports and investment. However, the negative view of remittances indicates that remittances can fuel inflation and reduce recipients' incentive to work which are obviously harmful for growth. Empirical studies on the economic impact of remittances also produce mixed results (see, for example, Chami et al., 2005; Glytsos, 2002; Leon-Ledesma and Piracha, 2004).

This paper contributes to the above mentioned debate over the economic impact of remittances by constructing a theoretical model in which remittances act like a capital inflow besides an income transfer from overseas. The model is set up based on the economic theory of the family[1] where the relationship between a migrant and his family back home is characterized by both altruism (as suggested by Johnson and Whitelaw, 1974) and business (as pointed by Lucas and Stark, 1985).[2] The relationship is altruistic in the sense that the migrant cares about his family and makes his utility dependent on the family member's utility. It is also business-like because the migrant makes investment in his home country and asks the family member to look after the investment project on his behalf. In return, the migrant offers the family member some monetary transfer. In this framework, remittances include two different flows: a capital flow and an income transfer flow. As a result, remittances are not only compensatory but also business motivated. To make it more general, this paper differentiates two different situations. In the first situation, the migrant ties the transfer to the outcome of the investment project. This creates an incentive for the recipient to exert more managerial effort. In the second situation, the migrant makes a transfer simply based on his altruistic motive.

The key difference between the model in this paper and the related literature is the assumptions about remittances. The conventional perception is that remittances are purely altruistic transfers which are

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[1] There is a big literature on the economic theory of family, especially on the aspect of private income transfers such as Bernheim et al. (1985), Cox (1987), and Chami (1998). However, this literature mainly examines the mobility of intergenerational wealth, which is not necessarily remittances, the central focus of the analysis in this paper.

[2] For simplicity, the migrant's family back home is assumed to consist of only one member.

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mainly used for consumption. In contrast, this paper studies what happen when remittances are also used for investment purposes.[3] To this aim, it introduces business doing environment into the context of remittances specified in the early work by Chami et al. (2005). This paper examines how the outcome of fixed transfer is different from that of state-contingent transfer when remittances also behave like capital flows.

The results of the model can be summarized as follows. Despite having different settings, the two above mentioned situations yield qualitatively close findings. They both reveal that remittances are not only a pure income transfer which help increase consumption at home but also an important source of finance for economic development through investment channel. Here, remittances increase with business encouraging as well as income compensatory motives. In particular, the migrant will invest more in his home country if the expected gain from making extra investment is high enough. He will send more monetary payment home if his income is higher, when his family member is poor, or when he wants to encourage his relative to exert more effort in managing his investment project. The family member will act more positively on the migrant's project when she cares more about the migrant and when the promised monetary rewards are higher.

Generally, this paper is well placed into the literature on remittances. It is linked to the theory on altruistic motivations for remittances (e.g. Chami et al., 2005; Johnson and Whitelaw, 1974) as well as the theory on self-interested remittances as a means of business (e.g. Lucas and Stark, 1985). Although not studied here, this paper recognizes the theory that considers the family as a source of insurance company that provides members with protection from any income shocks (Ilahi and Jafarey, 1999; Poirine, 1997) or a bank that finances the migration of the members (Agerwal and Horowitz, 2002; Gubert, 2002; Stark, 1991).[4] By modeling explicitly financial development as a factor that encourages investment from remittance flow, this paper also fits well in the literature on financial market and economic development (e.g. Giuliano and Ruiz-Arranz, 2005; Mundaca, 2009).

It is necessary to mention a fact that empirically it is very difficult to separate the above mentioned motives of remittances from each other. As a result, most empirical studies simply regress remittances on explanatory variables such as incomes of senders and recipients, their gender and marital status, the migrant's level of education, and the recipient household's assets. Based on available data, they establish a relationship between the level of remittances received and economic agents' characteristics and try to discriminate between these possible remitting motives. The pioneering study in this direction is the work by Lucas and Stark (1985) on Botswana. This work is then followed by a large number of studies focusing on developing countries. Typical examples include Cox et al. (1998) on Peru, Ilahi and Jafarey (1999) on Pakistan, Gubert (2002) on Western Mali, and Chami et al. (2005) on a group of developing countries.

The rest of this paper is structured as follows. Section 2 sets up the theoretical model on remittances and investment motives. Section 3 documents some implications and further discussions on the results of the model in Section 2. Section 4 ends the paper with some concluding remarks.

2. Theoretical models for analyzing remittances

Consider an economy which consists of a large number of identical two-person families that live for two periods.[5] In each family, one person has already migrated to a foreign country at the beginning of the first period. He earns an exogenous income y_m in that foreign country. The other member of the family remains in the home country. She works in the domestic labor market and earns an exogenous income y_r. In the first period, the migrant makes an investment I in his home country[6] and asks the family member at home to take care of this investment.[7] Assume that the investment outcome is subject to uncertainty. For simplicity, there are only two possible outcomes for this investment, either high outcome $I_h=\theta_h I$ where $\theta_h>1$ with probability p or low outcome $I_l=\theta_l I$ where $0<\theta_l<1$ with probability $(1-p)$. Here, the probability of high investment outcome occurring is dependent on the favorable conditions in the financial market α (such as more investment opportunities or low risks) as well as the effort level e in managing the investment project of the family member at home. Assume $p(\alpha, e)$ is an increasing and concave function of its two arguments, $p'(.)>0$, $p''(.)<0$.[8] In the second period, the migrant, who still lives abroad, makes a transfer to the family member at home (from now on this family member is referred to as the recipient). The returns from the investment will be used for the migrant's consumption in the second period.[9] This paper focuses its analysis on two different practical situations: investment state-contingent transfers and fixed transfers.

2.1. State-contingent transfers

It can be imagined as there exists an implicit agreement between the migrant and the recipient, for example, an implicit agreement between a brother and a sister, in which the brother working overseas seeks for helps from his sister at home in managing the investment project and offers her some monetary rewards in return. As the migrant is away, he does not know or observe his sister's effort level directly. However, he can see the outcome of the investment project at the end of the first period which depends on his sister's effort.[10] The migrant is then assumed to tie the monetary rewards to the investment results. If the project is successful, the migrant transfers a large amount of money back home T_h to the recipient. If it is not successful, only a small amount of money T_l is transferred.[11] Both of these amounts are known to the recipient ex ante.

The migrant derives utility from his consumption which is equal to y_m-I in the first period and equal to either $y_m+I_h-T_h$ or $y_m+I_l-T_l$ depending on whether the investment project is successful or not in the second period. His expected utility is:

$$E(U_m) = u(y_m-I) + pu(y_m + I_h-T_h) + (1-p)u(y_m + I_l-T_l) + \beta E(U_r) \tag{1}$$

[3] In a survey on the role of remittances in financing small businesses in El Salvador, Lopez-Calix and Seligson (1990) find that on average 16% of remittances were used for investment purposes.

[4] Rapoport and Docquier (2005) provide a comprehensive review on the economics of remittances.

[5] This is a simplified assumption that does not affect the model results. The game can be allowed to play repeatedly.

[6] Of course, there is always an option of investing overseas. However, dealing with this option is beyond the scope of this paper.

[7] Unlike the model by Chami et al. (2005) where the migrant sends remittances home as a pure altruistic transfer, in this current model, the migrant is allowed to invest in his home country from overseas. This is a crucial assumption that makes this paper distinct from other papers in the literature which commonly assume an altruistic motive for remittances.

[8] An example for such a function is $p(e) = A\alpha^{1/2}e^{1/2}$ where $A>0$ is a constant. Throughout this paper, it is implicitly understood that p is a function of its two arguments, α and p. However, to simply the notation, sometimes, only p is written or only one argument which is necessary for the analysis will appear but not both.

[9] For example, this money might be sent back to the migrant for his consumption abroad. Nowadays, many developing countries allow their nationals living overseas to invest at home and withdraw the capital out of home when the investment project is finished. The fact makes this a feasible option. The money might also be kept in the migrant's home country for his own use when he visits home. An alternative is that the migrant might use this money to repay loans taken to finance his migration costs in the first place. I would like to thank the referees for this useful comment.

[10] For simplicity, the outcome of the investment project is known to the migrant. There is no moral hazard problem in this respect.

[11] For a simple case, T_l is very much like an altruistic transfer while T_h is business related transfer.

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