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Remittances and entrepreneurship: An analysis of the developing world

By

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Remittances and Entrepreneurship: An Analysis of the Developing World

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Abstract

This paper will examine the connection between remittances and entrepreneurship in developing nations. I will begin by providing an overview of previous academic literature and research on remittances, and then I will conduct a panel analysis of nations from the developing world, to test for the connection between remittances and entrepreneurship. I will do so using data from the World Bank on remittance payments, and from the Global Entrepreneurship Monitor on entrepreneurial attitudes and behaviors. From there, I will be able to state whether remittances really do serve as a factor for entrepreneurship rates, and what the results might mean for future research.

Part I: Introduction

Remittances are not a new area of study for economists, but they are certainly an area which deserve to be given greater scrutiny, especially in the areas of international and development economics. Remittances, in the development context, are generally defined as a transfer of money between two parties, often meant as a gift. These payments are often sent across borders, as migrants who leave their home country send money back to their friends or families. While these transfers have been occurring for centuries, in recent decades better data collection on remittances has made it easier for researchers to study them as part of the academic discipline. According to the World Bank's Migration and Remittances 2016 Factbook, remittances flows in 2015 were estimated to be greater than $601 billion. These transfers are generated by the roughly 247 million people who live outside of their country of birth. This equates to about 3.4 percent of the world's population (World Bank, 2016).

The research literature on remittances has spanned the fields of both macro and microeconomics. On the macroeconomics side, remittances have been studied as a source of foreign exchange reserves, and have been examined in relation to economic cycles. From the microeconomics side, researchers have studied how individuals and households have used remittances to smooth out consumption decisions. For the purposes of our research, we wanted to investigate how remittances are used to start businesses and pursue entrepreneurial ventures in developing countries. We were drawn to this topic because we noticed there was not an abundance of research on remittances and entrepreneurship, and we felt this could be an opportunity to add to the development economics literature. Bearing this in mind, our research question was straightforward; do remittances have an impact on entrepreneurial ventures in the developing world? In order to approach this question, we begin with a thorough literature review on the

existing research, and we follow it up with an empirical analysis using data on entrepreneurship collected from the Global Entrepreneurship Monitor on developing nations. In the final section of the paper, we sum up the conclusions from the empirical analysis, and address the implications for further research.

Part II: Literature Review

Economics research on remittances, as previously stated, has spanned both macro and microeconomics. When tackling the research question from the macro perspective, scholars have traditionally concentrated on aggregate reasons for making remittance transfers or on the effects of remittances on the real exchange rate or foreign exchange reserves. In a 1999 paper titled "The Macroeconomic Determinants of Emigrant Remittances", authors M.I.T. El-Sakka and Robert McNabb used data from Egypt to study how emigrants made decisions on how much or when to remit money back into Egypt. The authors found that economic conditions could influence the remittance decisions of emigrants. For instance, higher domestic inflation rates were linked to higher levels of remittance inflows. They also found that Egypt's policy of pegging interest rates in order to keep the costs of government borrowing low resulted in an unrealistic interest rate policy, as the rates were often lower than zero. Coupled with the fact the Egyptian government also pegged the exchange rate, the authors found evidence these unrealistic rate led emigrants to remit money through black market channels or to divert the money abroad (El-Sakka & McNabb, 1999).

Other research on the macroeconomics of remittances have cast some doubt on whether remittances can have a positive effect on the exchange and interest rates of receiving countries. Real interest rates of receiving nations were found to have increased due to remittances, which would make these countries less competitive on the world stage (Amuedo-Dorantes & Pozo, 2004).

Further studies have touched on the relationship remittances can have with macroeconomic cycles. Jeffrey Frankel's 2009 paper "Are Bilateral Remittances Countercyclical?" used an econometric analysis to demonstrate the 'smoothing hypothesis', which stated remittances are more likely to be sent when the worker's home country is experiencing an economic downturn. It is referred to as 'smoothing' because the remitted money is used to smooth out fluctuations in capital flows due to the economic downturn. Frankel's empirical research demonstrated this hypothesis does indeed have merit. There has also been interest over the years, from the macroeconomics perspective, as to whether or not remittances could serve as an instrument to help governments handle their foreign debt obligations. Prior literature has suggested sufficiently high levels of remittance inflows make the probability of account reversals due to decreases in foreign reserves less likely (Bugamelli & Paterno, 2009).

Other research has focused on the 'why' behind remittance payments. This is an important question to ask, since remittances are a voluntary transfer, not mandated by any governments. In a research paper titled 'A Theory of Remittances as an Implicit Family Loan Arrangement', Bernard Poirine examined the variety of theories behind why remittances are sent. He focused on a theory which has been previously proposed by scholars, but had only been explored in theory, with little empirical exploration. The theory states that in many developing countries, investments in job training or education are viewed as loans, and those loans are paid, with interest, back via remittances. It is certainly an intriguing idea, and one which runs counter to some of the other theories, including the 'tempered altruism' and 'family co-insurance arrangement' theories. In the author's analysis of several islands in the South Pacific, he pointed out how the payments to nonmigrant family members did not decrease over time. They might be expected to decrease if the remittances were being sent for altruistic purposes. He also pushed back on the 'co-insurance

arrangement' by pointing out how the remittances in the countries which he studied were not used for purchasing capital goods but rather for supplementing consumption. Of course, all of this does not mean researchers can reject offhand the other theories for why remittances are paid, but it does help to see alternative theories for explaining remittance payments.

A fairly substantial amount of economics research has been done on the connection between remittances and governmental institutions. In a 2016 paper on the effects of remittances on support for democracy in Africa, Dr. Maty Konte examined if certain members of sub-Saharan African nations found themselves to be members of the "remittance curse" class. Essentially, there was a thought that remittance payments could hold back development for some citizens. Her findings indicated the chances of being in the remittance curse class depended greatly on people's ranking of concerns about their living situation in their respective countries. People who felt rule of law, rights and freedom were the most important values were much more likely to NOT be in the remittance curse class, while those who felt improving their economic situation was their chief concern were more likely to be in the curse class. (Konte, 2016).

Research on the connection between remittances and political institutions has also shown democratic institutions can be strengthened by remittance payments. In a very recent paper, remittances to sub-Saharan Africa were found to incentivize citizens to hold their governments more accountable, and democratic institutions were found to be strengthened (Williams, 2017). On the other hand, some research has maintained that remittances can have the opposite effect, in that they incentivize corruption in the same way natural resource rents can incentivize corruption within governments (Abdih, Chami, Dagher & Montiel, 2011). This claim was substantiated by more research which suggested corruption was increased by remittance payments, especially among non-OECD nations from the years 1968-2010 (Berdiev, Kim & Chang, 2013).

Additional research has examined the effects of remittances on economic growth and financial development in general in developing countries. More research by Dr. Konte has examined the overall effects of remittance flows. Generally, the financial development of a particular nation was found to have either an insignificant or negative effect on growth, while being a country located in sub-Saharan Africa increased the chances of remittance payments leading to economic growth (Konte, 2014). In a paper published by the IMF in 2009, remittances were found to have a poverty alleviating effect in sub-Saharan African nations. This was accomplished by easing the budget constraint of many poor households (Gupta, Patillo, & Wagh, 2009).

Prior literature on the connection between growth and remittances across the developing world has shown the connection to be more tenuous. For instance, some research has indicated remittances have a tendency to positively affect short and medium growth, but long-term effects were not as strong (Rao & Hassan, 2011). In other literature, remittances were most found to be used frequently as a substitute for more standard capital flows, and they are used more when there is a shortage of credit in the capital markets (Giuliano & Ruiz-Arranz, 2009). Finally, research on remittances and financial sector development across the developing world has also demonstrated various positive effects. Remittance payments have been found to be associated with greater bank deposits and bank receipts across the developing world (Aggarwal, Demirguc-Kunt & Peria, 2011).

Lastly, there has been research done on the connection between remittances and entrepreneurship across various areas of the developing world. Some, such as Reyes et al in 2013, empirically examined how migrants and their remittances affected entrepreneurship in a specific country. Their studied looked at overseas workers (OFWs) from the Philippines and how those

payments were used by the recipients. They found a myriad of effects, such as the recipients frequently used the payments for consumption before they used it for entrepreneurial activities, but that recipients with experience in business planning were more likely to make entrepreneurial investments. Their results also indicated "OFWs with members who are professionals or technicians are likely to have higher income from entrepreneurial activity." (Reyes et al, 2013). The authors used their results to recommend that policies which could contribute to helping recipients build up their savings, which in turn could help them to both cover their consumption needs and possibly invest in more entrepreneurial activities. These results do have support in other research literature.

Remittances have been found to serve as a way to finance microenterprises in Mexico during economic downturns, which can bolster household incomes during those less prosperous times (Shapiro & Mandelman, 2016). In other work, it has been found that neither migration nor remittances had any effects on the odds of a household owning a rural business. Instead, education, credit and infrastructure were positively correlated with the probability of owning a rural enterprise. The author found remittances were often not enough to help people start their own businesses, mostly because the barriers such as poor infrastructure stood in their way (Vasco, 2013). Institutions also become an important part of the development puzzle, especially when in relation to entrepreneurship. Prior literature has found strong political and economic institutions are important for capturing entrepreneurship in the formal sector (Autio & Fu, 2015).

Part III: Empirical Analysis

In order to properly assess the connection between remittances and entrepreneurship, we decided to put together a panel of 73 different countries, with data collected from 2003-2015, to run the statistical model. To assess strength of entrepreneurship in these countries, we relied on

the date from survey conducted by the Global Entrepreneurship Monitor. Their surveys on Entrepreneurial Behaviors and Attitudes are conducted across a broad swatch of countries, and they are aimed at examining the various ambitions and motivations of people pursuing entrepreneurial ventures.

Our first dependent variable, perceived capabilities rate, can be defined as the percentage of the population, age 18-64, who believe they have the required skills and knowledge to start a business. Individuals involved in any stage of entrepreneurial activity are excluded. The second dependent variable is the entrepreneurial intention rate. This is the percentage of the population, age 18-64, who are latent entrepreneurs and who intend to start a business within three years. Total early-stage entrepreneurial activity rate is the third variable. It can be defined as the percentage of the population, age 18-64, who are either a nascent entrepreneur or owner-manager of a new business.

The fourth dependent variable from the GEM is established business ownership rate. This is the percentage of the population, age 18-64, who are currently an owner-manager of an established business. The fifth dependent variable is media attention for entrepreneurship. This can be defined as the percentage of the population, age who agree with the statement that in their country, stories about successful new businesses are often seen in the public media. The sixth variable is the new business ownership rate. This is measured as the percentage of individuals who are currently an owner-manager of a new business. The seventh and final dependent variable is the informal investor rate. It is defined as the percentage of the population, age 18-64, who have personally provided funds for a new business, started by someone else, in the past three years.

We analyze this data by comparing it to data from the World Bank on remittances. This independent variable can be defined as the amount of personal remittances received, as a

percentage of GDP. We also introduce several other variables taken from the World Bank Development Indicators to gain a comparison of other factors which could potentially be influencing entrepreneurship. Examples of these development indicators include the labor force participation rate of females and foreign direct investment in each of the 73 nations. The labor force participation rate of females can be defined as the percent of females 15+ who are in the labor force. Foreign direct investment is simply the direct investment equity flows in the reporting economy. Finally, we introduce an economic freedom of the world variable, taken from the Fraser Institute's Economic Freedom of the World Index. This independent variable is simply the score of each nation's economic freedom, as determined by the Fraser Institute. Table 1 defines all variables and lists the source of each variable.

The summary statistics can be found in Table 2. Due to the large number of countries used in the regressions, the number of observations for all of the independent and dependent variables are quite high. To discuss just a few of the variables, we can look at perceived capabilities rate, remittances as a percentage of GDP, and new business ownership rate. For perceived capabilities rate, we observe a mean of 49.054, a standard deviation of 15.600, and a range of 80.83. For remittances as a percentage of GDP, we observe a mean of 4.118, a standard deviation of 6.726, and a range of 71.742. For the new business ownership rate, we observe a mean of 5.098, a standard deviation of 4.282, and a range of 28.130.

For the empirical breakdown, we utilize both an OLS and fixed effects regressions for the data panels. The results for the OLS regressions can be found in Table 3, while the results for the fixed effects regressions can be found in Table 4. To provide a visual representation of the results, seven scatter plots are given in Figure 1 to illustrate the relationship between the remittances as

percentage of GDP and the individual entrepreneurial activity measures. In most of the scatter plots, we can observe the positive relationship between remittances and the dependent variables.

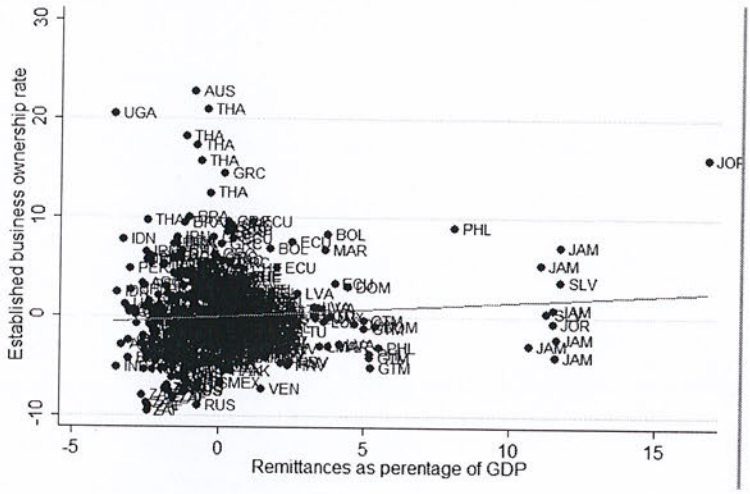
Table 1: Data Description

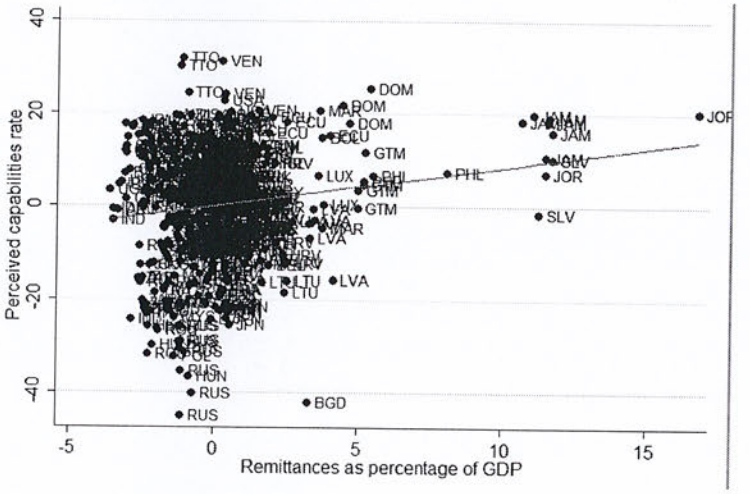
Variables	Definitions	Source
Domestic credits to private sectors	Financial resources provided to the private sector by other depository corporations	World Bank Development Indicators, 2016
Economic freedom of the world	The score of each nation's economic freedom	Fraser Institute, 2015
Entrepreneurial intention rate	Percentage of 18-64 population who are latent entrepreneurs and who intend to start a business within three years	Global Entrepreneurship Monitor, 2014
Established business ownership rate	Percentage of 18-64 population who are currently an owner-manager of an established business	World Bank Development Indicators, 2016
Foreign direct investment	Direct investment equity flows in the reporting economy	World Bank Development Indicators, 2016
GDP per capita (log)	Gross domestic product divided by mid-year population	World Bank Development Indicators, 2016
Informal investor rate	Percentage of 18-64 population who have personally provided funds for a new business, started by someone else, in the past three years	Global Entrepreneurship Monitor, 2014
Labor force participation rate, female	Percent of females 15+ in the labor force	World Bank Development Indicators, 2016
Media attention for entrepreneurship rate	Percentage of population, 18-64, who agree with the statement that in their country, stories about successful new businesses are often seen in the public media.	Global Entrepreneurship Monitor, 2014
New business ownership rate	Individuals who are currently an owner-manager of a new business	Global Entrepreneurship Monitor, 2014
Perceived capabilities rate	Percentage of 18-64 population (individuals involved in any stage of entrepreneurial activity excluded) who believe they have the required skills and knowledge to start a business	Global Entrepreneurship Monitor, 2014
Remittances as a percentage of GDP	Personal remittances, received (% of GDP)	World Bank Development Indicators, 2016
Total early-stage entrepreneurial activity rate	Percentage of 18-64 population who are either a nascent entrepreneur or owner-manager of a new business	Global Entrepreneurship Monitor, 2014

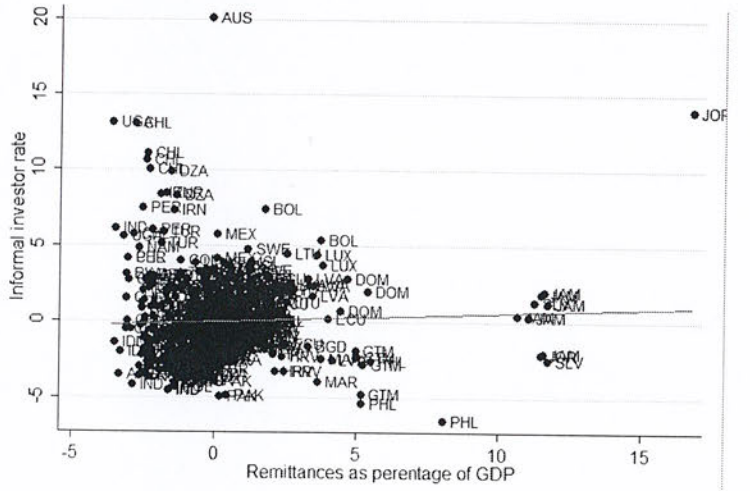
Table 2: Summary statistics

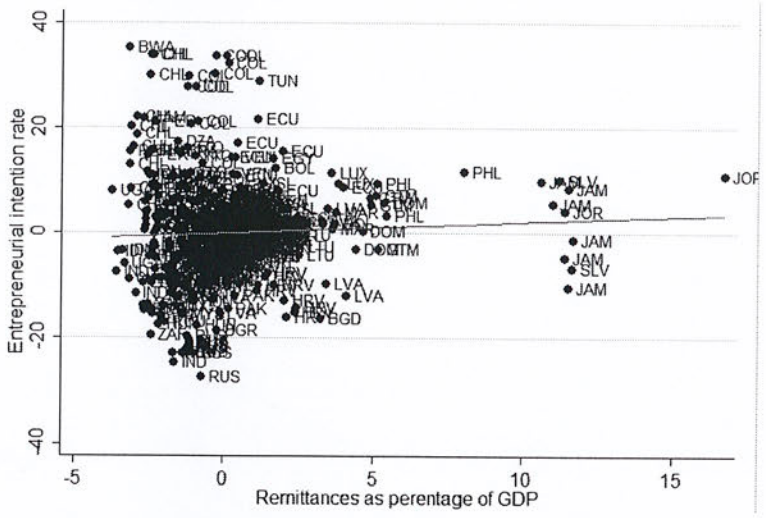
Variable	Obs.	Mean	Std. Dev.	Min	Max
Perceived capabilities rate	727	49.054	15.600	8.650	89.480
Entrepreneurial intention rate	699	18.932	15.163	0.750	90.950
Total early-stage entrepreneurial activity rate	727	11.111	7.723	1.480	52.110
Established business ownership rate	726	7.555	5.129	0.420	37.740
Media attention for entrepreneurship rate	622	60.379	14.577	11.790	95.900
New business ownership rate	727	5.098	4.282	0.000	28.130
Informal investor rate	727	4.975	4.111	0.170	31.280
Remittances as percentage of GDP	4001	4.118	6.726	0.000	71.742
GDP per capita (log)	3873	8.430	1.527	4.808	11.886
Economic freedom of the world	2799	6.493	1.182	2.750	9.150
Labor force participation rate, female	1941	49.287	13.977	5.470	91.600
Foreign direct investment	4355	5.158	16.433	-82.892	466.562
Domestic credits to private sectors	4136	44.954	41.967	0.000	312.154

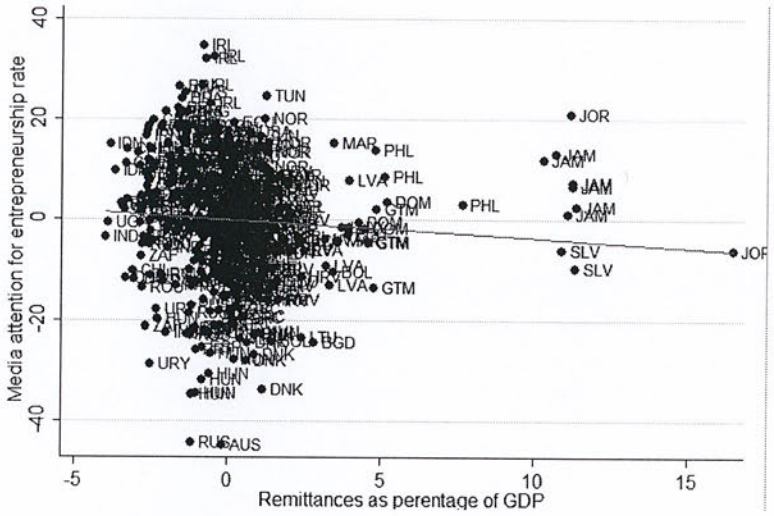
Figure 1: Scatterplots of Remittances and Entrepreneurship Rates

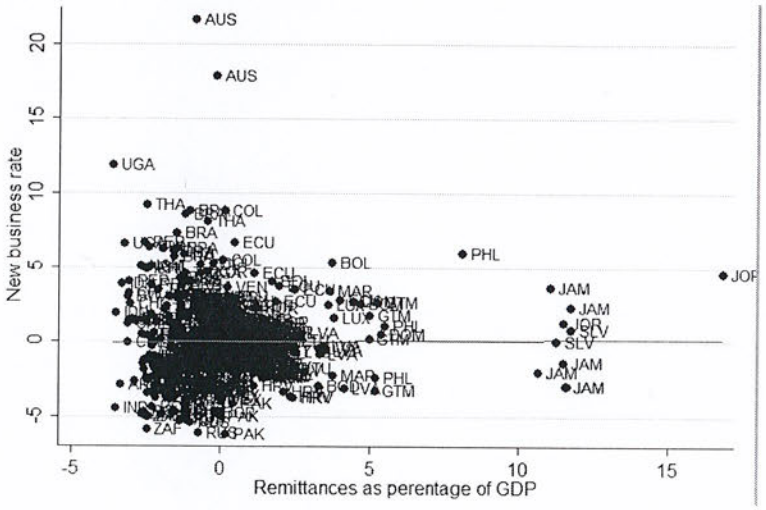


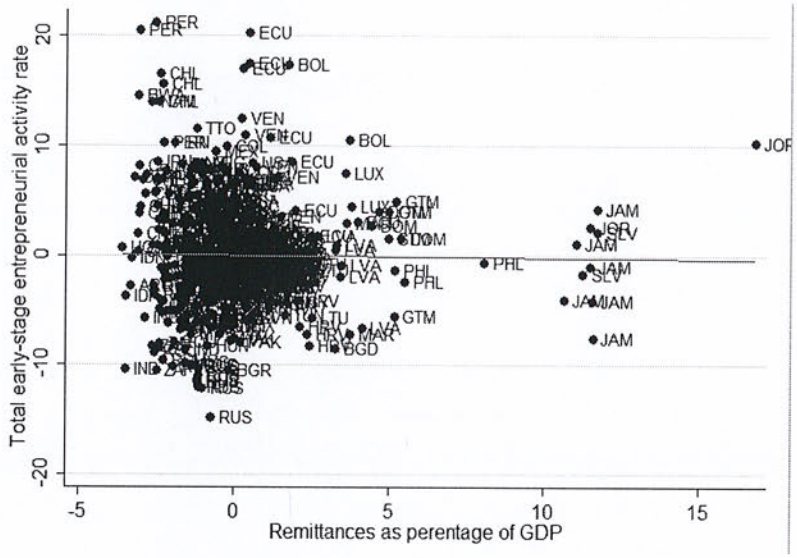





Entrepreneurial intention rate
Remittances as perentage of GDP


Media attention for entrepreneurship rate
Remittances as perentage of GDP


New business rate
Remittances as perentage of GDP



For the OLS regressions, we observe there is a slight but not significant positive correlation between remittances and most of the entrepreneurship activity measures. In this table of results, we can observe for a 10 percent increase in remittances, perceived capabilities rate increases by 8.41 percentage points. While these results seem to suggest the thesis question might have an affirmative but extremely tenuous answer, this panel of results does not tell the entire story.

Overall, the correlations were both positive and more significant between remittances and the entrepreneurship activity measures in the fixed effects regressions, suggesting that controlling for the unobservable characteristics helps to tease out a stronger relationship between our variables. For instance, in these results, we can observe for a 10 percent increase in remittances, perceived capabilities rate increases by 16.67 percentage points. The chances of having omitted variable bias in the standard OLS regressions is quite high with such a large panel of countries. The differences between the formal and informal institutions across the 73 nations could heavily influence the results, so controlling for those unobservable characteristics helps us to see the ties between remittances and entrepreneurship activity measures are promising.

The one activity measure which is negatively correlated with remittances in both panels is the media attention for entrepreneurship rates. In the OLS results, we observe that for a 10 percent increase in remittances, media attention for entrepreneurship rate decreases by 3.66 percentage points. In the fixed effects results, we observe that for a 10 percent increase in remittances, media attention for entrepreneurship rate decreases by 23.71 percentage points. This would theoretically mean for an increase in remittances, people within each country observe a decline in the media coverage of entrepreneurial activities. It is not immediately clear why this negative correlation exists in both panels.

In looking over the other variables across the panels, the results are largely mixed. The labor force participation rate of females is highly significant in the OLS regressions, but in the fixed effects the results appear to be more tenuous. Foreign direct investment rates were largely insignificant in both panels, and domestic credits to private sectors appear to have mixed results across the two panels as well.

Table 3: Remittances and Entrepreneurial Activity Measures, OLS

Dependent vars.	Perceived capabilities rate	Entrepreneurial intention rate	Total early-stage entrepreneurial activity rate	Established business ownership rate	Media attention for entrepreneurship rate	New business ownership rate	Informal investor rate
Remittances as percentage of GDP	0.841***	0.213	-0.025	0.148	-0.366*	0.013	0.060
	(4.323)	(1.242)	(-0.234)	(1.335)	(-1.684)	(0.220)	(0.630)
GDP per capita (log)	-5.032***	-7.686***	-4.654***	-1.648***	-9.038***	-2.325***	-1.317***
	(-6.123)	(-11.723)	(-11.672)	(-3.538)	(-12.993)	(-8.532)	(-4.464)
Economic freedom of the world	1.239	-1.057	0.072	-0.840**	1.117	0.017	1.084***
	(1.026)	(-1.236)	(0.140)	(-2.084)	(1.134)	(0.064)	(3.931)
Labor force participation rate, female	0.223***	0.207***	0.258***	0.106***	0.602***	0.121***	0.066**
	(3.854)	(4.142)	(9.972)	(3.351)	(9.997)	(7.010)	(3.022)
Foreign direct investment	0.005	0.024	0.019**	-0.008	-0.008	0.006*	0.003
	(0.333)	(1.277)	(2.488)	(-1.442)	(-0.269)	(1.763)	(0.425)
Domestic credits to private sectors	-0.065***	-0.037***	-0.014**	0.018**	0.037**	-0.000	-0.008**
	(-4.378)	(-4.387)	(-2.964)	(3.082)	(2.654)	(-0.043)	(-3.053)
Constant	80.770***	91.388***	43.196***	22.368***	105.746***	20.956***	6.587**
	(10.463)	(14.375)	(12.630)	(6.115)	(13.736)	(9.992)	(3.296)
Observations	576	559	576	575	497	576	576
R-squared	0.285	0.506	0.458	0.151	0.261	0.368	0.182
Number of countries	73	73	73	73	73	73	73
Adj. R-squared	0.277	0.501	0.452	0.142	0.252	0.361	0.174

Table 4: Remittances and Entrepreneurial Activity Measures, Fixed Effects

Dependent vars.	Perceived capabilities rate	Entrepreneurial intention rate	Total early-stage entrepreneurial activity rate	Established business ownership rate	Media attention for entrepreneurship rate	New business ownership rate	Informal investor rate
Remittances as percentage of GDP	1.667**	1.244**	0.121	1.246**	-2.391**	0.442*	0.641*
	(2.115)	(2.030)	(0.184)	(2.275)	(-2.358)	(1.783)	(1.712)
GDP per capita (log)	1.245	4.649	2.027	2.293	-0.206	0.170	0.736
	(0.226)	(0.825)	(0.620)	(0.763)	(-0.029)	(0.088)	(0.458)
Economic freedom of the world	1.678	-1.307	-0.201	-0.790	4.291	0.259	0.007
	(1.202)	(-0.603)	(-0.248)	(-1.411)	(1.477)	(0.545)	(0.015)
Labor force participation rate, female	0.056	0.440**	0.170**	0.152	-0.087	0.091	0.249***
	(0.470)	(3.130)	(2.255)	(1.138)	(-0.378)	(1.392)	(5.240)
Foreign direct investment	0.013	-0.008	-0.002	-0.003	-0.041**	0.001	-0.005**
	(1.039)	(-0.608)	(-0.538)	(-0.911)	(-2.429)	(0.383)	(-2.075)
Domestic credits to private sectors	0.016	-0.016	-0.006	0.005	-0.011	-0.004	0.005
	(1.002)	(-1.065)	(-0.775)	(0.634)	(-0.354)	(-0.788)	(1.039)
Constant	16.330	-42.636	-16.672	-19.497	38.631	-4.032	-16.979
	(0.312)	(-0.875)	(-0.533)	(-0.668)	(0.582)	(-0.210)	(-1.094)
Observations	576	559	576	575	497	576	576
R-squared	0.029	0.078	0.038	0.087	0.039	0.029	0.165
Number of countries	73	73	73	73	73	73	73
Adj. R-squared	0.019	0.068	0.028	0.077	0.027	0.018	0.156

Part IV: Conclusion

The results obtained in the empirical analysis, especially in the fixed effects regressions, do appear to be quite promising. A positive correlation between remittances and the entrepreneurship activity measures does appear to exist. This could potentially point to remittance payments being a driver of entrepreneurial ventures. However, a key goal of conducting this type of research was not just to answer the baseline thesis question, but also to hopefully serve as a starting point for much more future research on this subject area, and especially research utilizing the GEM data.

There are many opportunities and ways in which this type of analysis could be improved upon. For example, an important way to dig deeper into this data would be to analyze individual countries, instead of creating a broad panel analysis. Concentrating on a particular geographic region, such as Latin America or sub-Saharan Africa, a researcher could compare and contrast how the GEM data and remittances are related by really digging into firm level data in one nation, or perhaps across two or three nations. In fact, when I started this project, the goal was to isolate sub-Saharan Africa, instead of looking at the entire world. Unfortunately, there were not enough observation within the GEM surveys from that region to put together a thorough paper. I hope that in coming years, the GEM will be able to put together more consistent survey results from the region. Obviously, there are difficulties in gathering data such as this from nations in sub-Saharan Africa, but if gathered more frequently, they can go a long way to helping researchers understand the varied dynamics of entrepreneurship.

The introduction of more explicit variables related to institutions could be hugely important. Examining a variable such as democratic institutions could go a long way into helping us understand the role governmental institutions play in entrepreneurship across the developing

world. In looking at variables from our regression tables which could be expanded upon, economic freedom is one which could benefit from more concentrated analysis. In theory at least, in a nation which is more economically free, it should be easier for the citizens of that country to explore entrepreneurial ventures. There should be plenty of opportunities there to further analyze that relationship.

The negative relationship established between remittances and media attention could also serve as a basis for more research. For example, since it is perceived media attention, further research could look into the exact reasons why people do not observe an increase in media coverage. This could be tied to an oppressive government who does not approve of entrepreneurs, or it could be due to a country's particular culture as to why they do not approve of entrepreneurs. There are many possible theories, and the approach of this paper does not do much to address these questions.

Hopefully, the research in this paper can contribute on the margins to the existing literature on international and development economics. Understanding the role remittances play in the field of international development will be important for helping policymakers to craft more effective strategies for approaching international development. For example, foreign aid policies have long been a contested part of the international development space. If research is able to consistently show monetary transfers such as remittance payments are driving entrepreneurial activity in the developing world, that could have implications for how policymakers approach development policies such as foreign aid. While I am well aware the chances of some high-level official ever reading this paper are slim, if the research examined here can help to serve as a jumping off point for more detailed analyses of this subject matter, that will be a good enough contribution to the literature.

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