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Do Remittances Improve the Standard of Living in African Countries?

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High volume of migration contributes to economic growth in some countries, as they are heavily reliant on remittances. Many families in Sub-Saharan countries are very dependent on remittances where they account for a considerable amount of household income. This income has a great effect as remittances have a significant impact on reducing poverty and improving the standard of living in developing countries. In some cases, the amount of remittances surpasses the amount of official foreign aid received. Not only do those who receive remittances benefit, but also those around them. A higher income means higher consumption, causing a greater inflow of money to businesses. Remittances are viewed as an insurance policy as they are countercyclical. When households are going through hardships the amount of remittances increases. By analyzing several factors, this study shows that in fact, remittances allow for better education, better healthcare, and other determinants of standard of living, as well as reductions in the number of households that have an income of one dollar or less per day.

Immigration plays a very important role in economic growth in developing countries. At the beginning of the century only about 175 million people lived outside their country of origin. Currently, it is estimated that about 215 million people have migrated to a different country (International Organization for Migration, (2011). In 2009, approximately $414 billion in remittances were sent by migrants, and of that amount, $307 billion were sent to developing countries. In 2010, $21.6 billion were sent to Sub-Saharan countries, representing a 571% increase from $3.2 billion in 1995 (The World Bank, (2010). Remittances are the second largest source of external funding to developing countries and they are about twice as much as the official aid inflows to developing countries (Adams & Page, 2005). At the microeconomic level, remittances contribute to the reduction of household poverty. While at the macroeconomic level,

remittances represent a secure form of income during times of economic instability because this form of income depends on economies that are not as volatile as economies from developing countries (Ratha, Mohapatra, Ozden, Plaza, Shaw, & Shimeles, 2011). Although remittances to Sub-Saharan countries contribute a large part of income to households, many studies overlook its importance. Regardless of the fact that Mexico, India and China received over one-third of remittances in 2010, in Sub-Saharan Africa remittances are still a vital part of household income (The World Bank, 2010). Although many believe that remittances reduce poverty and improve the standard of living in developing countries, it is hard to determine to what extent, as some countries underestimate the number people that migrate. It is also hard to get an accurate count of the number of households living in poverty (Adams & Page, 2005). Also, when collecting data, many countries overlook illegal immigrants who contribute a large part of remittances. Many countries also fail to account for remittances that are sent through informal channels such as unrecorded transfers, money brought over by friends or even migrant workers themselves. The amount of remittances sent through informal channels is hard to determine but it is believed that it could be anywhere from 35-75% of formal remittances (Social Science Research Council, 2011). This paper focuses on how the income from remittances helps reduce poverty levels, by analyzing GDP per capita growth and the effects it has on education and healthcare.

Literature Review

Remittances make up a large portion of income in some countries. This form of income helps households remain above the poverty line. There is considerable difference in the standard of living between countries that have high volumes of remittances compared to those who have low remittance levels. In the case of Nigeria, in 2010 an estimated $9.9 billion in remittances entered the economy, while Burundi only received about $3 million. The standard of living in Nigeria is by far very different than Burundi.

Nigeria had a Nominal GDP of $193,668,738,107 and a GDP per capita of $1,222, in 2010. In 2010, Burundi's Nominal GDP was $1,610,544,922, with a GDP per capita of $192. Poverty headcount in Nigeria is 54% of the population. Burundi's poverty headcount is 67% of its population (GDP per capita, n.d.).

In some places such as Egypt, remittances account for almost 15% of household income (Adams & Page, 2011). Remittances to developing countries have increased by twice the amount of the 1990s, while official aid flow has decreased. Remittances are higher than the foreign direct investment as well as developing aid (Haas, 2005). In developing countries during the 1990s the amount of remittances received was 17% higher than official development assistance, and remittances were two times more than foreign aid and "10 times higher than private capital transfers" (Haas, 2005). Remittances are a safety net as they are a form of income that is relatively stable and not as volatile as other forms of income. Although households receive remittances regardless of their economic status, a larger percent goes to households in less developed rural areas. The governments of remittance-receiving countries also see migrants as potential investors in their economy, but this possibility is highly dependent on policies regarding immigration (Haas, 2005).

Remittances are also a source for long-term development projects such as infrastructure and low-income housing (Ratha et al., 2011). By using this form of income to build low-income homes, the living conditions of many families are improved greatly. Households have a larger disposable income, which can be used towards better healthcare as well as education (Amuedo-Dorantes & Pozo, 2011). It allows families not to only receive treatment for existing illness, but it also gives them the prospect of preventive care. In addition, young children can also be given the opportunity of advancing in their education, which in the long run will reduce poverty by allowing young adults to obtain higher paying jobs, permitting them to move above the poverty line. Remittances also help soften the shock to household income due to

natural disasters such as drought. Households receiving remittances also have better access to technology as well as banking systems. All of this is possible because a considerable amount of the remittances received by a developing country is invested in human and physical capital such as education, health, land, housing, starting a business, improving farms and purchasing agricultural equipment (Ratha et al., 2011). Although the technology for the transfer of remittances has improved, Sub-Saharan Africa has the highest amount of unrecorded remittances.

In 2010, and estimated $40 billion in remittances were received in Africa. The official aid to Sub-Saharan Africa was 2.2 percent of GDP, while remittances accounted for 3.7 percent of GDP (Ratha et al., 2011). Remittances are larger than the private capital flows such as portfolio debt and equity flows. Although in South Africa this is a major source of income for the economy due to their richness in oil and minerals, for Sub-Saharan countries, remittances represent "a lifeline to the poor" (Ratha et al., 2011). Nigeria receives half the remittances received in Sub-Saharan Africa in 2010. In terms of percent of GDP, remittances to Lesotho account for 28.5 percent of their GDP (Ratha et al., 2011).

Model

I hypothesized that remittances have a positive impact in GDP per capita. To analyze the effects, the following model was developed:

Model 1

$$\log gpd_{(i,t)} = \mathrm{B}_0 + \mathrm{B}_1 \log remit_{(i,t)}$$

The data used for this analysis is GDP per capita from 1971 to 2009, and inflow of remittances to ten African countries, Angola, Cameroon, Cote d'Ivore, Kenya, Libya, Mozambique, Nigeria, Senegal, Zambia, and Zimbabwe.

This model shows the relationship between GDP per capita and remittances. When remittances increase one percentage point, GDP per capita increases .3368%. The analysis was performed using fixed and random effects. This allowed each country to be treated individually to adjust for events in each country, such as civil wars and government transitions, as well as to account for the factor of changing time. The results are displayed in the table below.

Table1. Correlation between log of GDP per capita and log of remittances

loggdpc	Coefficient	Fixed effect	Random effect
logremit	.36* (.03)	.34* (.03)	.36* (.02)
constant	-.03	.18	-.03

*$p < .05$

The results display a positive correlation between the two variables and the correlation is significant at the 5% level. Under random and fixed effects, the coefficients were similar. The table shows the positive relationship in which when there is an increase in remittances there is also an increase in GDP per capita. But this trend could be due to the passing of time. Figures 1 & 2 show the trend in average GDP per capita and average remittances.

Figure 1. Average GDP per capita

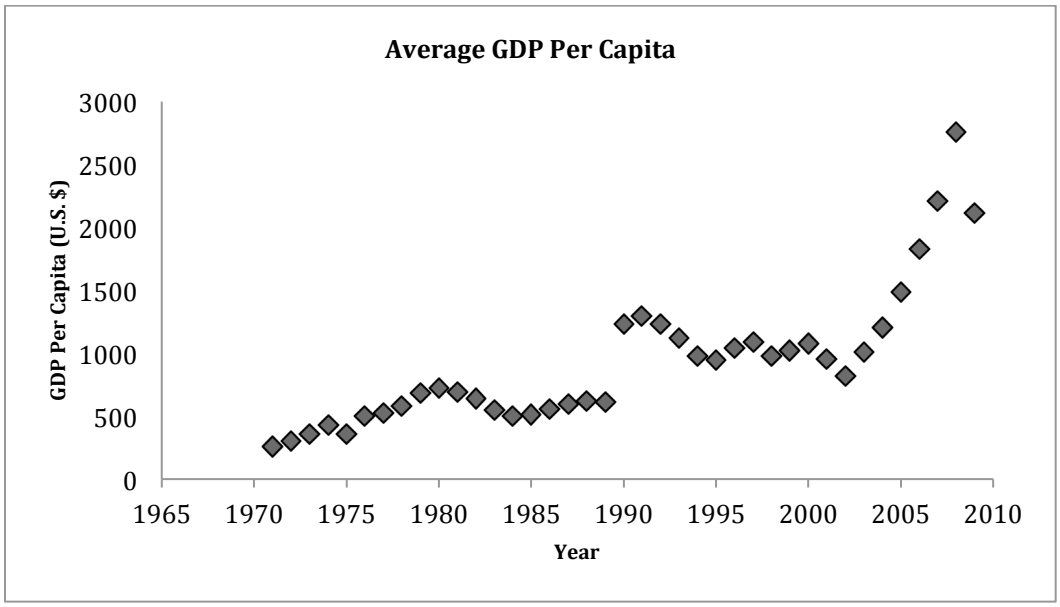
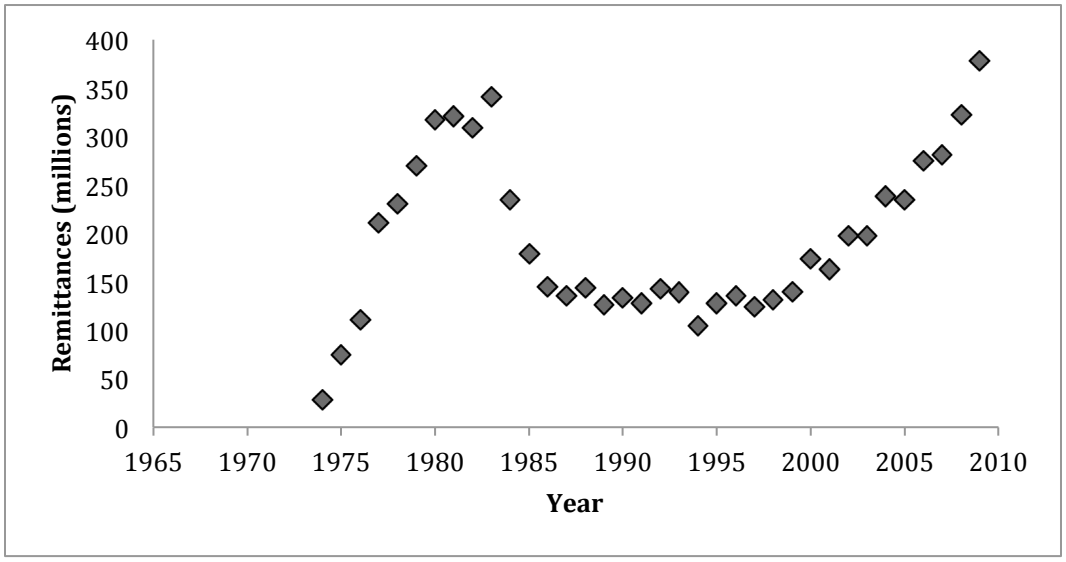


Figure 2. Average remittances



The fluctuations in both graphs happened around the same time, showing that there is a correlation although causation cannot be determined.

A second model was used to perform a better analysis. The model is as follows:

Model 2.1

$$\log remit_{(i,t)} = \alpha_0 + \alpha_1 \log elec_{(i,t)} + \alpha_2 \log tele_{(i,t)}$$

where logelec, is the log of electricity consumption per capita in Kilowatts per hour and logtele is the number of telephone lines per one hundred people. By changing the raw data to log it is easier to analyze the true effects on the dependent variable. By using electricity consumption and number of telephone lines, the problem of endogeneity- the correlation between the dependent and independent variable was minimized. By using these variables, I made the assumption that the variables are endowed infrastructures set up by colonizing countries rather than current governments. This model analyzes remittances independently of what GDP was at the time the infrastructure was established. The infrastructure was dependent on the economy of the host country rather than the economic and political

stability of the ten African countries. Model 2 was analyzed using with fixed and random effects as in Model 1. During the time of the sample, there were major events that could cause the result to shift. For example, GDP per capita and remittances fluctuated due to events such presidential elections, civil wars, change in regimes, etc. The alternative to electricity consumption per capita and telephone lines per one hundred people, was paved roads, railroads or number of post offices. Unfortunately, it was not possible to collect these data as there were large gaps years in which data was not reported. Below are the results of this model:

Table 2. Correlation between electricity consumptions, telephone lines and GDP per capita

logremit	Coefficient	Fixed effect	Random effect
logelec	.44* (.08)	.39* (.08)	.44* (.08)
logtele	-.12 (.09)	-.18 (.11)	-.12 (.09)
_constant	7.4	7.9	7.5

*$p < .05$

In this model, electricity consumption per capita is significant at the 5% level. Telephone lines per one hundred people are not significant. Using this model the variable remithat7 was predicted. Remithat7 is a prediction of remittances based on the regressions performed of electricity consumption and the number of telephone lines on the actual amount of remittances. This prediction was used in the second part of Model 2, which is as follows:

Model 2.2

$$\log gdpc = \gamma_0 + \gamma_1 remithat7$$

Table 3.

loggdpc	Coeffient	Fixed effect	Random effect
remithat7	.81* (.09)	.79* (.09)	.81* (0.09)
_constant	-3.60 (.73)	-3.45 (.75)	-3.60 (.73)

*$p < .05$

Remithat7 is significant at the 5% level. This model only captures about 30% of GDP per capita. That leaves about 70% of remittances that remain unaccounted for. It is assumed that the unaccounted amount is highly dependent on the economy of the receiving country.

Conclusion

This is model is not perfect at all, although it shows there is a positive correlation between GDP per capita and remittances, the model cannot predict if there is an causation. Is GDP per capita increasing due to the increase in remittances? Or is it because GDP per capita increases, children are able to gain a higher education making them more likely to go abroad; this could mean that they are able to send a larger amount of money back to their home country. The results are similar to those observed in Latin America; an increase in remittances correlates with an increase in GDP. There are several factors that influence the impact remittances have on receiving countries. Although remittances are very important to economic growth, at the same time it can be hindering, as it could have a negative impact in the job market. The fact that people expect a steady income makes them less likely to want to work at low-paying jobs. This could cause wages to increases in order to have people working these jobs. An increase in wages means that goods and service also have to increase in price, which could off set the extra income families receive. There is much more research required to truly understand the effects of remittances on developing

economies. A closer look as to how it affects the job market as well as a more detailed analysis of how large the off set of price increase would be a good way to start. Regardless of the effects it could have in the economy, it is a fact that remittances have a positive impact on households, they serve as an insurance policy, a cushion during times of economic hardship.

References

Amuedo-Dorantes, C., & Pozo, S. (2010) Accounting for remittances and migration effects on children's schooling. *World Development,* 38, 747-1759.

Adams, R. & Page, J. (2005). Do international migration and remittances reduce poverty in developing countries. *World Development*, 33, 1645–1669.

GDP per Capita. (n.d.). Retrieved from http://data.worldbank.org/indicator/NY.GDP.PCAP.CD>.

Haas, H. D. (2005). International Migration, Remittances and Development: Myths and Facts. *Third World Quarterly* 26, 1269-84.

International Organization for Migration, (2011). *Facts & figures.* Retrieved from website: http://www.iom.int/jahia/Jahia/about-migration/facts-and-figures.

Ratha, D., Mohapatra, S., Ozden, C., Plaza, S., Shaw, W., & Shimeles, A. (2011). *Leveraging migration for Africa.* Washington, DC: World Bank Publications.

Social Science Research Council, (2011). *Formal vs. informal remittances.* Retrieved from website: http://www.ssrc.org/publications/view/4297524A-B74F-DE11-AFAC-001CC477EC70/.

The World Bank, (2010). *Migration and remittances unit*. Retrived from website: http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/0,,contentMDK:21121930~menuPK:3145470~pagePK:64165401~piPK:64165026~theSitePK:476883,00.html.