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Overshooting the Savings Target: Temporary Migration, Investment in Housing and Development

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Summary. — There are two seemingly competing branches of the literature on saving and duration-of-stay decisions of temporary migrants. One relies on the target-saving explanation and the other on utility maximization over a life cycle. We attempt to reconcile the two approaches within a framework where a migrant has a well-defined savings target (in planning to purchase a new home at origin) but also chooses the time of return and the consumption path to maximize lifetime utility. Our analysis highlights the role of property investment and savings repatriation in the relationship between temporary migration and development.

Key words — temporary migration, target savings, housing

1. INTRODUCTION

Temporary migration is an important phenomenon in numerous developing countries, both in terms of the proportion of families directly affected by it and the flow of savings transferred back to the economy. In 2008, 192 million foreign workers transferred $328 billion to their countries of origin. This is almost three times the amount of official aid flows from OECD member states (World Bank, 2009). China, India, Mexico, and the Philippines are countries on the top of the list of recipients. Each of them receives tens of billions of dollars per year. For less populous labor-exporting countries, the dollar figures are more modest, although they constitute 10% or more of the economy's national income in dozens of developing economies.

As shown in a comprehensive survey by Rapoport and Docquier (2006, chap. 17), remittances and repatriated savings are not just a crucial source of income for a significant proportion of households and often a key element of their livelihood strategies, but they also enable recipient family units to smooth consumption, alleviate liquidity constraints and achieve mutual insurance (see Yang (2011) for more recent evidence). Some of the most important questions concerning the links between migration and development are therefore intimately related to how much migrants send or bring back to their country of origin.

Migrants' motivation for working temporarily in a foreign country is, broadly speaking, to accumulate savings that will help improve their standard of living after return. Nonetheless, when asked to identify the main reason for going to work abroad, the answers that emerge from interviews with temporary migrants tend to refer to a specific goal: To purchase or build a new home, improve an existing home, purchase a plot of land for agricultural use or construction, or start a new business after return. Pitayanon and Chancharoen (1982) find that for remittance-receiving households in Thailand, construction of a new house is a major priority, followed by the purchase of land for residential construction, home improvement, debt repayment, starting or expanding a business (such as commerce or animal/fish raising), and purchase or development of agricultural land. In the case of Egypt, Adams (1991, p. 720) notes that the highest priority of migrant households is to replace "...their crowded and traditional mud-brick houses with modern red brick buildings." Studies covering Sub-Saharan Africa also indicate that substantial amounts of foreign earnings of migrants are channeled toward housing and purchase of real property (see, e.g., Bracking & Sachikonye, 2007; Maimbo & Ratha, 2005; Maphosa, 2007).[1] Similar patterns are observed throughout Asia, where Ncube and Gómez (2011, p. 9) refer to migrant-sending communities as having "brightly painted luxury houses of returned migrants which are filled with stereo sets, electric refrigerators, televisions, vans, and gas stoves."[2] In the words of one migrant from Thailand, quoted by Jones and Pardthaisong (1999, p. 46), "I just want a house, nothing more, and my parents to stay happily."

Working abroad and saving money to purchase a home or make some other large investment is often referred to in the literature as "target earning." The term was initially employed in this context by Piore (1979), who refers to target earners as temporary migrants whose primary motivation is to save enough money for the purpose of starting a small business or purchasing some other asset upon return.[3] Once the savings needed to make the purchase have been accumulated, the migrant has no reason to remain abroad any longer.

Piore was of course writing in the 1970s when the theory of saving behavior of temporary migrants was in its infancy. By now it is well understood that in a world with more than one good, the objective to save for the purpose of say improving

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one's housing has to be reconciled with the incentives to save (or possibly dissave) for other purposes. Thus there is no reason to expect that, in general, the total savings accumulated by a temporary migrant abroad should be precisely equal to the cost of a housing upgrade, of starting a small business, or of some other object the migrant desires to acquire.

In some instances, however, this may in fact be the case. Mesnard (2004) is the first to model the target-earning (or target-saving) motive explicitly in an analysis of optimal return decisions of temporary migrants who face borrowing constraints in their country of origin. She assumes that once a migrant succeeds in accumulating a certain minimum stock of assets abroad, it is possible to return to the home country and invest the savings in an enterprize that generates a flow of income exceeding the foreign wage. In that particular setting, when the stock of savings reaches the target, the migrant's only motive for being abroad vanishes (i.e., potential earnings at home suddenly rise above the foreign wage). The optimal return date thus coincides, as in Poire's informal analysis, with the date on which the savings target is attained.

In reality, the targeted object may be something other than a business that generates a post-return income flow in excess of the foreign wage. It can be a new house, a plot of land, a consumer durable or some other object, the acquisition of which may not necessarily have an effect on income after return. It may generate, instead, a flow of services that improves the migrant's socioeconomic status and welfare. Many migrants in fact return home, acquire the desired object and *stop working* altogether or continue to work at a *lower* wage than the one they enjoyed abroad. Thus, in general, attainment of the earnings target need not trigger a reversal in the relationship between the foreign- and home-country income streams available to the migrant. This makes the timing of return to the source country a more complex question, but also more interesting.

In contrast with the notion of target earning, the utility-maximizing approach to saving and return decisions of temporary migrants has been developed in a series of papers by Djajić and Milbourne (1988), Dustmann (1995, 2001), Yang (2006), Djajić (2010, 2013a), Kirdar (2013), Thom (2010) and Vinogradova (2010), among others. Within this framework, migrants simply allocate their time (between foreign and domestic labor markets) and income (between foreign and domestic consumption) in order to maximize utility over a life cycle. Optimal timing of return to the source country is determined by comparing the costs and benefits of staying longer abroad, taking into account a range of factors that affect a migrant's value function. Obstacles to welfare maximization, such as borrowing constraints or lumpiness of investment projects, which play an important role in the target-earning literature, are assumed not to be a factor.

Yang (2006) distinguishes between the target-earning and life-cycle motivations of temporary migrants, noting that if the objective is to achieve a savings target, improved conditions in the foreign country, such as a wage increase, should entail shorter overseas stays. This is because target earners are then able to reach their goal more quickly. By contrast, as shown by Djajić and Milbourne (1988), a migrant who maximizes utility of consumption over a life cycle will respond to an increase in the foreign wage by planning to stay longer abroad, assuming that the elasticity of intertemporal consumption substitution is not unrealistically low. By examining return behavior of migrants in the 12-month period following the 1997 Asian financial crisis, which resulted in large, unanticipated changes in the exchange rates between the Philippine pesos and the currencies of the dozens of countries in which Filipinos were employed, Yang (2006) is able to test whether migrants' return decisions are more likely to be motivated by life-cycle considerations or a savings target.[4] Yang's study is, in fact, the first attempt to provide a thorough empirical investigation of the life-cycle *vs* target-earning motives of temporary migrants. He does uncover evidence in support of the existence of both motives, although the statistical significance of the coefficients is generally low. On average, he finds that favorable exchange rate shocks lead to fewer migrant returns, suggesting that life-cycle considerations dominate.

For Turkish migrants in Germany, Dustmann and Kirchkamp (2002) observe that higher earnings in the host country are associated with shorter durations of stay for those who become entrepreneurs after return. This finding is arguably consistent with the target-saving approach. In sum, the available evidence seems to suggest that both target earning and life-cycle motives play a role in influencing the timing of return and saving behavior of temporary migrants.

This paper follows Mesnard (2004) and Yang (2006) in an attempt to reconcile the two approaches. It develops a model where a migrant's precise saving target is clearly defined and her saving behavior is based on maximization of lifetime utility. While the framework of analysis is similar to that developed by Mesnard (2004) and Yang (2006), the model has a number of distinct features. First, we allow commodity prices to differ across countries. As shown by Kirdar (2013), such differences have a substantial impact on the saving and return decisions of temporary migrants. Second, the migrant's aim is not to start a business after return, but rather to purchase a new home that serves as a store of value and also generates a flow of services that improve welfare. A large proportion of temporary migrants use their accumulated savings precisely in this manner. Third, with substantial repatriated savings, a returnee is assumed to have access to credit from local financial institutions, using as collateral the house purchased at the point of return. This offers migrants greater flexibility in choosing the return date when compared with the models of Mesnard (2004) and Yang (2006), where the migrants face strict borrowing constraints.[5] Within this framework of analysis, we address the following questions: First, under what conditions is it optimal for the migrant to return to the source country precisely at the time when the stock of accumulated assets is equal to the price of the new home (i.e., the moment the savings target is attained)? When does it pay to stay longer abroad and continue accumulating assets to effectively "overshoot" the savings target? What is the role of the anticipated utility flow from the acquired housing and its relative price in the determination of the optimal return date and the migrant's consumption rates abroad and after return?

In addressing these questions, our objective is not only to bridge the gap between the target-saving and utility-maximizing approaches, but also to provide an explicit analysis of the role that investment in housing may have in influencing the optimal duration of stay abroad and the stock of savings repatriated by temporary migrants to their country of origin. Moreover, the question of whether temporary migrants overshoot or undershoot their savings target can have important implications for financial development of the source country. In the case of overshooting, some of a migrant's repatriated savings may be injected directly into the financial intermediation system, helping to alleviate liquidity constraints of other agents in the community. By contrast, undershooting of the savings target has the opposite effect. It implies that returnees absorb the savings of others to finance construction of their new home. The impact of temporary migration on the extent to which non-migrants have access to credit in the source country is therefore intimately related to the question of whether returnees overshoot or undershoot their savings