Remittances and Preferences for Redistribution Through the Global Financial Crisis

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Abstract

The literature on the political economy of remittances largely agree that as households receives income from migrants abroad they will be less dependent on government goods and patronage. The underlying assumption is that remittance inflows are stable and increasing. The global economic recession of 2008/2009 led to major declines in remittance inflows. This paper asks two different but related questions: 1) Do remittance recipients support redistribution? and 2) Do preferences for redistribution change following a negative shock to remittances? Using three waves of survey data, I find that remittance recipients diverge from non-recipients in favoring redistribution following the global economic crisis. I test for possible mechanisms such as dependence on remittances and relative income levels to explain this change in preferences. I find that respondents who are more dependent on remittances are more likely to favor redistribution following the economic crisis.

1   Introduction

Remittances to the developing world are largely praised as a significant source of income that pull many households out of poverty and improve human capital. By 2008, the global volume of remittances grew to be a greater source of income than foreign aid and foreign direct investment (Sirkeci, Cohen and Ratha 2012). Recent scholarly work has paid attention to the political consequences of remittances from economic policy choices, voting behavior, and government spending. The body of literature largely agrees that remittances sever the clientelistic relationship between citizen and the state. With rising inflows of remittances, citizens can enter the private market, which in turn allow governments to decrease social spending. The arguments that underlie these works implicitly assumes that remittances are stable with prospects of increasing income in the foreseeable future. The data of remittance inflows to the developing world show rapid increases since 1990.

However, the global economic recession in 2008 and 2009 produced major declines in remittances around the world and hurt those that are dependent on these private transfers. The financial crisis that hit the United States in late 2008 and 2009 left many migrant workers without employment, especially those in the construction sectors. Consequently, these migrants sent fewer remittances to their families. For example, the housing crisis that began in the United States in 2008 eventually led to declining remittances that negatively affected Central American economies a year later.[1] In a region where remittances can make up as much as 20% of the GDP, the global financial crisis exposed remittance-dependent countries to greater economic risk from abroad.

If rising remittances sever the relationship between recipients and their governments, what happens when there is a negative shock in remittances? Do citizens return to a prior relationship with government? As remittances recover to pre-crisis levels, will recipients return to rejecting government goods and services or will the negative shock become a learning experience? The literature only looks at remittances as a stable source of income, and the possibility of their decline is not considered. This paper will focus

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[1]See Inchauste and Stein (2013)

on whether remittance recipients favored government redistribution before and after the U.S. financial crisis, which corresponds to the sudden decline and eventual recovery of remittance inflows.

I argue that remittance recipients will favor government redistribution as an additional insurance against risk. Remittance recipients will not sever ties with their governments because they do not have strong economic security themselves. When remittances are in decline, we should expect remittance recipients to favor redistribution. The experience of remittance decline will *expose* recipients to greater economic risk. Even as remittances return to pre-crisis levels, recipients understand that this supplemental income (or main source of income) is not as stable as they had previously thought. Just as remittances are received to insure against local economic risk, government redistribution is favored as insurance against international economic risk the household faces through migration.

I test the argument using survey data from Latin American countries where remittances contribute substantially to the economy. The countries selected for the analysis are the Dominican Republic, Guatemala, El Salvador, Honduras and Nicaragua. These countries mainly receive remittances from the United States and experienced a sharp decline in the private transfers following the economic crash of late 2008. I use three waves of the Latin American Public Opinion Project (LAPOP) survey (2008, 2010, 2012) to capture the contexts of peak, crash, and recovery of remittance inflows. Prior to the economic crisis, there are no significant differences between remittance recipients and the rest of the population in regards to preferences for redistribution. Remittance recipients begin to diverge from the rest of the population in 2010 in favor of redistribution and there is a clear difference by 2012. Those who highly depend on remittances are more likely to favor redistribution following an economic crisis.

I also test an alternative explanation arguing that the relationship between remittances and redistribution is more of an income effect than that of risk. Rising income from remittances allows the household to pursue private alternatives to government goods, thus rejecting redistribution. The economic crisis negatively effects the income of remittance recipients, which would lead them to favor remittances. As remittances recover,

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the increase in total income will lead recipients to return to rejecting redistribution. I find no evidence for this income effect.

This paper incorporates ideas from the politics of redistribution in developed countries, along with recent work on the political economy of remittances. I use the economic crisis to examine whether sudden drops in remittances affect political attitudes. Nearly all work on remittances takes place in the context of rising remittances or cross-sectional comparisons, but very few estimate longitudinal effects.[2] Any sort of effect from the remittance decline may have implications on other political behaviors such as change in party preferences and engagement with the state. Also, economic crisis may produce contrasting behavior among remittance recipients that may run contrary to previous findings on how remittances lead to political disengagement.

I begin with a brief review of the literature on the political economy of remittances. In the third section, I present the argument that remittances will lead to greater demand for redistribution through risk. I then present my case selections and the importance of remittances in those countries. In section 5, I present the research design followed by the logistical regression results. The final section concludes.

2 Literature Review: Remittances and Redistribution

Remittances have been found to decrease poverty and improve human welfare but they do not necessarily decrease inequality. The early waves of migration are composed of middle class individuals who were better able to bear the high costs of moving to a new country. As migrant networks develop in the destination country, the cost of migration decreases and allows individuals from lower incomes to bear the costs of moving. Studies of rural communities show that villages with high prevalence of migration see reduced inequality upon receipt of remittances, whereas those with low prevalence see increases in

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[2]Frankel (2011) shows how remittance levels rise and decline responding to home-country economic performance. O'Mahony (2013) and Nyblade and O'Mahony (2014) show the remittance inflows rise during election years.

inequality (Stark and Bloom 1985; Stark, Taylor and Yitzhaki 1986; Barham and Boucher 1998; McKenzie and Rapoport 2007) Acosta et al. (2008) find that remittances increase inequality in Latin American countries where migrants are from the middle incomes of society and more educated than the rest of the population, as in Peru and Ecuador. In countries where migrants tend to be from the poorer classes, such as those in Central America, remittances have an equalizing effect (Acosta et al. 2008; Acevedo and Cabrera 2014).

There is near consensus in the scholarly literature that remittances will generate a substitution effect, which generates an expectation that recipients will distance themselves from government. Remittances increase the income of the household. In doing so, basic necessities are met, consumption increases, and more importantly, relationships with government actors change. In particular, remittances sever clientelistic ties with political actors (Ahmed 2012; Abdih et al. 2011; Burgess 2012; Diaz-Cayeros, Magaloni and Weingast 2003; Tyburski 2012; Pfutze 2012; Escribà-Folch, Meseguer and Wright 2015). Households are no longer dependent on government goods because migrant income from abroad allows them to increase consumption in the private market. In other words, remittance recipients can opt out of government services and goods.

Governments respond to rising remittances by reducing public spending and in some cases, by increasing patronage. Ahmed (2012) argues that increases in remittance inflows and the substitution effect they produce will incentivize governments to increase their own consumption and be more corrupt. Remittances, just like emigration, can act as a safety valve for governments to hold on to power (Iskander 2010). As inflows increase, along with the growth of the receiving population, governments are "off the hook" in supplying public and private goods. Adida and Girod (2011) note that remittance recipients will bypass government assistance to acquire and develop public goods themselves. Remittances will cause disengagement with the government, which can benefit incumbent governments in staying in power (Bravo 2008; Goodman and Hiskey 2008).

The substitution effect generated by remittances can also produce greater political engagement. The substitution effect not only breaks clientelistic ties, but also leads to

decreases in corruption and losses for incumbent parties (Tyburski 2012; Pfutze 2012; Escribà-Folch, Meseguer and Wright 2015). This group of work argues that remittances decrease the costs of political participation. With the clientelistic relationship dissolved, recipients have greater capacity to voice opposition to incumbents and make different demands. This can alter the behavior of incumbents to engage with remittance recipients or allow opposition parties to attract support from recipients.

Under certain conditions, remittances could lead to favorable views of the role of the state. Duquette-Rury (2014) finds that remittances, when sent collectively, will empower recipients and lead to greater engagement with local government officials to distribute more public goods. Local officials are incentivized to partner with migrant associations as a way of maintaining support. Meseguer, Lavezzolo and Aparicio (2016) show that receiving remittances alone does not generate favorable views for redistribution. High levels of contact with relatives abroad and dependency on remittances on household income will lead to preferences for an enhanced role of the state in the economy. They find the effect of "social remittances" to be strongest among the least developed Latin American countries.

Doyle (2015) argues that remittance recipients will reject redistribution and hesitate to bear the costs of such policies. He contributes to the debate by emphasizing the role of taxation and benefits of redistribution for the remittance recipient. Remittances act as a substitute to social welfare transfers in protecting households from economic risks. Furthermore, Doyle argues that remittance recipients are more likely to favor right-wing parties who also favor decreasing redistribution resulting in decreases government spending. This argument is based on two important premises. First, "those who begin receiving remittances from abroad on a regular basis will have expectations of higher future income and consequently expectations of upward social mobility" (789). In line with Benabou and Ok (2001), prospects of social mobility will influence recipients in opposing government redistribution. Second, the tax on remittances, via consumption taxes, will likely outweigh the returns from social transfers. Doyle's argument resonates with the state of the literature on the political economy of remittances where recipients

will have greater autonomy from the state and choose market alternatives based on the tradeoff of remittance income loss from taxation and the benefits from redistribution.

Most work on remittances assumes that they are stable. In particular, there is an assumption that remittance recipients expect these international transfers to be stable. This assumption helps formulate why recipients are reticent about government redistribution. However, the volume and consistency with which remittances are sent are conditional to the economic fortunes of the migrants abroad. The literature does not consider the possibility of declining incomes among migrants abroad. The financial crisis of 2008-2009 caused remittances to decline for the first time since 2000 (Sirkeci, Cohen and Ratha 2012; Inchauste and Stein 2013). Given the literature's assessment that remittance recipients will reject redistribution, should we expect recipients to change their preferences when remittances decline?

3   Risk, Remittances and Redistribution

Diversifying against risk is a major motivation for migration. Poor and middle-income households may choose to send a family member abroad to diversify against risk(Stark and Bloom 1985; Massey et al. 1993). The portions of the wages made abroad are transferred to the home country as remittances to become an insurance mechanisms that covers possible income losses deriving from the home country. Remittances can act as insurance for developing countries when local economies experience economic downturns or crises. Remittances have been shown to increase in response to economic downturns (Frankel 2011; Kapur 2010). These international transfers can also become a valuable source of aid for many families when countries experience natural disasters (Clarke and Wallsten 2004; Yang and Choi 2007; Yang 2008).

In addition to protection from local risks, the surplus in income generated by remittances will allow households to meet basic necessities and cover health and education expenses. For low-income households, remittances helps lift families out of poverty and potentially invest in human capital. For those who already meet basic needs, remittances

provide additional funds for further investment in education and health for household members. Remittances can also increase basic consumption of goods that were not possible without the additional income. Thus, in addition to economic protection remittances can allow households greater economic consumption.

As discussed earlier, remittances may be assumed to be a stable source of income to protect against domestic economic risks. Given both the stability and increase in remittances for household income, there is the expectation that recipients will bypass government services for private alternatives. This perspective generalizes remittances, and the intention to migrate, as one of maximizing economic utility. Redistribution can be seen as a way of undermining remittances through taxation. As Doyle (2015) argued, the expectation of higher future income will create a preference to oppose redistribution.

Despite remittances being a source of protection against domestic economic risks, remittances in themselves can expose the household to *external* economic risks. Remittances are a function of the migrant destination economy. Scholars have often used the economic performance of the destination country as an instrument for remittance inflows to the home country. Remittance receiving households are therefore linked to the fortunes of an external economy. Any potential economic downturns will negatively affect migrant income, which will later affect household income in the home country through a decrease in remittances (Sirkeci, Cohen and Ratha 2012). Therefore, a negative economic shock in the destination country will expose the remittance receiving household to greater economic risk. Remittances can insure against domestic economic risk while simultaneously exposing that same household to greater risk exposure through these international links.

Remittances can expose households to greater risk in the global economy. The rise in unemployment caused by the economic recession in the United States and other developed countries in late 2008 and 2009 suddenly left many households in developing countries with less income. Migrants are often hardest hit by economic crisis in developed countries and the remittances sent home see significant declines (Roig and Recaño-Valverde 2012; Inchauste and Stein 2013; Orozco 2009). Since the recession, remittance levels have recovered, but whether they are still perceived as stable source of insurance and its

implications on redistribution is a new question.

Experiencing a negative shock to remittances will change the prior assumptions of these international transfers and it will alter preferences for redistribution. Economic risk can shape favorable attitudes for government redistribution since it can be perceived as an insurance mechanism (Moene and Wallerstein 2001). The probability of unemployment and future loss of income can drive citizens to support redistribution (Iversen and Soskice 2001; Rehm 2009, 2011). In the event of a sudden decline in remittances, recipients may feel more inclined to support redistribution through a learning process. Once seen as insurance, the loss of remittance income makes it a risk in itself. If the additional income from remittances is seen as protection, so should the possible additional income from redistribution. Experiencing a sudden loss of income from remittances will influence recipients to demand insurance against possible losses of remittances in the future. The greater the loss, the more likely recipients will favor redistribution.

The loss of remittance income will restrict and decrease the access to private services and consumption of goods. Households may find it difficult to access private education and health services from the loss of remittances. In other words, access to private alternatives decrease. Remittance receiving households may then demand greater access to public goods and services. Instead of viewing public services as detrimental to income, these services act as additional insurance against the risks remittances expose the household to.

I argue that even as remittance levels recover after the negative shock, the experience will influence remittance receiving households to view redistribution more favorably. Now that the household experiences risk exposure from abroad, they will seek additional sources for economic protection. Redistribution at home allows households to protect themselves from risk abroad.

4 Case Selection

This paper will test the argument on the major remittance-recipient countries in Latin America. Guatemala, El Salvador, Honduras, Nicaragua, and the Dominican Republic are countries that rank not only as the biggest remittance-receiving countries in the region, but also in the world in terms of share of the population and GDP.[3] As shown in Figure 1, the share of households in these countries that receive remittances is higher than in the rest of Latin America.[4] The United States is home to large migrant communities for these five countries and these migration corridors are critical in producing large remittance inflows to the home country.[5] Figure 2 presents the volume of remittance inflows as a share of GDP on the left panel and remittances per capita over time on the right panel. These countries are remittance dependent as inflows have comprised a significant part of GDP since the turn of the 21st century. In per capita terms, these countries also rank among the highest in the region.[6]

The large migrant populations in the United States make the American economy critical to the economic fortunes of households back home. The five countries selected for this study are those where remittance inflows are dependent on the performance of the American economy. Figure 3 shows the percent change in remittance per capita each year on the left panel, along with the the percent change in GDP per capita on the right panel. We see that the drop in remittances corresponds with the drop in GDP per capita in 2009. The recession in the United States affected the economies of the selected countries through the decline in remittances (Sirkeci, Cohen and Ratha 2012). By 2012, remittances and GDP per capita had recovered to pre-crisis levels.

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[3]In Latin America and the Caribbean, Honduras is the higest-ranked in remittance inflows as a percentage of GDP. El Salvador (2nd), Nicaragua (6th), Guatemala (7th), and the Dominican Republic (9th) are in the top 10. The countries that rank in between them are not included in past surveys of LAPOP: Guyana (2nd), Haiti (4th), Jamaica (5th), and Grenada (8th) (Ratha, Mohapatra and Silwal 2011, 28).

[4]Paraguayan migrants tend to settle in Brazil and Argentina (Ratha, Mohapatra and Silwal 2011, 203).

[5]See Brücker, Stella and Marfouk (2013), Fajnzylber and Lopez (2008) and Ratha, Mohapatra and Silwal (2011).

[6]Ecuador 2007-2008 and Mexico 2007-2008 rank higher than Nicaragua. Nicaragua's smaller remittance per capita is likely due to the many migrants who send remittances from Costa Rica. In terms of Nicaragua, remittances make up 9.5% of the GDP, which is higher than Ecuador and Mexico.

While Mexico receives nearly all of its remittances from the United States, the economic links between the two countries go beyond migration and remittances. The US recession did decrease remittance inflows to the Mexico, but the US recession can also affect the Mexican economy through other channels. For example, the North American Free Trade Agreement (NAFTA) deepened the bilateral economic relationship between Mexico and the US. The negative shock of remittances was complemented by the disruption in trade and capital between the two countries (Edmonds-Poli and Shirk 2015). In this case, it is difficult to decipher whether remittance recipients and non-recipients are responding to similar or different economic forces. Also, unlike the Central American countries, Mexico saw high levels of return migration following the US recession (Passel, D'Vera Cohn and Gonzalez-Barrera 2012).

The commodity boom and dispersed diaspora would make it difficult to identify the role of the US recession on remittance inflows to South America. The economies of the region benefitted from high commodity prices through the 2000s and peaked in 2011 (Gruss 2014). the role of natural resources diminishes the extent to which remittances influence the national economy. Many South American economies grew in large part to the commodity boom, which buffered the some of the effects of the American recession on their economies. Countries such as Bolivia, Ecuador, and Peru have dispersed diasporas in the United States, Europe and within South America (Aysa-Lastra and Cachón 2015; Ratha, Mohapatra and Silwal 2011). Given the data, it would be difficult to assume where the source of remittances are coming from. Paraguay has the highest share of households receiving remittances in South America, thanks to its diaspora that is concentrated in neighboring Brazil and Argentina.

Since 2000, there has been modest increases in social spending in selected Central American cases and the Dominican Republic Republic. Both external and internal influences contribute to the rise in social spending. Financing and policy influences from international organizations have influenced these governments to increase spending. At the turn of the century, the growing electoral success of leftist parties has also pushed the social agenda to improve access to basic services. Despite the increased spending,
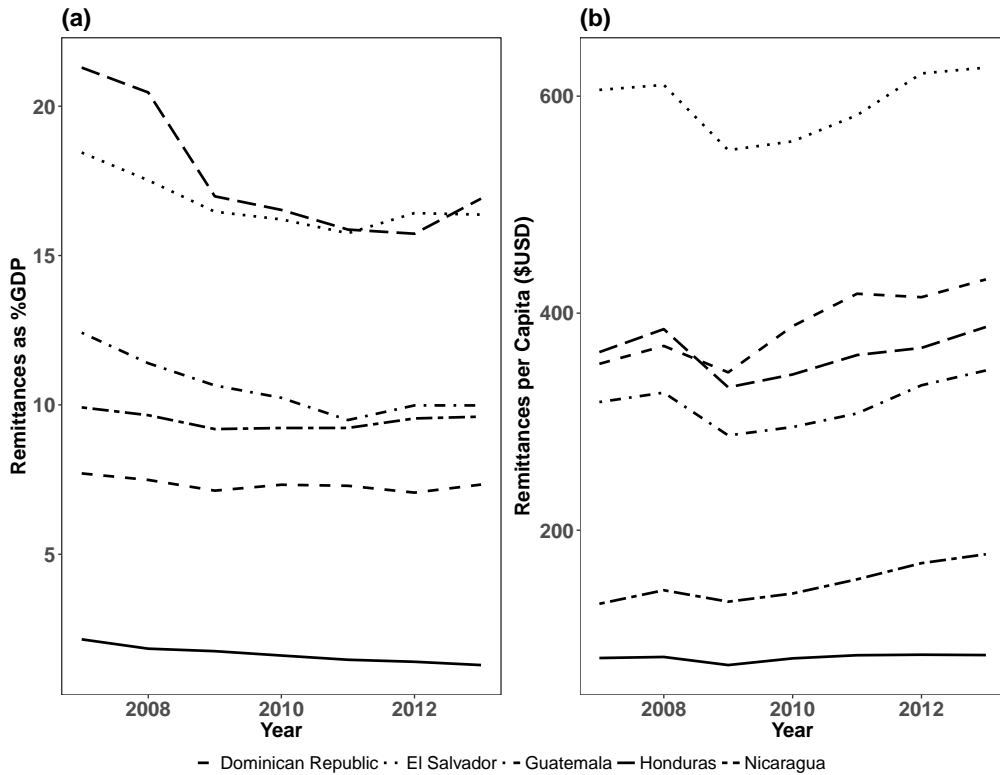
Figure 1: Households Receiving Remittances (2008-2012)
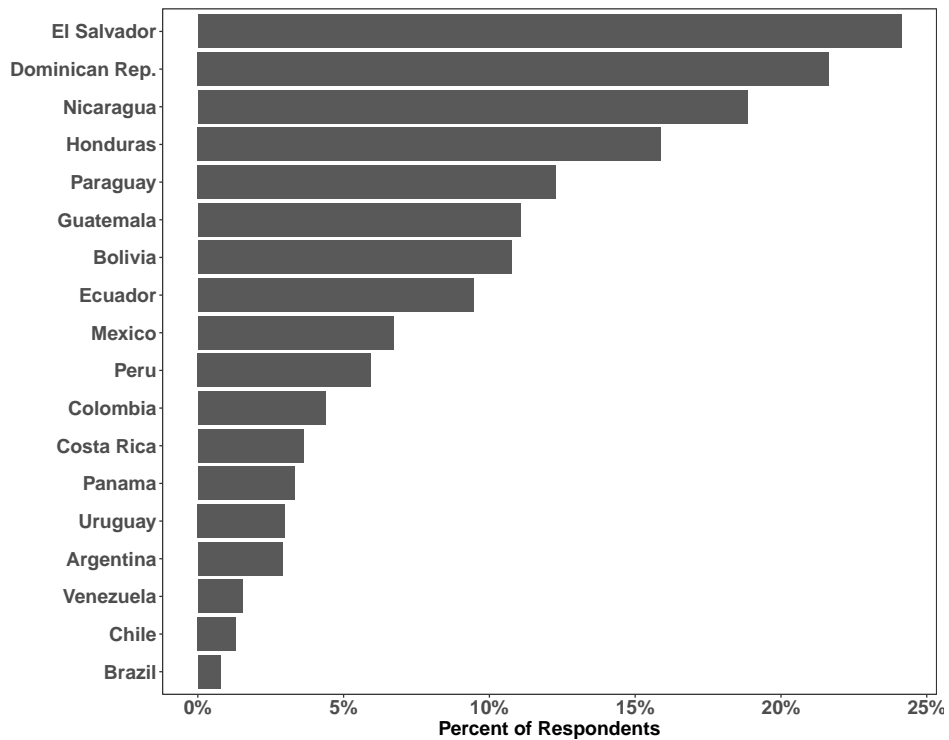
Source: Pooled LAPOP data (2008, 2010, 2012)
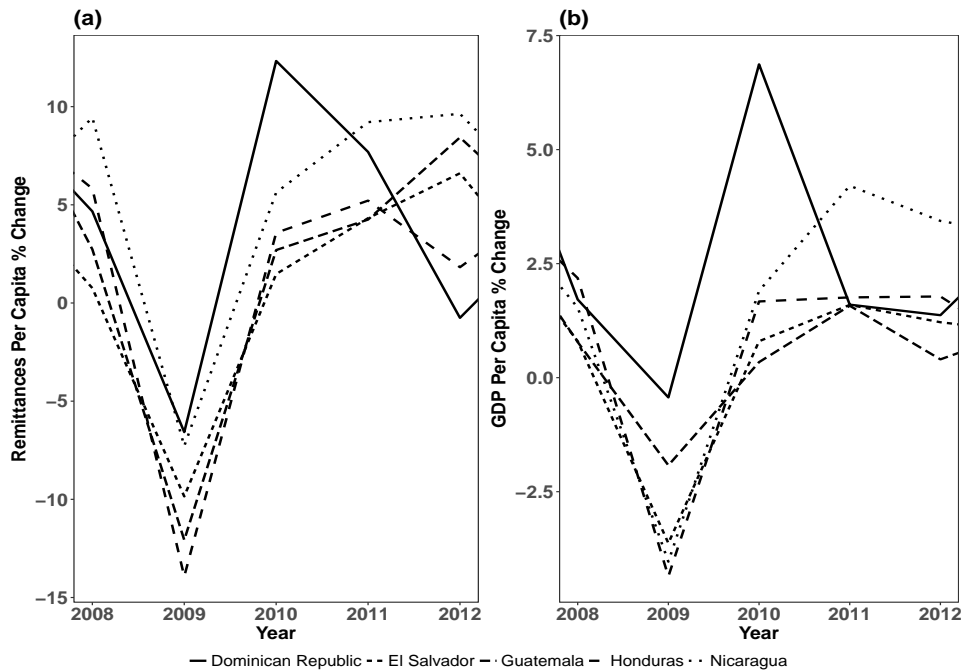Note: Percent of total respondents across three survey waves

Figure 2: Remittances in Latin America (2007-2013)

Source: World Bank.
Note: Solid lines represent each of the other Latin American countries.

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Figure 3: Remittances and GDP Growth (2008-2012)

Source: World Bank
Note: Y-axis measures 1-year percent changes

these cases still lag far behind in Latin America. Total social spending in these selected
cases are less than half of the Latin American average in terms of per capita spending
(ECLAC 2017).

The priority for the increased spending is to broaden access to public services. In
particular, education is the leading sector for governments spending followed by health
(Martínez Franzoni 2013). Increased spending in these sectors was accompanied with de-
centralizing the delivery of these services through collaboration with local non-governmental
organizations. Despite increasing access of health and education services to the poor, the
low quality of these services have pushed potential middle-class consumers to private al-
ternatives. Martínez Franzoni (2013) notes that private health spending exceeds public
spending in Central America, despite the increases in the latter. In the Dominican Re-
public, social policy expansion has lagged far behind the rest of the region despite periods
of sustained economic growth (Ondetti 2012; Aristy-Escuder et al. 2016).

While targeted transfers exist in these countries, they do are not prominent in so-
cial policy. Conditional cash transfer (CCT) programs have been implemented in the
region but the coverage makes up less than 10% of the population, with the exception

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of Guatemala (Martínez Franzoni 2013). The CCT programs are largely financed externally through international organizations such as the World Bank and Inter-American Development Bank.

The countries I study are often considered to have weak state capacity to collect taxes, which contrasts to many studies on preferences for redistribution. The scholarly work on preferences for redistribution looks at voters in the United States and Western Europe. The literature has expanded to developing countries but they tend to be those with a large and politically significant middle class such as Argentina and Brazil.[7] The Central American states do not have the capacity to levy taxes on industries or on exporters so they often depend on consumption taxes (Schneider 2012; Aristy-Escuder et al. 2016). The selected countries are just above the Latin American average in regards to the weight of consumption tax to total tax (OECD 2016). The value-added tax, an important source of income, has been between 12 -16% for the five selected countries (OECD 2016). Due to political interests, the Central American states have not been able to pass tax reform to gain revenue from property or income. Tax revenue from income and property have averaged to less than 5% across Central America (Schneider 2012, 96).

Given the weak capacity of the state to tax in my selected cases, the role of taxation does not have prominent role in this paper as it does in prior works on remittances and redistribution. Taxation is largely based on consumption via the value-added tax and is levied among recipients and non-recipients alike. Remittance recipients may have greater opposition to taxation and redistribution because they are consuming more thanks to the additional external income. However, recipients may demand greater returns for their contribution to the VAT revenue as well; possibly in the form of greater government services in health and education since these are major areas of remittance expenditures. With the lack of an income tax, it does not matter whether remittance recipients hide or report the additional income. The calculus in supporting redistribution in these cases may not be one of income but rather of risk.

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[7]See Mares and Carnes (2009).

5 Methods and Results

5.1 Data

I use the Americas Barometer survey data from the Latin American Public Opinion Project (LAPOP 2016). LAPOP is one of the few surveys that ask about opinions on democracy, political institutions and government behavior in each Latin American country. For the selected countries I chose, I selected survey waves from 2008, 2010 and 2012. The 2008 survey was conducted before March, several months before the economic crash in the United States. The respondents' answers in 2008 can be seen as attitudes and opinions held before the financial crisis. The 2010 survey took place when countries had just experienced the sharp drop in remittances in 2009. The 2012 survey took place during a "recovery" period where remittances began to return to pre-crisis levels.

The dependent variable measures citizen attitudes about state engagement to reduce inequality. The question specifically asks respondents whether they agree or disagree with the statement: "The [country] government should implement strong policies to reduce income inequality between the rich and the poor. To what extent do you agree or disagree with this statement." Respondents were asked to use a 7-point scale. I recoded the respond to be binary where those who answered with a 6 or 7 were coded as strongly agreeing with the statement. I bifurcated the variable because the distribution of the responses is right-skewed with more than 60% of the responses being either six or seven.[8] The distribution less than six shows little variation. Thus, the distribution reveals that respondents either strongly agree with redistribution or do not.

The main explanatory variable asks whether the respondent or someone in the household receives remittances. The response is binary. The advantage of using LAPOP's survey over other sources, such as Latinobarometer, is that the remittance question is asked in every survey wave in every country.[9] Even though it is not a panel survey, I can examine attitudinal changes of remittance recipients over time. The consistent questions

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[8]Figure A.1 in the Appendix shows the full distribution of the responses with the original scale for each country-year in the sample.

[9]Latinobarometer only asks about remittances in 2009.

in the survey allow me to analyze remittance recipients as a group over time. Pooling survey respondents from the five selected countries, Figure 4 shows how preferences for redistribution change over time between remittance recipients and non-recipients. Prior to the financial crisis, there are no differences between remittance recipients and non-recipients. Figure 4 is a raw visual on the changes in attitudes for remittance receivers after experiencing a decline in income through transfers from family members abroad. We can see that following the crisis and as the economies recover after 2009, remittance recipients begin to diverge from non-recipients significantly approving government involvement in reducing inequality.

Figure 4: Preferences for Redistribution (2008-2012)
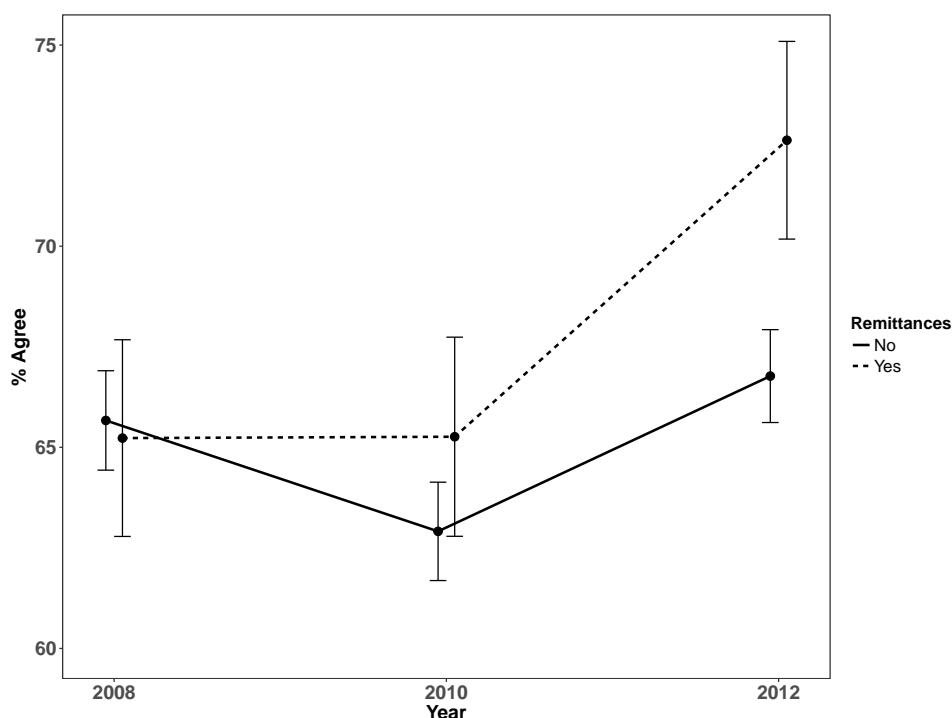
Note: Sample mean estimates with 95% confidence intervals.

Remittance recipients are not representative of the general population in some aspects. Table 1 reports the determinants of receiving remittances in the data using logistical regressions with survey fixed effects. The first five columns are logistic regression results by each country case and columns 5-8 present logistic results by survey year. Across all models, remittance recipients tend to be either young or very old, which reflects the age profile of migrants who tend to be of prime working age. These migrants are

therefore sending money back to their children, parents, and other dependents. Middle-income households tend to receive remittances at a higher rate than poor households, which may not be able to bear the costs of migration. Affluent households, on the other hand, do not have incentives to migrate. These patterns are common across these small countries, but the statistical significance of the results are stronger in some but not others. Remittance recipients tend to have higher education than the rest of the population, but at a decreasing rate, which means they are likelier to have a secondary education than a university one. Households with a larger number of children tend to receive more remittances than those without.

Over the time period, there are covariates that are correlated with remittances before and after the recession, but not during the recession. The quadratic relationship of income to remittances is stronger in 2010 than it is in 2008 and 2012. This can indicate that the number of remittance recipients in the poorest sectors of the country may have declined in 2010. Also, the the wealthier incomes may report less remittances in 2010. Thus, the remittance recipients are concentrated in the middle incomes during the recession. However, the pattern in 2012 returns to pre-recession levels. Another curious pattern is ideology. The role of ideology is diminished in 2010. Also, ideology is only significant in Guatemala and Honduras, which are countries to tend to be more conservative than the other Central American countries.

Table 1: Determinants of Remittances

	DOM	GTM	HND	NIC	SLV	2008	2010	2012
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	−1.485***	−1.771***	−3.098**	−2.168***	−0.499***	−2.002**	−1.230**	−1.050***
	(0.374)	(0.476)	(1.438)	(0.331)	(0.165)	(0.861)	(0.526)	(0.401)
Age	−0.070***	−0.051**	−0.054**	−0.079***	−0.109***	−0.077***	−0.068***	−0.081***
	(0.014)	(0.023)	(0.026)	(0.006)	(0.014)	(0.024)	(0.011)	(0.009)
Age-square	0.001***	0.0005*	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
	(0.0001)	(0.0003)	(0.0002)	(0.00005)	(0.0002)	(0.0002)	(0.0001)	(0.0001)
Female	−0.021	−0.022	0.009	0.058	−0.065	0.013	−0.053	0.048
	(0.037)	(0.109)	(0.038)	(0.054)	(0.098)	(0.041)	(0.064)	(0.043)
Urban	0.033	−0.146	0.090	0.408**	−0.051	0.149	−0.079	0.176
	(0.083)	(0.205)	(0.076)	(0.184)	(0.101)	(0.135)	(0.093)	(0.133)
Income	0.141	0.174**	0.470*	0.441***	0.567***	0.286***	0.372**	0.262**
	(0.127)	(0.085)	(0.258)	(0.081)	(0.034)	(0.107)	(0.151)	(0.124)
Income-square	−0.004	−0.014	−0.020	−0.036***	−0.041***	−0.014	−0.029**	−0.013
	(0.012)	(0.010)	(0.025)	(0.011)	(0.003)	(0.012)	(0.013)	(0.011)
Education	0.151***	0.105	0.120*	0.192***	0.065	0.119***	0.104**	0.089**
	(0.031)	(0.076)	(0.065)	(0.010)	(0.046)	(0.046)	(0.050)	(0.044)
Education-square	−0.005***	−0.006	−0.006***	−0.006***	−0.004	−0.005**	−0.003*	−0.005***
	(0.001)	(0.004)	(0.002)	(0.001)	(0.003)	(0.002)	(0.002)	(0.002)
Children	−0.020	0.046	0.088***	0.024	0.081***	0.053*	0.023	0.058***
	(0.028)	(0.048)	(0.026)	(0.015)	(0.004)	(0.027)	(0.041)	(0.013)
Ideology	−0.012	0.038**	0.018***	0.015	0.004	0.023***	−0.009	0.006**
	(0.015)	(0.016)	(0.005)	(0.011)	(0.004)	(0.006)	(0.013)	(0.003)

***p < .01; **p < .05; *p < .1

Note: Models 1-5 present binary logistic regression results by country with year fixed-effects. Year clustered standard errors in parenthesis. Models 6-8 present binary logistic regression results by year with country-fixed effects. Country clustered standard errors in parenthesis.

The control variables for the analysis will include socio-demographic variables along with political attitudes and economic perceptions. The socio-demographic variables included in the analysis are age, gender, income, education, and living in an urban area. These variables not only influence attitudes towards redistribution, but are also correlated with receiving remittances. Income is measured in deciles from 0 to 10 and are self-reported. Education is measured in years of schooling.

Political perceptions and economic circumstances can also affect preferences for redistribution. Thus, I include whether the respondent is currently employed or not. Unemployed respondents may prefer redistribution as opposed to those who are currently employed. Ideology is measured on a 10-point scale where 10 is right and 0 is left. The more left-wing a respondent, the more we expect the respondent to favor redistribution. Corruption perception measures whether a respondent feels that the country is corrupt or not. Executive approval is based on a 7-point scale, controlling for partisan attitudes to the government. I include two variables to control for a respondent's personal economic situation. I add a variable on whether the respondent feels that their economic situation is bad or not at the moment of the survey. The second variable is retrospective asking whether the economic situation has worsened from two years ago. I expect a respondent feeling worse about his economic situation to favor more redistribution.

I include contextual variables to account for the other channels the US recession may have affect the Central American and Dominican economies. While the US recession contributed to the decline of remittances to the region, other international flows such as trade and foreign direct investment were as negatively affected. Each of the contextual variables were calculated in 1-year and 2-year percent changes. I include total bilateral trade value between each country and the United States (Comtrade 2017).[10] Net inflows of foreign direct investment is included to account for changes in capital flows. Changes in remittance inflows are included to capture the magnitude of the effects of remittances on the overall economy. Recipients and non-recipients may be affected by the decline in total remittances flows into the country. Changes in GDP per capita are included in

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[10]Honduras did not have data for 2008. I used data for 2007 as a proxy for 2008 in Honduras. This means that the 2-year change in 2010 is based on 2007.

the model to capture the magnitude of the effect of the global economic crisis on the individual countries.

I estimate the effects of remittances on attitudes to redistribution using a hierarchical logistic regression. To capture the effect of remittances on redistribution over time, I incorporate interactions with the year of the survey. Given Figure 4, we should expect a positive interaction between remittances and year. Since LAPOP data is not a panel survey, I cannot infer directly that remittance recipients respond to crisis. I can compare remittance recipients as a group and how they respond to crisis on average.

5.2   Results

5.2.1   Remittances and Preferences for Redistribution

Remittance recipients diverged from non-recipients in their attitudes about redistribution after the economic recession. Table 2 presents the main results showing remittances having a positive interaction with the year of the survey after 2008. The coefficients are presented in odds-ratios where values greater than 1 mean a higher likelihood of supporting redistribution. Model 1 use random effects for two-year changes for the pooled sample . The remittances coefficient can be interpreted as the effect for receiving remittances in 2008 where recipients are 9% less likely to support redistribution than non recipients, but is not statistically significant at the 95% confidence level. The 2010 interaction is positive but not statistically significant. The 2012 interaction is significant at 95%. This can indicate the widening gap in terms of support for redistribution between remittance recipients and non-recipients during and after the recession.

To better understand the regression results, Figure 5 presents the first-differences from the interaction model in Table 2. I used a bootstrap method to retrieve predicted probabilities for supporting redistribution for recipients and non-recipients for each year, followed by the differences in the predicted probabilities. Figure 5 shows that in 2008, prior to the start of the U.S. recession, remittance recipients are slightly less likely to support redistribution, but the difference is not significant. The null results for remittances support the similar findings in Meseguer, Lavezzolo and Aparicio (2016) but does

19

not support the findings in Doyle (2015).[11] The null result in 2008 does not support the findings in Doyle (2015) where remittance recipients reject redistribution.

Following the the decline of remittances from the U.S. recession, remittance recipients begin to show support for redistribution relative to non-recipients. By 2012, remittance recipients are 4.5 percent more likely to support redistribution than non-recipients, an effect that is significant at the 95% confidence level. The results support the divergence between receivers and non-receivers in Figure 4 as the former seems to be responding the the global economic downturns of 2009.

Other variables are shown to influence support for government policies to reduce inequality. Women are 8% less likely than men to support redistribution. Income has a non-linear effect on redistribution where middle incomes are likely to support government's involvement to reduce inequality but this effect withers as one moves to the highest deciles of the distribution. Education has a small and positive effect on favoring redistribution. Having more children in the household also increases favorability to redistribution.

Political attitudes and economic perceptions are significantly correlated with preferences for redistribution. Those who believe their country is corrupt have 22% are more likely to favor redistribution. Those who believe they are in a bad economic situation are likely to support redistribution but the retrospective measure for economic situation yields a negative result.[12] The result for the personal retrospective economic evaluation could be subject to collinearity with other variables.

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[11]Meseguer, Lavezzolo and Aparicio (2016) use LAPOP data for all countries and for years 2008 and 2010. Doyle (2015) only uses the 2009 survey of Latinobarometer to estimate the effect of remittances on preferences for redistribution for all Latin American countries. Case selection may be a reason why my findings differ. Unlike the rest of Latin America, the five countries I choose have the highest share of households receiving remittances (Figure 1) and remittances make up a substantial share of the GDP (Figure 2). Furthermore, remittance recipients in the five countries I selected may be sytematically different from recipients in the rest of Latin America. For example, Central American and Caribbean migrants (and remittance recipients) tend to be less educated than their South American counterparts (Niimi and Özden 2008).

[12]I previously used sociotropic variables (evaluation of the country's economy) but those variables consistently yield null results and does not change the coefficients for remittances.

Table 2: Remittances and Support for Redistribution

| | **Support Redistribution** | | | |
| | **Pooled** | **2008** | **2010** | **2012** |
	Model 1	**Model 2**	**Model 3**	**Model 4**
Intercept	0.886	1.402	0.680	0.828
	(0.262, 1.511)	(0.437, 2.367)	(−0.044, 1.404)	(−0.005, 1.662)
Remittances	0.907	0.885	1.084	1.203
	(0.748, 1.066)	(0.723, 1.048)	(0.935, 1.233)	(1.027, 1.379)
2010	0.859			
	(0.170, 1.547)			
2012	1.092			
	(0.404, 1.780)			
Remittances × 2010	1.163			
	(0.948, 1.379)			
Remittances × 2012	1.354			
	(1.120, 1.589)			
Female	0.922	0.888	0.922	0.978
	(0.843, 1.002)	(0.740, 1.036)	(0.793, 1.050)	(0.835, 1.120)
Age	1.002	0.979	1.008	1.009
	(0.982, 1.022)	(0.943, 1.015)	(0.975, 1.041)	(0.972, 1.045)
Age-square	1.000	1.000	1.000	1.000
	(1.000, 1.000)	(1.000, 1.001)	(0.999, 1.000)	(0.999, 1.000)
Income	1.063	1.013	0.985	1.220
	(1.006, 1.120)	(0.907, 1.120)	(0.887, 1.083)	(1.122, 1.318)
Income-square	0.992	0.995	0.996	0.985
	(0.987, 0.998)	(0.985, 1.005)	(0.986, 1.006)	(0.975, 0.995)
Education	1.022	1.030	1.022	1.016
	(1.012, 1.032)	(1.011, 1.048)	(1.005, 1.039)	(0.998, 1.033)
Urban	0.989	1.109	1.128	0.757
	(0.909, 1.069)	(0.963, 1.256)	(0.999, 1.258)	(0.614, 0.900)
Ideology	1.019	1.020	1.011	1.036
	(1.006, 1.033)	(0.996, 1.045)	(0.988, 1.033)	(1.014, 1.058)
Corruption Perception	1.223	1.523	1.137	1.123
	(1.137, 1.309)	(1.357, 1.689)	(1.001, 1.274)	(0.972, 1.275)
Executive Approval	1.053	0.971	1.146	1.009
	(1.013, 1.093)	(0.898, 1.045)	(1.081, 1.211)	(0.937, 1.081)
Employed	1.047	1.162	0.970	1.024
	(0.963, 1.130)	(1.009, 1.316)	(0.835, 1.104)	(0.876, 1.173)
Bad Economic Situation	1.244	1.169	1.276	1.247
	(1.156, 1.332)	(1.009, 1.328)	(1.135, 1.418)	(1.082, 1.411)
Worse Economic Situation	0.921	0.863	0.969	0.907
	(0.839, 1.003)	(0.710, 1.017)	(0.840, 1.098)	(0.756, 1.059)
Children	1.038	1.072	1.037	1.003
	(1.015, 1.061)	(1.031, 1.114)	(0.998, 1.076)	(0.963, 1.042)
N	14153	4539	5002	4612
Log Likelihood	−8646.719	−2647.874	−3223.440	−2733.629
AIC	17341.440	5335.748	6486.881	5507.258

Note: Coefficients presented as odds-ratios. 95% confidence intervals are in parentheses.
Random effects presented in Table A.5

Figure 5: Predicted Probabilities: First Differences
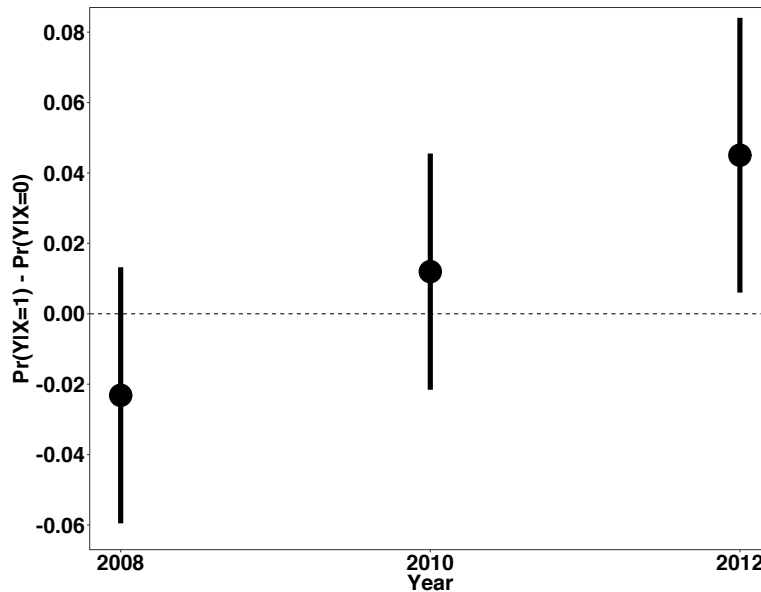
Note: First-difference results based on Model 1 from Table 2. Takes the difference in predicted probabilities from remittance recipients to non-recipients by year.

The interaction results should be interpreted with caution because the LAPOP data is not a panel survey. Those remittance recipients may not be the same individuals surveyed in the following waves. To assure that remittances have different effects on redistribution in each survey year, I ran the model from Table 2 Model 1, by each year. Columns 2 to 4 present the results of the hierarchical logistic regression by year. The results are weaker but they still suggest contrasting preferences for redistribution between remittance recipients and non-recipients. The economic recession and recovery has led to nearly a 30% swing among remittance recipients supporting government policies to reduce inequality.

Both the pooled and survey year results show a divergence between remittance recipients and non-recipients. In addition, the results suggest that remittance recipients change their stance on government redistribution relative to the general population. Although the results for 2008 are not statistically significant, the higher likelihood of rejecting government redistribution among remittance-recipients supports established theories and recent empirical studies in the literature. However, that negative effect ceases during and after the global economic crisis when remittances decline and recover. What changed

among remittance recipients during and after the crisis?[13] The results suggests a learning process among recipients where the experience of the remittance decline altered their preferences to favor redistribution.

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[13]One limit to the analysis is that there are no consistent questions to gauge how survey respondents perceive risk over time. There is a question that asks respondents whether they feel their total income "enough" (question 10D). From 2008 to 2010, the percent of remittance recipients who claim that their total income is "not enough" increased from 47.4% to 49.7%.

5.2.2 Remittances, Employment & Redistribution

Whether remittances are the sole source of income or supplemental to other income can explain the change in preferences for redistribution. I hypothesize that the negative shock to remittances has a greater effect for households where remittances are the sole source of income versus households where remittances represent supplemental income. Those who are more dependent on remittances leave themselves open to greater risk from economic situations abroad.

I proxy for remittance dependence by creating a categorical variable classifying respondents in terms of employment and receiving remittances. I assume that employment makes one less dependent on remittances. One who receives remittances and is unemployed is likely to be very dependent on the transfers sent from abroad.[14] The questions on remittances and employment status produces four categories: employed and no remittances; remittances and not employed; remittances and employed; and neither.[15] Table 3 shows the breakdown by country with row percentages for each category. Employed and no remittances is the largest category in each country. Employed and non-employed remittance recipients (columns 3 and 4) both make up similar shares of each country sample, with the exception of Guatemala.

Did the drop in economic security in 2010 affect attitudes for redistribution among remittance recipients? Figure 6 suggests that remittance recipients without employment have the greatest increase in support for redistribution since 2008. Employed recipients did not show an increase in support for government policies to reduce inequalities until 2012. The two categories representing non-receiving respondents remained lower than remittance-recipients in 2012.

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[14]The amount of remittances relative to income or dependence on remittances would be ideal variables for this mechanism, but such questions were not asked in the LAPOP surveys. Dependence is not asked in 2012 in all countries. Amounts are not asked at all.

[15]By non-employed, I mean those who are currently not working. I do not differentiate between those not working and those not working but seeking employment.

Table 3: Employment-Remittance Status by Country

Country	Neither	Employed Only	Remittances Only	Employed & Remittances
Dominican Republic	36.75	41.80	10.24	11.20
El Salvador	36.54	39.29	12.72	11.45
Guatemala	32.99	55.66	3.76	7.59
Honduras	41.06	42.86	9.03	7.05
Nicaragua	37.14	44.18	10.16	8.52
All Countries	36.98	9.16	44.76	9.10

Note: Values are calculated as row percentages.

All countries pool the samples from the five countries.

Source: LAPOP (2008, 2010, 2012)

Figure 6: Remittances, Employment and Redistribution
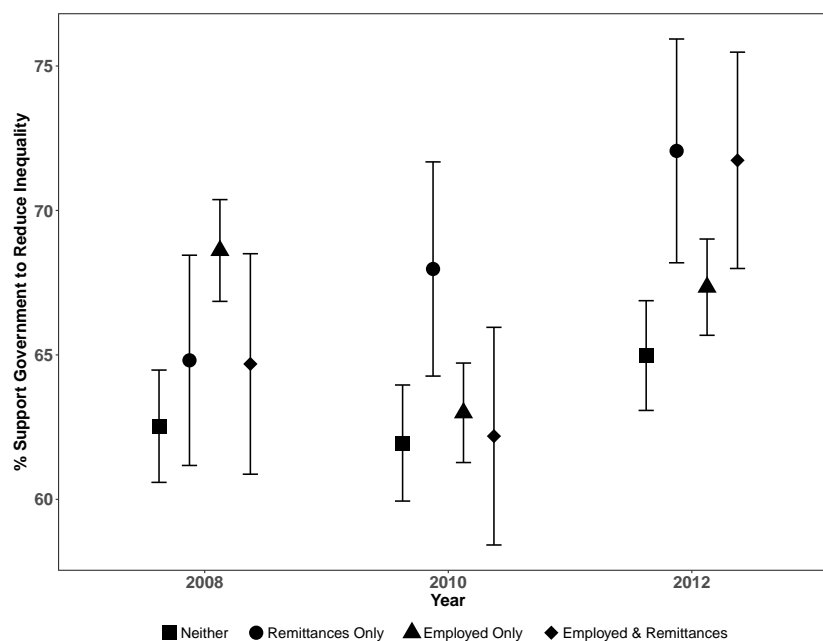
Note: Mean estimates with 95% confidence intervals.

The regression results in Table 4 show that non-employed remittance recipients were most affected by the US economic recession. In 2010 and 2012, the odds for the remittances only group were at least 30% higher to favor redistribution. Figure 7 shows the first difference in predicted probabilities between remittance recipients and non-recipients among non-employed respondents. Non-employed remittance recipients should be more sensitive to the negative shock of remittance inflows relative to a non-employed, non-recipient. According to Figure 7, among the non-employed, remittance recipients were 6 percent more likely to favor redistribution after the U.S. recession relative to non-recipients.

The categories that include employment did not yield statistically significant results at the 95% confidence level. One reason why there are no significant results has to do with the scope of the variable. Employment does not specify type of employment or wage amount. So those in the employment categories can include those who are underpaid or even part-time employees.[16] The heterogeneity in that the variable could contain may explain the null results. It is plausible that different types of employment can affect how one rates government redistribution.

With remittances being the more important source of income, the economic shock from abroad exposed the household to greater economic risk. This supports the learning hypothesis as the results suggest a persistent change in preferences (Margalit 2013). On the other hand, remittance recipients who are employed do not yield significant results. The decline in remittances does not affect the household economic situation as it does for those where remittances are the sole source of income.

Dependency on remittances and the experience from the global financial crisis best explains the change in preferences for government redistribution among remittance recipients. Those who rely on remittances as the sole source of income were exposed to additional economic risk when the United States recession decreased remittance inflows. What was once a stable source of income to cover local economic risk became vulnerable to the economic fortunes of migrants abroad. Given this additional exposure to risk, these

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[16]The surveys do not ask about job loss for each country or each year.

remittance recipients began to favor government redistribution as an additional economic insurance. Remittance recipients with other sources of income could bear the brunt of a negative shock to a migrant's economic situation, so the drop in these international transfers will not hurt them as much.

Table 4: Remittances, Employment, and Redistribution

| | Support Redistribution | | |
| | 2008 | 2010 | 2012 |
	Model 1	Model 2	Model 3
Intercept	1.373	0.656	0.818
	(0.407, 2.338)	(−0.070, 1.381)	(−0.019, 1.655)
Remittances Only	0.969	1.328	1.342
	(0.742, 1.196)	(1.108, 1.548)	(1.082, 1.602)
Employed Only	1.212	1.049	1.061
	(1.042, 1.381)	(0.901, 1.197)	(0.901, 1.222)
Employed + Remittances	0.980	0.958	1.165
	(0.736, 1.224)	(0.738, 1.177)	(0.914, 1.417)
N	4539	5002	4612
Log Likelihood	−2647.247	−3220.330	−2732.993
AIC	5336.494	6482.660	5507.986

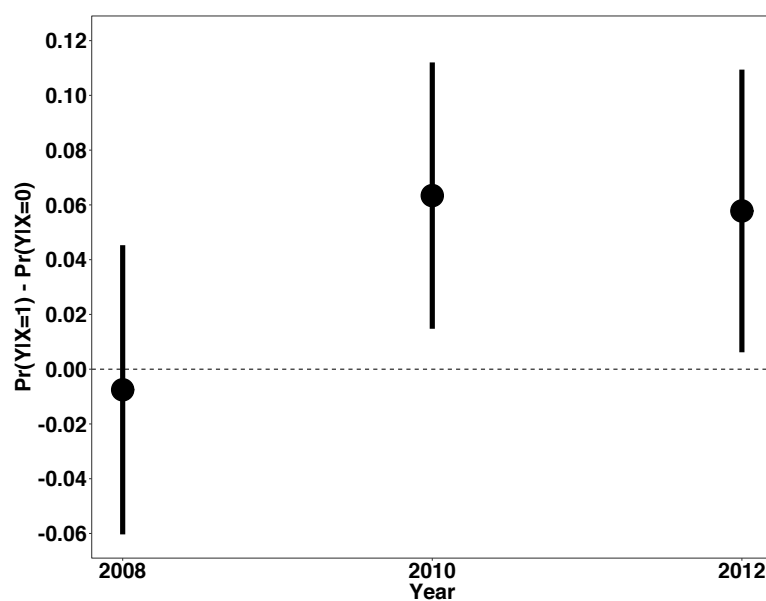*Note:* *p<0.1; **p<0.05; ***p<0.01

Coefficients presented as odds-ratios. 95% confidence intervals are in parentheses.
All models include control variables from the main model.
Full results presented in Table A.3; random effects in Table A.5

Figure 7: Predicted Probabilities: First Differences Among Non-Employed Respondents

Note: First-difference results based on Model 1 from Table 4. Takes the difference in predicted probabilities from non-employed remittance recipients to non-employed non-recipients by year.

5.3 Income Distribution, Remittances & Redistribution

Remittances can affect preferences for redistribution based on the position of the remittance recipient in the income distribution. Remittances move the household positively along the income distribution. In line with Meltzer and Richard (1981) and Lupu and Pontusson (2011), higher income households will have a preference against taxation and redistribution. For example, if a middle-income household receives remittances, then such increases in income will distance it from the poor even more. That middle-income household will diverge from its preferences on redistribution that it may have shared with the poorer household. Remittances will make households more socially mobile and have expectations of higher incomes in the future, especially if remittances are used for investment (Doyle 2015, 789). In this scenario, remittance recipients will not expect the benefits of redistribution to outweigh the value of remittances. In addition, the increased income from remittances will generate a substitution effect, where households will prefer to seek private market alternatives rather than rely on government goods (Adida and Girod 2011; Abdih et al. 2011; Ahmed 2012). Because they can afford to consume non-government goods, recipients will be less supportive of taxation on consumption to support redistribution that they will find costly.

What about in times of crisis when remittances drop? The loss or significant decrease of remittance income will pull households negatively along the income distribution to a position where they would be without remittances. In this case of the middle-income household, losing remittances will pull that household closer to the poor. With the total drop in income, remittance receiving households will likely support government redistribution to make up for the loss of income. Furthermore, the loss of remittances may translate to a greater benefit in redistribution for the household since that lost remittance income would no longer be taxed.

However, recipients may return to pre-crisis attitudes once remittances recovers. As remittances increase again, recipients may resort to their hesitancies about taxation and redistribution. Similar to job loss for Americans who identified themselves as Republican during the recession in Margalit (2013), the negative shock in remittances will produce a

transient effect. Remittance recipients will likely favor redistribution when remittances decline because they are pulled negatively along the income distribution. This effect will cease when remittances recover to pre-crisis levels as the household is moved positively along the income distribution. Thus, remittances are influential in where the household income stands relative to the national distribution and also shapes preferences about redistribution.

In order to test the inequality channel, I create a measure of distance to the mean income of the country. To create the income distance measure, I calculate the mean income (in deciles) for each country-year. I then calculate the difference between each respondent's household income to the mean.[17] A household with a distance of zero is one with the mean income, positive numbers mean they are wealthier than the mean and negative numbers represent those poorer than the mean. Even though I am relying on self-reported income from the survey, I am confident that the measure will provide a good proxy to measure how close (or far) a respondent is to the mean national income.[18]

During times of crisis, the decline in remittances will move recipient households negatively along the income distribution. Remittance recipients tend to have positive distance from the mean income but it has varied over time. Following the decline in remittances in 2009, remittance recipients saw their income distance to the mean decrease. Table 5 shows the mean and median income distance for remittance recipients and it shows a decrease from 2008 to 2010. While the mean distance declined by 0.1 deciles, the median income dropped by nearly 90%. Figure 8 shows that remittance recipients have greater income than the rest of the population in each survey year. The distribution of recipients (dotted lines) is clearly to the right of the income distribution of non-recipients in the survey (solid lines), with the exception of 2010. Even though mean and median income distance increased in 2012, it did not fully recover to the 2008 level. Given that remittance recipients suffered a significant negative decline in income distance, did that

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[17] I also ran the same analyses calculating income distance from the median for each country-year. The results are consistent.

[18] One worry is that the national mean changes over time, especially during economic crisis. What is important for my analysis is comparing remittance receivers and non-receivers and their respective distance to the national mean in a given year.

influence and change their attitudes towards government redistribution?

Distance from the mean income is a strong predictor of whether someone supports government policies to reduce inequality. One advantage for using this variable is that it varies over time and it is a viable substitute for the year interaction in order to find a general effect. Table 6 presents the results adding income distance to the models used previously.[19] A one-decile positive increase in income distance is associated with a 22% decline in the odds of supporting redistribution, controlling for other factors. If one were to go from one decile below the mean to one decile above the mean, the odds of supporting redistribution would decline by 44%.

Despite the changes in distance to income over the course of the global economic crisis, there is no evidence that it influenced preferences on redistribution. Table 6 shows the hierarchical logistic regression results. Income distance is not statistically significant in the four specifications. Also, remittances yield null results in the pooled and subset models. The results suggests that the income effect does not explain preferences for redistribution, which is what we would expect given prior studies on how rising income from remittances leads to a rejection of such policies.

Table 5: Distance from National Mean Income by Year:
For Remittance Recipients

Year	2008	2010	2012
Mean Distance	0.59	0.47	0.50
Median Distance	0.23	0.01	0.32

Note: Income distance is measured
in terms of deciles.

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[19]I used an alternative measure of income distance where I used the mean decile for the non-remittance population for each country-year. The results are consistent.

Figure 8: Income Distance Densities by Year
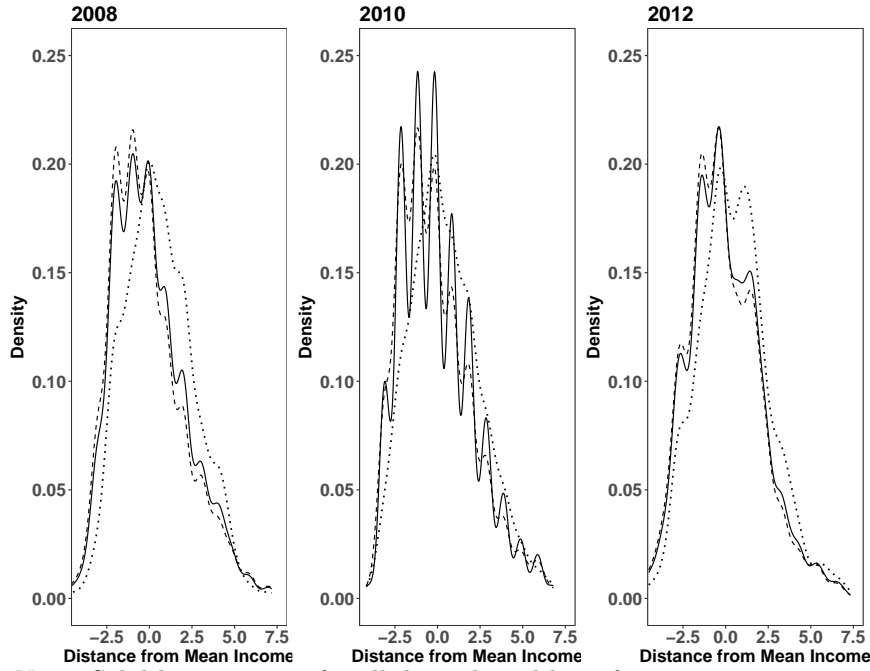
Note: Solid lines account for all data; dotted lines for remittance recipients; dashed lines for non-recipients
Mean income distance centered at zero.

Table 6: Income Distance, Remittances and Redistribution

| | Support Redistribution | | | |
| | Non-Interaction | Interaction | Non-Recipients | Recipients |
	Model 1	Model 2	Model 3	Model 4
Intercept	1.266	1.279	1.043	3.308
	(−0.002, 2.534)	(0.006, 2.551)	(−0.224, 2.310)	(1.707, 4.909)
Income Distance	1.098	1.108	1.097	1.119
	(0.805, 1.392)	(0.814, 1.403)	(0.808, 1.387)	(0.785, 1.453)
Remittances	1.048	1.075		
	(0.956, 1.141)	(0.980, 1.170)		
Interaction		0.941		
		(0.897, 0.986)		
N	14153	14153	11292	2861
Log Likelihood	−8650.044	−8646.454	−6944.606	−1704.616
AIC	17342.090	17336.910	13929.210	3449.233

Coefficients presented as odds-ratios. 95% confidence intervals are in parentheses.

Column 1 and Column 2 use the pooled data.

Column 3 is based on the non-receiving subset

Column 4 is based on the remittance-receiving subset.

All models include control variables from the main model

Full results in the Appendix, Table A.4; random effects in Table A.5

6 Conclusion

The financial crisis of 2008/2009 offers an opportunity to study the political consequences of the sudden decline of remittances and its eventual recovery. Remittances were previously thought to be both stable and resilient but the economic recession in the United States exposed many households who relied on remittances to additional economic risk that may have been unexpected. Households in Latin America, particularly those in Central America and the Caribbean, found themselves with less disposable income. Recent research argues that remittance recipients will reject government redistribution because they no longer rely on the state. However, a sudden drop in remittance income implies that recipients could revert to prior preferences for redistribution.

This paper finds that remittance recipients became more likely to support government redistribution following the economic crisis. Prior to the crash, the results provided weak support for theoretical claims that remittance recipients would reject government redistribution. As remittance levels recovered after 2010, remittance recipients became more favorable to government redistribution than the rest of the population. Those who rely on remittances as their sole source of income were more sensitive to the economic crisis as the exposure to risk was far greater than for those who receive remittances as supplemental income.

The external increase in income from remittances place households in a better economic situation than they otherwise would be. With a sudden decrease in that income, households will seek additional avenues for income and insurance against risk. Governments in countries such as those in this study may find themselves with higher demand for goods and services in times of economic crisis in remittance-sending countries. Thus, their fiscal pressures will be affected by another country's circumstances. Remittances are just as important as trade and capital flows in understanding the political and economic development in developing countries (Pritchett 2006). While remittances may be seen as increasing a household's economic autonomy, the global financial crisis revealed the transnational links that households, and countries at large, have in a globalized economy.

A   Appendix

Figure A.1: Distribution of Responses: Should the government implement strong policies to reduce income inequality?
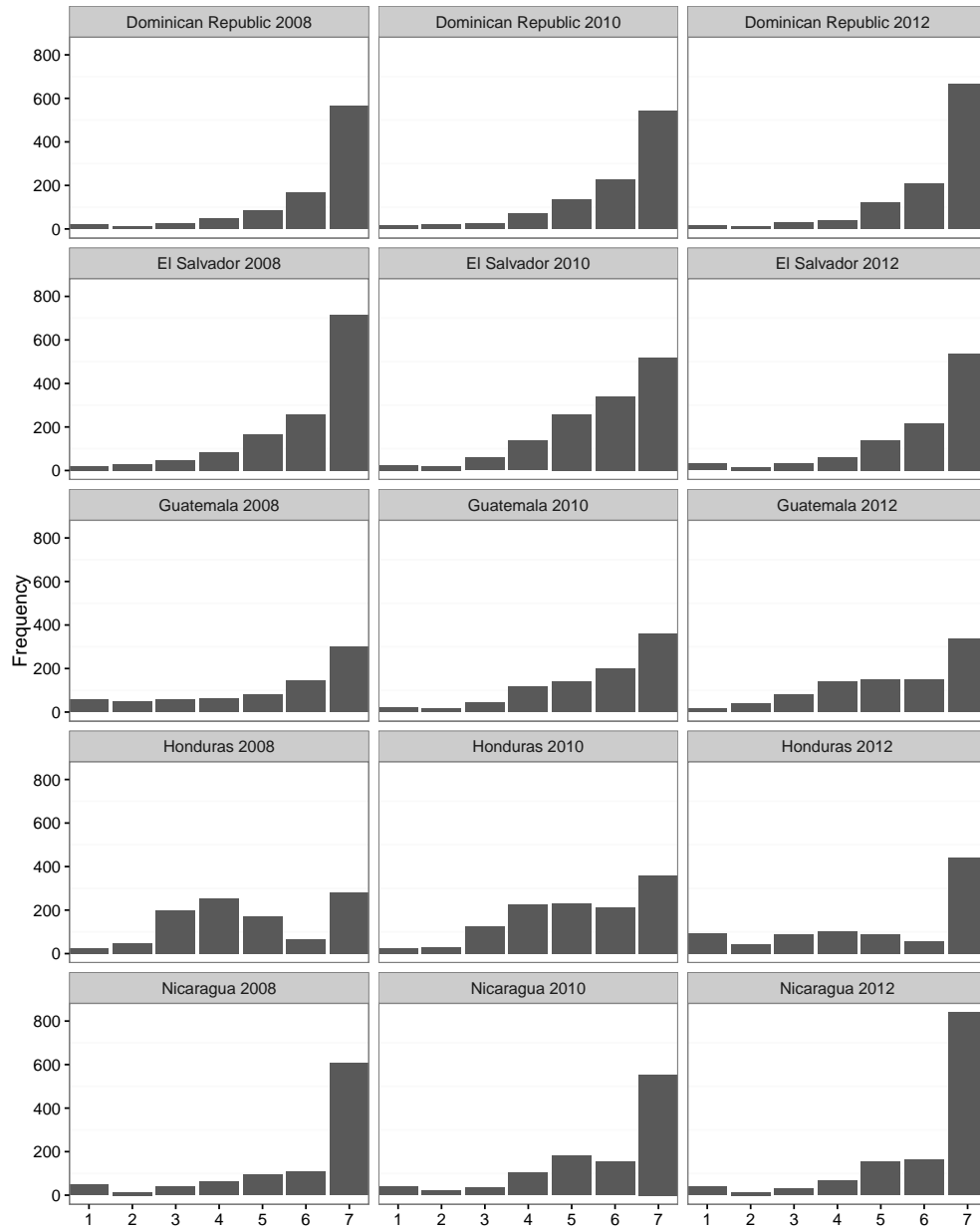
Table A.1: Summary Statistics

	N	Mean	SD	Min	Median	Max
Redistribution	19443	5.71	1.65	1	6	7
Redistribution (binary)	19443	0.65	0.48	0	1	1
Remittances	20173	0.18	0.39	0	0	1
Female	20173	0.51	0.50	0	1	1
Age	20173	34.73	12.06	18	33	60
Income	18230	3.86	2.32	0	4	10
Education	20089	8.03	4.70	0	8	18
Urban	20173	0.56	0.50	0	1	1
Ideology	16738	5.73	2.84	1	5	10
Corruption Perception	18913	0.77	0.42	0	1	1
Executive Approval	19649	3.21	0.99	1	3	5
Employed	20126	0.54	0.50	0	1	1
Bad Econ Situation	20078	0.33	0.47	0	0	1
Worse Econ Situation	19995	0.39	0.49	0	0	1
Children	20138	2.28	2.22	0	2	21
Victim	20125	0.19	0.39	0	0	1
Income Distance	18230	-0	2.12	-5.77	-0.20	7.41
Neither Remittance or Employed	20126	0.37	0.48	0	0	1
Remittance Only	20126	0.09	0.29	0	0	1
Employed Only	20126	0.45	0.50	0	0	1
Remittances & Employed	20126	0.09	0.29	0	0	1

Table A.2: Contextual Variables: 2-year Percent Changes

Country	Year	GDP per Capita	Remittance Inflows	Net FDI Inflows	Total US Bilateral Trade Value
Dominican Republic	2008	9.11	18.07	78.48	3.33
Dominican Republic	2010	6.45	7.81	-33.29	-2.04
Dominican Republic	2012	3.30	9.65	87.66	23.10
Guatemala	2008	4.99	20.53	18.23	78.25
Guatemala	2010	-0.98	-5.11	12.58	0.31
Guatemala	2012	2.81	18.88	49.44	26.25
Honduras	2008	6.83	20.72	67.34	13.58
Honduras	2010	-2.09	-7.21	-59.62	6.24
Honduras	2012	4.88	11.55	120.19	46.86
Nicaragua	2008	5.50	17.55	118.72	88.11
Nicaragua	2010	-2.16	0.60	-21.90	-19.80
Nicaragua	2012	9.51	23.22	56.71	116.17
El Salvador	2008	4.52	7.81	274.51	18.76
El Salvador	2010	-2.37	-7.53	-112.53	-5.98
El Salvador	2012	3.56	12.22	-495.64	20.57

Honduras did not have data for 2008 in COMTRADE.

I used data for 2007 as a proxy for 2008 in Honduras

This meant that the 2-year change in 2010 is based on 2007.

Table A.3: Full Results: Remittances, Employment, and Redistribution

| | Support Redistribution | | |
| | 2008 | 2010 | 2012 |
	Model 1	Model 2	Model 3
Intercept	1.373	0.656	0.818
	(0.407, 2.338)	(−0.070, 1.381)	(−0.019, 1.655)
Remittances Only	0.969	1.328	1.342
	(0.742, 1.196)	(1.108, 1.548)	(1.082, 1.602)
Employed Only	1.212	1.049	1.061
	(1.042, 1.381)	(0.901, 1.197)	(0.901, 1.222)
Employed + Remittances	0.980	0.958	1.165
	(0.736, 1.224)	(0.738, 1.177)	(0.914, 1.417)
Female	0.891	0.923	0.981
	(0.743, 1.039)	(0.795, 1.052)	(0.838, 1.124)
Age	0.980	1.008	1.008
	(0.943, 1.016)	(0.975, 1.041)	(0.972, 1.045)
Age-square	1.000	1.000	1.000
	(1.000, 1.001)	(0.999, 1.000)	(0.999, 1.000)
Income	1.011	0.982	1.217
	(0.904, 1.118)	(0.885, 1.080)	(1.119, 1.315)
Income-square	0.995	0.996	0.985
	(0.985, 1.005)	(0.986, 1.006)	(0.975, 0.995)
Education	1.029	1.022	1.016
	(1.011, 1.048)	(1.005, 1.039)	(0.998, 1.033)
Urban	1.110	1.129	0.756
	(0.963, 1.256)	(1.000, 1.259)	(0.613, 0.899)
Ideology	1.020	1.010	1.036
	(0.995, 1.044)	(0.987, 1.033)	(1.014, 1.058)
Corruption Perception	1.522	1.134	1.122
	(1.356, 1.688)	(0.997, 1.270)	(0.971, 1.274)
Executive Approval	0.971	1.146	1.008
	(0.898, 1.045)	(1.081, 1.211)	(0.936, 1.080)
Bad Economic Situation	1.168	1.278	1.247
	(1.009, 1.327)	(1.136, 1.420)	(1.082, 1.412)
Worse Economic Situation	0.862	0.968	0.907
	(0.709, 1.016)	(0.839, 1.097)	(0.755, 1.058)
Children	1.073	1.038	1.003
	(1.031, 1.114)	(0.999, 1.077)	(0.963, 1.043)
N	4539	5002	4612
Log Likelihood	−2647.247	−3220.330	−2732.993
AIC	5336.494	6482.660	5507.986

Note: $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

Table A.4: Full Results: Income Distance, Remittances and Redistribution

| | Support Redistribution | | | |
| | Non-Interaction | Interaction | Non-Recipients | Recipients |
	Model 1	Model 2	Model 3	Model 4
Intercept	1.266	1.279	1.043	3.308
	(−0.002, 2.534)	(0.006, 2.551)	(−0.224, 2.310)	(1.707, 4.909)
Income Distance	1.098	1.108	1.097	1.119
	(0.805, 1.392)	(0.814, 1.403)	(0.808, 1.387)	(0.785, 1.453)
Remittances	1.048	1.075		
	(0.956, 1.141)	(0.980, 1.170)		
Female	0.922	0.923	0.964	0.789
	(0.842, 1.002)	(0.843, 1.002)	(0.875, 1.054)	(0.610, 0.967)
Age	1.002	1.002	1.000	1.012
	(0.982, 1.022)	(0.982, 1.022)	(0.978, 1.023)	(0.969, 1.055)
Age-square	1.000	1.000	1.000	1.000
	(1.000, 1.000)	(1.000, 1.000)	(1.000, 1.000)	(0.999, 1.000)
Income	0.969	0.963	0.985	0.833
	(0.672, 1.265)	(0.665, 1.261)	(0.692, 1.279)	(0.478, 1.187)
Income-square	0.992	0.993	0.992	1.002
	(0.987, 0.998)	(0.988, 0.999)	(0.985, 0.998)	(0.988, 1.015)
Education	1.022	1.021	1.023	1.014
	(1.012, 1.032)	(1.011, 1.031)	(1.012, 1.034)	(0.991, 1.038)
Urban	0.988	0.986	0.971	1.064
	(0.908, 1.068)	(0.906, 1.066)	(0.882, 1.060)	(0.881, 1.246)
Ideology	1.019	1.019	1.025	1.000
	(1.006, 1.033)	(1.006, 1.032)	(1.010, 1.039)	(0.970, 1.030)
Corruption Perception	1.221	1.220	1.229	1.164
	(1.135, 1.307)	(1.134, 1.306)	(1.134, 1.324)	(0.959, 1.368)
Executive Approval	1.052	1.053	1.071	0.990
	(1.012, 1.092)	(1.013, 1.093)	(1.026, 1.115)	(0.901, 1.080)
Employed	1.047	1.048	1.115	0.819
	(0.964, 1.130)	(0.965, 1.131)	(1.022, 1.209)	(0.633, 1.005)
Bad Economic Situation	1.245	1.246	1.246	1.269
	(1.157, 1.333)	(1.158, 1.334)	(1.149, 1.344)	(1.060, 1.477)
Worse Economic Situation	0.920	0.922	0.939	0.862
	(0.838, 1.002)	(0.840, 1.004)	(0.847, 1.030)	(0.672, 1.051)
Children	1.038	1.038	1.043	1.015
	(1.015, 1.061)	(1.015, 1.061)	(1.018, 1.068)	(0.960, 1.071)
Interaction		0.941		
		(0.897, 0.986)		
N	14153	14153	11292	2861
Log Likelihood	−8650.044	−8646.454	−6944.606	−1704.616
AIC	17342.090	17336.910	13929.210	3449.233

Column 1 and Column 2 use the pooled data.

Column 3 is based on the non-receiving subset

Column 4 is based on the remittance-receiving subset.

Table A.5: Random Effects

Model	Variable	Variance	Std. Dev.
Main Results: Table 2			
Main Model	GDP Change	0.0049	0.0701
Main Model	Remittance Change	0.1034	0.3216
Main Model	Trade Change	0.0979	0.3129
Main Model	FDI Change	0.0951	0.3084
Main 2008 Model	GDP Change	0.0449	0.2118
Main 2008 Model	Remittance Change	0.1660	0.4074
Main 2008 Model	Trade Change	0.1676	0.4094
Main 2008 Model	FDI Change	0.1670	0.4087
Main 2010 Model	GDP Change	0.0536	0.2316
Main 2010 Model	Remittance Change	0.0295	0.1719
Main 2010 Model	Trade Change	0.0236	0.1537
Main 2010 Model	FDI Change	0.0246	0.1569
Main 2012 Model	GDP Change	0.0691	0.2628
Main 2012 Model	Remittance Change	0.0594	0.2437
Main 2012 Model	Trade Change	0.0401	0.2003
Main 2012 Model	FDI Change	0.0630	0.2511
Risk Model: Table 4			
2008 Model	GDP Change	0.0473	0.2174
2008 Model	Remittance Change	0.1677	0.4095
2008 Model	Trade Change	0.1655	0.4068
2008 Model	FDI Change	0.1648	0.4060
2010 Model	GDP Change	0.0534	0.2311
2010 Model	Remittance Change	0.0237	0.1541
2010 Model	Trade Change	0.0300	0.1733
2010 Model	FDI Change	0.0239	0.1546
2012 Model	GDP Change	0.0669	0.2586
2012 Model	Remittance Change	0.0606	0.2461
2012 Model	Trade Change	0.0431	0.2075
2012 Model	FDI Change	0.0618	0.2486
Income Model: Table 6			
Non-Interaction Model	GDP Change	0.0065	0.0806
Non-Interaction Model	Remittance Change	0.0985	0.3138
Non-Interaction Model	Trade Change	0.1018	0.3190
Non-Interaction Model	FDI Change	0.0994	0.3153
Interaction Model	GDP Change	0.0137	0.1169
Interaction Model	Remittance Change	0.0979	0.3129
Interaction Model	Trade Change	0.1009	0.3176
Interaction Model	FDI Change	0.0949	0.3081
Non-Recipients	GDP Change	0.0128	0.1131
Non-Recipients	Remittance Change	0.0761	0.2759
Non-Recipients	Trade Change	0.0975	0.3122
Non-Recipients	FDI Change	0.1103	0.3321
Recipients	GDP Change	0.1246	0.3530
Recipients	Remittance Change	0.0797	0.2823
Recipients	Trade Change	0.0802	0.2832
Recipients	FDI Change	0.0796	0.2821

Table A.6: Variable Descriptions from LAPOP Surveys

Variable	Code	Question
Redistribution	ros4	The *country* government should implement strong policies to reduce income inequality between the rich and the poor. To what extent do you agree or disagree with this statement?
Remittances	q10a	Do you or someone else living in your household receive remittances, that is, economic assistance from abroad?
Female	q1	Sex
Age	q2	Age
Income	q10	Into which of the following income ranges does the total MONTHLY income of this household fit, including remittances from abroad and the income from all the working adults and children?
Income (2012)	q10new	Into which of the following income ranges does the total MONTHLY income of this household fit, including remittances from abroad and the income from all the working adults and children?
Education	edu	How many years of schooling of you completed?
Urban	ur	Urban or Rural area?
Ideology	l1	On this card there is a 1-10 scale that goes from liberal to conservative. According to the meaning that the terms "liberals" and "conservatives" have for you, and thinking of your own political leanings, where would you place yourself on this scale?
Corruption Perception	exc7	Taking into account your own experience or what you have heard, corruption among public officials is...
Executive Approval	m1	Speaking in general of the current administration, how would you rate the job performance of President/
Employed	ocup4a	How do you mainly spend your time? Are you currently...
Bad Economic Situation	idio1	How would you describe your overall economic situation? Would you say that it is very good, good, neither good nor bad, bad or very bad?
Worse Economic Situation	idio2	Do you think that your economic situation is better than, the same as, or worse than it was 12 months ago?
Children	q12	Do you have children? How many children do you have?

Table A.7: Fixed Effects: Remittances and Support for Redistribution

| | Support Redistribution | | | |
| | Pooled | 2008 | 2010 | 2012 |
	Model 1	Model 2	Model 3	Model 4
Intercept	0.932	59.258	0.418	0.000
	(−0.011, 1.876)	(56.501, 62.014)	(−0.285, 1.121)	(−1.181, 1.181)
Remittances	0.922	0.885	1.082	1.201
	(0.726, 1.117)	(0.661, 1.108)	(1.039, 1.125)	(0.907, 1.496)
2010	0.728			
	(0.073, 1.382)			
2012	1.162			
	(0.553, 1.771)			
Remittances×2010	1.252			
	(1.020, 1.485)			
Remittances×2012	1.443			
	(1.129, 1.757)			
N	14153	4539	5002	4612
Female	0.933	0.887	0.922	0.978
	(0.847, 1.019)	(0.741, 1.034)	(0.767, 1.077)	(0.842, 1.115)
Age	1.004	0.979	1.008	1.008
	(0.980, 1.028)	(0.940, 1.018)	(0.965, 1.051)	(0.971, 1.045)
Age-square	1.000	1.000	1.000	1.000
	(1.000, 1.000)	(1.000, 1.001)	(0.999, 1.000)	(0.999, 1.000)
Income	0.943	1.016	0.989	1.219
	(0.757, 1.129)	(0.822, 1.210)	(0.893, 1.085)	(1.099, 1.339)
Income-square	0.998	0.995	0.996	0.985
	(0.986, 1.010)	(0.981, 1.009)	(0.989, 1.002)	(0.977, 0.993)
Education	1.044	1.029	1.021	1.015
	(1.027, 1.060)	(1.008, 1.050)	(1.008, 1.034)	(0.999, 1.032)
Urban	1.117	1.106	1.125	0.756
	(0.952, 1.283)	(0.969, 1.243)	(0.998, 1.251)	(0.622, 0.889)
Ideology	1.016	1.020	1.011	1.036
	(0.979, 1.054)	(0.926, 1.114)	(0.947, 1.075)	(0.988, 1.084)
Corruption Perception	1.145	1.526	1.137	1.125
	(0.945, 1.345)	(1.309, 1.744)	(0.835, 1.440)	(0.667, 1.584)
Executive Approval	1.060	0.970	1.148	1.006
	(0.967, 1.153)	(0.778, 1.162)	(1.017, 1.279)	(0.882, 1.130)
Employed	1.095	1.161	0.970	1.025
	(0.920, 1.271)	(0.827, 1.496)	(0.826, 1.114)	(0.857, 1.194)
Bad Economic Situation	1.224	1.169	1.277	1.244
	(1.066, 1.382)	(0.837, 1.501)	(1.199, 1.356)	(1.081, 1.407)
Worse Economic Situation	0.923	0.862	0.968	0.907
	(0.789, 1.057)	(0.520, 1.205)	(0.850, 1.086)	(0.724, 1.089)
Children	1.032	1.073	1.037	1.003
	(1.004, 1.060)	(0.989, 1.156)	(1.012, 1.063)	(0.951, 1.054)
GDP % Change	1.158	1.796	1.405	1322073
	(1.052, 1.265)	(1.762, 1.830)	(1.367, 1.443)	(1322072, 1322073)
Remittances % Change	0.942	0.659	0.849	2.929
	(0.868, 1.015)	(0.565, 0.753)	(0.826, 0.872)	(2.886, 2.971)
Trade % Change	1.002	1.024	0.928	0.336
	(0.994, 1.010)	(1.020, 1.028)	(0.918, 0.938)	(0.305, 0.366)
FDI % Change	1.000	0.989	1.003	1.016
	(0.999, 1.001)	(0.983, 0.994)	(1.003, 1.004)	(1.016, 1.017)
Log Likelihood	−8954.182	−2633.947	−3212.424	−2721.672
AIC	17956.360	5307.894	6464.847	5483.344

Note: Coefficients are odd-ratios. Country-year clustered standard erors in parentheses.

Table A.8: Fixed Effects: Employment, Remittances, and Redistribution

| | Support Redistribution | | |
| | 2008 | 2010 | 2012 |
	Model 1	Model 2	Model 3
Intercept	58.212	0.402	0.000
	(56.415, 60.008)	(−0.294, 1.098)	(−5.358, 5.358)
Remittances Only	0.968	1.325	1.340
	(0.741, 1.195)	(1.104, 1.545)	(1.080, 1.601)
Job Only	1.210	1.049	1.063
	(1.040, 1.380)	(0.900, 1.197)	(0.902, 1.223)
Job+Remittances	0.978	0.956	1.164
	(0.733, 1.222)	(0.736, 1.176)	(0.913, 1.416)
Female	0.890	0.923	0.982
	(0.742, 1.038)	(0.795, 1.052)	(0.839, 1.125)
Age	0.979	1.008	1.008
	(0.941, 1.018)	(0.973, 1.042)	(0.970, 1.046)
Age-square	1.000	1.000	1.000
	(1.000, 1.001)	(0.999, 1.000)	(0.999, 1.000)
Income	1.014	0.987	1.215
	(0.907, 1.121)	(0.889, 1.085)	(1.117, 1.314)
Income-square	0.995	0.996	0.985
	(0.985, 1.005)	(0.986, 1.006)	(0.975, 0.996)
Education	1.029	1.021	1.016
	(1.011, 1.048)	(1.004, 1.038)	(0.998, 1.033)
Urban	1.106	1.126	0.755
	(0.959, 1.253)	(0.996, 1.256)	(0.612, 0.898)
Ideology	1.020	1.011	1.036
	(0.995, 1.044)	(0.988, 1.033)	(1.014, 1.058)
Corruption Perception	1.525	1.133	1.125
	(1.359, 1.691)	(0.997, 1.270)	(0.973, 1.276)
Executive Approval	0.970	1.148	1.006
	(0.896, 1.044)	(1.083, 1.213)	(0.934, 1.078)
Bad Economic Situation	1.168	1.278	1.244
	(1.009, 1.328)	(1.136, 1.420)	(1.079, 1.409)
Worse Economic Situation	0.861	0.967	0.906
	(0.708, 1.015)	(0.838, 1.097)	(0.755, 1.058)
Children	1.073	1.038	1.003
	(1.031, 1.115)	(0.999, 1.078)	(0.963, 1.043)
GDP % Change	1.797	1.406	1350384
	(1.720, 1.873)	(1.318, 1.494)	(1350382, 1350386)
Remittances % Change	0.659	0.849	2.933
	(0.591, 0.727)	(0.793, 0.904)	(2.750, 3.117)
Trade % Change	1.024	0.928	0.335
	(1.021, 1.028)	(0.910, 0.946)	(0.153, 0.517)
FDI % Change	0.989	1.003	1.016
	(0.985, 0.992)	(1.001, 1.005)	(1.014, 1.019)
N	4539	5002	4612
Log Likelihood	−2633.322	−3209.321	−2721.029
AIC	5308.644	6460.643	5484.058

Note: Coefficients are odd-ratios. Country clustered standard erors in parentheses.

Table A.9: Fixed Effects: Income Distance, Remittances, and Redistribution

	Non-Interaction	Support Redistribution Interaction	Non-Recipients	Recipients
	Model 1	Model 2	Model 3	Model 4
Intercept	2.718	2.737	2.034	9.508
	(0.135, 5.300)	(0.148, 5.327)	(−0.491, 4.558)	(6.446, 12.570)
Income Distance	1.446	1.457	1.410	1.571
	(0.795, 2.097)	(0.805, 2.108)	(0.779, 2.042)	(0.852, 2.290)
Remittances	1.096	1.120		
	(1.008, 1.183)	(1.023, 1.218)		
Income Dist.× Remit		0.950		
		(0.911, 0.990)		
Female	0.934	0.934	0.975	0.804
	(0.834, 1.033)	(0.832, 1.035)	(0.873, 1.078)	(0.635, 0.974)
Age	1.006	1.006	1.006	1.011
	(0.995, 1.018)	(0.995, 1.018)	(0.988, 1.024)	(0.955, 1.068)
Age-square	1.000	1.000	1.000	1.000
	(1.000, 1.000)	(1.000, 1.000)	(1.000, 1.000)	(0.999, 1.001)
Income	0.720	0.716	0.742	0.601
	(0.066, 1.373)	(0.062, 1.370)	(0.087, 1.397)	(−0.063, 1.264)
Income-square	0.993	0.994	0.993	0.999
	(0.981, 1.005)	(0.983, 1.005)	(0.983, 1.003)	(0.979, 1.020)
Education	1.035	1.034	1.037	1.026
	(1.012, 1.058)	(1.011, 1.058)	(1.010, 1.063)	(1.008, 1.044)
Urban	1.069	1.068	1.048	1.141
	(0.997, 1.141)	(0.995, 1.140)	(0.990, 1.105)	(1.025, 1.258)
Ideology	1.017	1.017	1.022	0.998
	(0.955, 1.080)	(0.955, 1.080)	(0.962, 1.083)	(0.926, 1.069)
Corruption Perception	1.146	1.145	1.153	1.103
	(0.894, 1.398)	(0.893, 1.396)	(0.890, 1.416)	(0.897, 1.309)
Executive Approval	1.065	1.066	1.076	1.025
	(0.984, 1.147)	(0.984, 1.147)	(0.989, 1.164)	(0.957, 1.093)
Employed	1.040	1.040	1.104	0.832
	(0.888, 1.191)	(0.888, 1.192)	(0.907, 1.301)	(0.589, 1.076)
Bad Economic Situation	1.284	1.285	1.297	1.246
	(1.168, 1.400)	(1.169, 1.401)	(1.194, 1.401)	(0.953, 1.539)
Worse Economic Situation	0.940	0.941	0.957	0.881
	(0.780, 1.100)	(0.780, 1.102)	(0.824, 1.090)	(0.554, 1.208)
Children	1.027	1.027	1.033	1.003
	(1.018, 1.036)	(1.018, 1.036)	(1.021, 1.045)	(0.985, 1.021)
GDP % Change	1.244	1.244	1.239	1.249
	(1.044, 1.445)	(1.044, 1.445)	(1.049, 1.429)	(1.005, 1.493)
Remittances % Change	0.947	0.947	0.948	0.950
	(0.904, 0.991)	(0.904, 0.991)	(0.906, 0.989)	(0.900, 1.000)
Trade % Change	0.997	0.997	0.998	0.995
	(0.987, 1.008)	(0.987, 1.008)	(0.988, 1.008)	(0.983, 1.007)
FDI % Change	1.000	1.000	1.000	0.999
	(0.999, 1.001)	(0.999, 1.001)	(0.999, 1.001)	(0.998, 1.000)
N	14153	14153	11292	2861
Log Likelihood	−8906.765	−8904.108	−7135.583	−1754.104
AIC	17855.530	17852.220	14311.170	3548.208

Note: Coefficients are odd-ratios. Country-year clustered standard erors in parentheses.

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