

## Abstract

### THREE ESSAYS ON REMITTANCE EFFECTIVENESS

**Michael Batu**

University of Guelph PhD 2015

#### **Supervisors**

Laurent Cellarier

Stephen Kosempel

Remittances, generally defined as transfers of money from migrants to family members they leave behind, often sent a few hundred dollars at a time, nonetheless add up to billions of dollars annually. Latest estimates from the World Bank has pegged remittance flows around \$404 billion in 2013 and is expected to reach \$516 billion by 2016 (The World Bank, 2014). Remittance has surpassed foreign direct investment, portfolio flows from financial markets, and official development assistance in many developing countries. The common wisdom is that if remittances are invested, they should contribute to output growth. Surprisingly, most scholars find the absence of any robust positive relationship between economic growth and remittances. In this dissertation I propose three reasons as to why it is difficult to find this relationship.

In the first essay, I highlight the role of migration as an important channel through which remittances can influence economic growth. A key determinant of remittances, migration has often been ignored in many remittance effectiveness studies.<sup>1</sup> In particular, I built a two-country overlapping generations model with two types of agents - migrants and natives. In this setup I allow migrants to send remittances back to other agents in the home country and migration decisions are a result of agents' optimizing behavior. The effect remittance have on migration decision is ambiguous and it depends on two competing forces: the benefit of giving and the benefit of receiving remittances. If the benefit of becoming a generous migrant outweigh the benefit of being a remittance recipient, increased remittance may incentivize agents to migrate thereby raising future remittance flows. The basic idea is that increased remittances affects the composition of the labor force of the recipient country and over time it will lead to an increase in savings, capital, and consequently, output. I tested the predictions of the model using bilateral (net) remittances data. Using a modified gravity model with past migration as an instrument, I found a positive relationship between remittances and bilateral migration stocks. I also found that remittances have a positive relationship with GDP per capita differentials. These results suggest that, in order to properly identify the causal link between remittances and capital accumulation, the role migration plays in remittance effectiveness should not be understated.

In the second essay, a model of an artificial economy which has the structure of the canonical small open economy real business cycle model augmented with stochastic remittance shocks was developed. The model was calibrated using data for remittance recipient countries and the calibration exercise reveals that the response of output to remittance shocks is small in comparison to other shocks. The model predicts that temporary inflows of worker remittances positively affect GDP per capita while a permanent increase of remittances does not. Cross country econometric evidence suggests there is a significant and positive but mild correlation between the temporary component of remittance and growth. No such relationship exists for the permanent component of remittance.

In the third essay I built and calibrated a two-sector real business cycle model to analyze the effects of remittances on human capital accumulation in developing countries. The model has two key results: First, I find that an unanticipated temporary increase in remittances leads to an initial decline in labor supply and an increase in consumption demand. Second, the increase in remittances leads to an increase in education spending which raises human capital and output in the short run. Increasing disposable income through remittances may increase investment in schooling and relaxes the budget constraint. I tested the predictions of the model using data across remittance-recipient countries and found evidence that remittances positively affect educational attainment. These findings support the view that remittances can help raise the levels of investment in human and physical capital in remittance-receiving countries.