How Remittances Are Changing Poverty Spending in Central America

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Abstract

In the past two decades, remittances have overtaken official development assistance to developing countries while eclipsing other vehicles of development such as foreign direct investment. This begs the question of how these multinational transfers between households are affecting the role of governments in matters pertaining to poverty alleviation. This project will answer this question by analyzing what the effects of remittances and levels of democracy have on government social spending in Central American countries. This project hypothesizes that as remittances increase, the level of social spending in those countries will decrease and that this effect will be stronger in more autocratic societies.

Background

The purpose of this statistical analysis is to look at how an increased dependency on remittances coupled with a country's level of democracy has affected Central American Countries' spending on poverty alleviation. When it comes to Latin America, the study of these effects has typically focused on Mexico. Although Mexico does receive a large share of remittances, which are monetary transfers migrants send back to their home country, an argument could be made that the countries in Central America are more dependent on them. This argument is based on how remittances make up a larger share of these countries' Gross Domestic Product (GDP) (Bank, 2017).[1] This paper uses GDP to show dependency because it measures the production output of a country and is used as an economic indicator of a country's performance. If this dependency exists, it becomes even more important in light of President Trump's refusal to renew temporary protected status for Salvadorans and Hondurans, as well as his policies which attempt to limit their entry into the United States. His refusal means that these immigrants would not be able to send remittances back to their home countries. Therefore, to understand the effects of remittances, it is important to branch out of the typical data samples so that one can create a more nuanced understanding of their effect.

The relevance of probing the effects of remittances on poverty reduction is evident to all the scholars that have approached the question. These multinational monetary transfers are used as supplementary income as well as substitution for income depending on the case (Fajnzylber, 2008). In Central America, 20% of some countries' populations live outside their nation of origin (Pew, 2017). Through their remittances, these individuals have an aggregate effect on macroeconomic indicators (Fajnzylber, 2008). As a result, the individuals residing in the home countries become dependent on these sums of cash to maintain their livelihoods. The dependency this creates is exemplified through the proportion of the home country's GDP that consists of remittances (Bank, 2017). However, although there is a lot of existing research on how this dependency on remittances affects poverty, very little looks at whether the amount of remittances affects the government's decision to spend on poverty. Considering that many studies find that there is a relationship between remittances and poverty, which governments claim that they are consistently trying to eradicate, would it be nonsensical to assume that there might be a relationship between government poverty eradication spending and remittances? If such a relationship existed, would the type of

[1] This excludes Costa Rica, Belize, and Panama which will not be analyzed in this paper.

regime prevalent in a particular country have any effect on this relationship? These questions are what this analysis seeks to explore. Furthermore, this project will hypothesize that:

1. In countries where the poor receive a larger than average share of remittances (El Salvador and Guatemala), the government will reduce their spending on the poor which will be indicated by the number of people receiving conditional cash transfers.
2. The effect mentioned in the first hypothesis will be stronger in less democratic countries.

There are many advantages to looking into Central America. Similar history, geography and resources make it a lot easier to understand the factors driving conditional cash transfers, our dependent variable. Conditional cash transfers are transfers of money given to the poor by Central American governments to incentivize elementary school enrollment and prenatal care. Furthermore, the cases selected in Central America all have 10% of their GDP or more coming from remittances (Bank, 2017) and are all within the partly free ranking when it comes to their level of democracy scores (House, 2017). These similarities are helpful in that they create an appropriate environment for analysis. In addition to these factors, Central American countries also instituted similar poverty alleviation policies (Programas, 2017). The similarity of these policies allows for a more robust evaluation of how remittances and democracy levels affect government spending. Lastly, the migration patterns for these countries are also alike, with the majority of immigrants moving to the United States in hope of fleeing violence and finding better economic opportunities (Kate, 2011). All these factors considered, it makes sense to look at Central America because the level of homogeneity that exists in that region allows one to better evaluate the degree to which democracy and remittances affect poverty alleviation. This study's findings suggest that that El Salvador and Guatemala experience a reduction in the proportion of people receiving conditional cash transfers as remittances go up and the regime becomes less democratic. For Honduras and Nicaragua, there is actually an increase in this proportion, and each finding is statistically significant except in the case of Guatemala.

Methods

This portion of the paper is a quantitative analysis that looks at the relationships between remittances, government spending, regime type and poverty. The majority of the data is drawn from multilateral institutions such as the World Bank and the rest comes from the Freedom House Index or the United Nations. The data which was gathered for this quantitative analysis spans roughly 30 years for

each variable. The analysis is conducted by using linear regression models whereby remittances and democracy are independent variables, and the proportion of people receiving conditional cash transfers is treated as the dependent variable. It is also important to note that due to the way Freedom House collects data, the higher the number is for the democracy variable, the less democratic the country (House, 2017). This analysis looked at these effects on all the countries in one model and then proceeded to look at them individually.

Quantitative Data

In order to figure out how remittances affect poverty in light of regime, this study had to pick which type of remittances indicator it would use in order to represent remittances. The study ended up settling on remittances as a percent of GDP. As mentioned earlier, this indicator was picked because it is the best at measuring the strength of an economy and because there is consistent data for the study's time frame. All of this data was available on the World Bank website and it was present for each Central American country in this study. The data for remittances as a percentage of GDP started in 1991 and ended in 2017. This time frame was chosen to analyze remittances at a time when they were not a significant portion of Central American economies to when they became one so that this paper could better track changes to the dependent variable.

The other variable that this study needed to measure was regime type. To do this, this study turned to the Freedom House index which measures levels of democracy within a country by putting them on a scale of 1 to 7 whereby a score of 1 is completely free and a score of 7 is the least free (House, 2017). Although the initial goal was to compare democracies versus autocracies, this study quickly encountered a problem due to Freedom House's methodology. To begin with, the majority of the countries examined were in the partly free range (3-5), meaning that they were neither totally free nor completely autocratic (House, 2017). To account for this, the study had to change the way it was describing regimes in its analysis. Rather than say if a regime falls into the dichotomy of either a democracy or an autocracy, this study instead chose to describe regimes as either being more democratic (lower scores) or less democratic (higher scores). This was done because this better suited Freedom House's data. In addition, this study was able to find the data it needed from 1991 until 2017.

There were two aspects of poverty reduction that this study wanted to capture. The first was how much the government spends on poverty reduction and whether it fluctuates due to remittances.

Many studies have looked at education spending as an indication of government spending on poverty; however, this study wanted to capture the funds that go directly to the poor of a country. That is why this paper decided to look at conditional cash transfers because they are transfers of money that go directly to the poor to cover a variety of costs. The best data for conditional cash transfers in Central America was available on the United Nations website which keeps records of conditional cash transfer programs throughout Latin America. However, the amount the different governments spent on conditional cash transfer was often either an estimate or it was missing. Due to the gaps in this information, this study decided that it was better to look at the proportion of the population receiving conditional cash transfers rather than the dollar amounts being spent by Central American governments. Although this data set had many gaps due to poor reporting, it had the best information on conditional cash transfers. Another obstacle with this data set was that the majority of conditional cash transfer programs began in the early 2000s instead of the 1990s which is where the analysis conducted by this study began—which significantly lowered the sample size.

The other aspect of poverty that this paper attempted to look at was the poverty headcount measure. This measure looks at the number of people under the poverty line within a country (Bank, 2017). The purpose of looking at this measure was to see whether the number of people experiencing poverty is going down while remittances are going up and to further inspect if this relationship is stronger in less or more democratic regimes. Another purpose is to see how programs such as conditional cash transfers affect the population of individuals experiencing poverty. To get this data set, this study turned to the World Bank yet again. However, unlike in the case of remittances, there was missing data for most years, so this paper decided to discard this measure.

Findings

The first main model looked at how remittances affected the proportion of people receiving conditional cash transfers. In this case, remittances as a percentage of GDP was the independent variable while the proportion of people receiving conditional cash transfers was the dependent variable. This study hypothesized that as remittances got larger over time, the proportion of people receiving conditional cash transfers would decrease. This hypothesis was tested by running a linear regression model. Upon doing running the regression, this study found that while remittances as a percentage of GDP got larger over time, the population of individuals receiving conditional cash transfers decreased. However, although the findings were consistent with the hypothesis, this finding

was not statistically significant which would suggest that something other than remittances is driving how many people receive conditional cash transfers.

The second model looked at the effects of democracy on the number of people receiving conditional cash transfers. This study hypothesized that the less democratic a country was, fewer people would receive conditional cash transfers. This was assumed because previous studies that have looked at democracy have concluded that the more democratic a country the more likely it is to engage in social spending (Jennings, 2014). Due to conditional cash transfers being a kind of social spending, this study hypothesized that the effect seen in previous studies on regime type and social spending would translate to the analysis this study conducted. Upon running a linear regression model to test this, this study found that in terms of statistically significant results, the majority of findings showed that the dependent variable was going in a different direction than expected. The less democratic a country was correlated with a larger proportion of people within the country receiving conditional cash transfers. This finding was statistically significant and would suggest that lower levels of democracy correlate with more expansive forms of poverty reduction.

Table 1: Remittances and Democracy's effects on Conditional Cash Transfers

Indicators	Remittances	Democracy
	Model 1	Model 2
Intercept	-0.19771*	-0.19771*
	(0.08184)	(0.08184)
Conditional Cash	-0.00127	0.09206***
Transfers		
	(0.00217)	(0.02369)
N	31	31
R squared	0.349	0.307

Table 1. Estimated coefficients and standard errors for the models comprising the *Remittances and Democracy's effects on the proportion of people receiving Conditional Cash Transfers.* Significances codes are two sided tests, all calculated prior to rounding to two significant digits;
0.01,***, 0.05**,0.10*.

However, in spite of these findings in Table 1, this study still had not tested the main hypotheses which was that as remittances as a percentage of GDP increased, the proportion of individuals receiving conditional cash transfers would decrease and that this effect would be more pronounced in less democratic countries. With the previous findings of remittances and democracy, this study decided that the only way to truly test the first hypothesis was to make the variables of democracy and remittances interact so that one could perceive their effect on conditional cash transfers. Furthermore, because four distinct countries were being looked at, this study decided to analyze them all individually so that it could see whether there were country specific factors that would create divergent effects.

The first country this study looked at was Honduras. After a running a linear regression model where the interaction of remittances and democracy's effect on the percentage of population receiving conditional cash transfers was analyzed, this study found that the effect was positive and statistically significant. This means that the increase in the variable that catches the interaction of remittances and democracy over time correlates with an increase in the population of individuals receiving conditional cash transfers. This finding goes against the previously stated hypothesis in which this study anticipated to see fewer people receiving conditional cash transfers under the assumption that less democracy and increasing dependence on remittances would result in Central American governments spending less on their populations.

Table 2: Honduras Findings

Country	Honduras
	Model 1
Intercept	0.0312481
	(0.0140081)
Remittances and Democracy Interaction	0.0007998*
	(0.0003183)
N	7
R squared	0.4742

Table 2. Estimated coefficients and standard errors for the models comprising the interaction of *Remittances and Democracy's effects on the proportion of people receiving Conditional Cash Transfers in Honduras.* Significances codes are two sided tests, all calculated prior to rounding to two significant digits; 0.01,***, 0.05**,0.10*

Nicaragua had similar significant findings. This means that the interaction of remittances and democracy positively correlated with proportion of the population receiving conditional cash transfers. Furthermore, this relationship between remittances and democracy as influencers of the number of people of receiving conditional cash is significant.

Table 3: Nicaragua Findings

Country	Nicaragua
	Model 1
Intercept	-0. 0334046*
	(0. 0129305)
Remittances and Democracy Interaction	0. 0021069**
	(0. 0004906)
N	5
R squared	0.7867

Table 2. Estimated coefficients and standard errors for the models comprising the Interaction of *Remittances and Democracy's effects on the proportion of people receiving Conditional Cash Transfers in Nicaragua.* Significances codes are two sided tests, all calculated prior to rounding to two significant digits; 0.01,***, 0.05**,0.10*

However, the findings in El Salvador and Guatemala showed that the dependent variable veered in the opposite direction when the interaction of remittances and democracy was analyzed. In the case of El Salvador, the findings showed that an increase in the interaction variable correlated with a reduction in the amount of people receiving conditional cash transfers. This means that in El Salvador, as remittances as a percentage of GDP increased and the regime became less democratic, there was a downward trend for the number of people receiving conditional cash transfers. Not only was this finding statistically significant, it was also consistent with the hypothesis stated earlier in this paper that such an interaction would have a negative impact on the dependent variable.

Table 4: El Salvador Findings

Country	El Salvador
	Model 1
Intercept	0. 1103879***
	(0. 0177761)
Remittances and Democracy Interaction	-0. 0019611***
	(0. 0003646)
N	10
R squared	0.7431

Table 2. Estimated coefficients and standard errors for the models comprising the Interaction of *Remittances and Democracy's effects on the proportion of people receiving Conditional Cash Transfers in Nicaragua.* Significances codes are two sided tests, all calculated prior to rounding to two significant digits; 0.01,***, 0.05**,0.10*

Guatemala had similar findings to that of El Salvador, minus the fact that the finding was not statistically significant. This means that there are other factors besides remittances and democracy that are probably driving how much of the population will receive conditional cash transfers, whereas remittances and democracy are poor predictors. However, this does not completely remove remittances and democracy as influencers of the number of people receiving conditional cash transfers. It is also important to note that there was a lot of missing data for many of these countries which could have potentially swayed the outcome from statistical significance. However, the finding still confirmed the hypothesis despite it being statistically insignificant.

Table 5: Guatemala Findings

Country	El Salvador
	Model 1
Intercept	0. 60521
	(0. 53232)
Remittances and Democracy Interaction	-0. 01003***
	(0. 01373)
N	4
R squared	0.1178

Table 2. Estimated coefficients and standard errors for the models comprising the interaction of *Remittances and Democracy's effects on the proportion of people receiving Conditional Cash Transfers in Guatemala.* Significances codes are two sided tests, all calculated prior to rounding to two significant digits; 0.01,***, 0.05**,0.10*

Discussion and Implications

As noted in the findings section, the countries looked at in this study were split between seeing the interaction of democracy and remittances as having a positive effect on the percentage of people receiving conditional cash transfers and others having a negative effect. Honduras and Nicaragua both experienced a positive outcome while El Salvador and Guatemala experienced a negative outcome. Among these outcomes, only Guatemala did not have a statistically significant outcome while the others had one going in either direction. Furthermore, due to tests conducted at the beginning of this analysis whereby the effect of remittances and democracy on conditional cash transfers were looked at separately, it is clear to see that the level of democracy has a stronger influence on the outcomes.

However, these findings do raise the question of what is influencing the interaction of democracy and remittances to have differing effects that are both statistically significant? Looking just at Honduras and El Salvador, because scholars have explored Nicaragua in depth, it is apparent that there is an underlying factor that is unaccounted for that is causing these countries to have such differing outcomes. Furthermore, the levels of democracy seem to have stronger influence on the percentage of individuals receiving conditional cash transfers. Considering that both of these countries are within the same range when one considers levels of democracy and remittances as a percentage of GDP, a more thorough qualitative analysis is needed to examine what specific

aspects of these variables are causing these countries to diverge in outcomes. That is why the next portion of this project will focus on other aspects of the countries in attempt to provide a deeper understanding of what causes the divergence.

About the Author

Kuvimbanashe Edwin Chikukwa is a 4th year Political Science major enrolled in the political science honors program. He was an Undergraduate Research and Creative Activities Slam finalist and will be graduating with honors from the College of Letters and Science.

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