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Remittances and incumbency: Theory and evidence

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Abstract

By raising household income, remittances lower the marginal utility of targeted electoral transfers, thus weakening the efficacy of vote buying. Yet, remittances make individuals wealthier and believe the national economy is performing well, which is positively attributed to the incumbent. Building on these insights, I show that the confluence of these divergent channels generate a surprising result that at increasingly higher levels of dissatisfaction with the incumbent, a remittance recipient is more likely to vote for the incumbent than a non-remittance recipient. These predictions and their underlying mechanisms are substantiated across 18 Latin American countries.

1 | INTRODUCTION

For millions of households in developing countries, remittances constitute a non-trivial source of income with the promise to unshackle their dependence on ineffective governments (e.g., A. Diaz-Cayeros, B. Magaloni & B. R. Weingast, unpublished data). Globally, these cross-border intra-household transfers have grown dramatically since the 1970s, exceeding more than $700 billion annually by 2010 and vastly surpassing official development assistance (World Bank, 2010). Unlike income derived from domestic production (which can be influenced by government policies and can be more effectively taxed), remittance income is unique, as it is largely beyond the direct control of governments in recipient countries (Chami et al., 2008). This sentiment has led policymakers to proclaim that remittances are a "means to encourage positive change" (Obama, 2009). These notions extend from prominent theories linking individual income to political behavior (e.g., Lipset, 1959).

While scholars increasingly agree that remittances can affect individual political behavior, their findings highlight varying channels. One strand of this literature, focused primarily on Mexico, suggests that remittance recipients are less likely to participate in formal politics (Goodman & Hiskey, 2008; Perez-Armendariz & Crow, 2010). Another strand evaluates the potential effect of remittances on vote choice. For instance, the additional income remittances embody may enable recipients to break the clientelist grip of political parties by raising the marginal costs associated

with buying their electoral support and potentially ushering political reform (Escriba-Folch, Meseguer, & Wright, 2015). However, models of pocketbook voting (e.g., Fiorina, 1978) portend that remittance income can induce voters to hold a more positive assessment of the national economy (because remittance recipients feel wealthier). And this positive assessment of the economy is attributed to good policies of the incumbent. Thus, via this economic assessments channel, remittances augur well for an incumbent's electoral prospects (J. Bravo, unpublished data).

Remittances therefore can affect an incumbent's electoral fortunes: remittances may hurt an incumbent via the vote buying channel while buttressing that same incumbent through a more favorable assessment of economic conditions. In both instances, remittances can indirectly influence an individual's voting calculus. The *net effect* of remittances on electoral preferences from these two divergent channels, however, is unclear ex-ante. This article reconciles this gap with a parsimonious model. Building on a flexible and widely used framework of vote buying by political parties (Dixit & Londegran, 1996) and integrating the core insights of the vote buying and economic assessment channels, the model generates a surprising prediction that at increasingly higher levels of dissatisfaction with the incumbent, a remittance recipient is more likely (than a non-remittance recipient) to vote for the incumbent.[1] In particular, the "positive" effect associated with the economic assessment channel raises the prospect that a remittance recipient will cast a vote in favor of an incumbent she tends to hold an underlying disaffinity for.

Following the research designs of prominent observational studies on vote buying (e.g., Nichter, 2008; Stokes, 2005), this conjecture is carefully corroborated, using nationally representative surveys from 18 Latin American countries. For instance, the most conservative estimate implies that a remittance recipient is 4% more likely to vote for an incumbent than a non-remittance recipient (with an equal level of dissatisfaction with the incumbent). A remittance recipient with the highest level of underlying dissatisfaction is 16% more likely to vote for an incumbent relative to a non-remittance recipient with an equal level of dissatisfaction. These findings hold in specifications that control for an individual's demographic characteristics (e.g., age, gender, education), self-reported measures of political ideology (e.g., placement on a left-right scale), political interest, socio-economic status, and intention to migrate. The inclusion of the latter helps account for selection effects, potentially related to receiving remittances and level of support for the incumbent.

I also provide evidence corroborating the two underlying channels: economic assessments and vote buying. On the former, I directly show that remittance recipients hold a more positive assessment of national economic conditions. In contrast, testing the latter channel is more arduous since researchers cannot *directly* observe vote buying (Schaffer, 2007; Stokes, 2005). That said, a central feature of models of vote buying (including the one in this article) is its heightened efficacy when the voter is poor. This implies that the article's key results should be *more* pronounced among poorer voters. I show this to be the case.

The article's core findings are robust to alternate econometric specifications, measures of remittances, and techniques to mitigate concerns with "selection" on observables (e.g., matching) and unobservables (e.g., using Rosenbaum bounds). The core findings also hold while accounting for non-economic channels through which remittances might affect political behavior, such as "social remittances." Moreover, I discount the competing explanation that remittances affect vote choice through turnout-voting, rather than vote buying.

The theory and empirics advanced in this article are relevant for countries with less than fully consolidated democracies and where vote buying (with small, voter-specific transfers) is prevalent. Examples include countries in Latin America and Africa. More broadly, this article's formal model and empirical findings contributes to the nascent literature examining how remittances can shape individual level political participation (Goodman & Hiskey, 2008; Perez-Armendariz & Crow, 2010), impact

electoral outcomes (Escriba-Folch et al., 2015), and influence government spending cross-nationally (e.g., Doyle, 2015; Singer, 2010). As such this article should appeal to scholars in international relations, comparative politics, and distributive politics. Moreover, the article expands the empirical scope beyond Mexico to other Latin American countries and in doing so also offers insights into electoral politics in other regions (e.g., Africa) where vote buying is prevalent and where remittances have been linked to individual political behavior (e.g., Dionne, Inman, & Montinola, 2013).

2 | REMITTANCES AND ELECTIONS

2.1 | Existing research

The effect of international capital flows on electoral politics and governance is well situated within the study of international and comparative political economy. For example, the literature on "bureaucratic authoritarianism" linked international capital flows to the endurance of authoritarian regimes in the 1970s, while their contraction in the aftermath of the 1980s sovereign debt crises ushered in transitions to more democratic politics in various developing countries (Frieden, 1992). With respect to other forms of international capital, such as foreign aid, Faye and Niehaus (2012) identify "political aid cycles" in which recipient governments that are more closely "aligned' with the interests of their donors receive higher amounts of foreign aid in election years. Expanding on this finding, Jablonski (2014) presents project level evidence from Kenya on how incumbents can leverage foreign aid to their electoral advantage.

Other scholars have recently probed the potential electoral effects associated with cross-border financial transfers between *individuals* (i.e., remittances). In particular, several studies, focused primarily on Mexico, have linked remittances to electoral behavior. One strand of this research suggests that remittance recipients are less likely to participate in formal politics, but are more likely to participate in local non-electoral organizations (Goodman & Hiskey, 2008; Perez-Armendariz & Crow, 2010). Another related strand examines the role remittances play in a household's access to public services and the creation of "home town associations," which can help mobilize political participation and electoral turnout (Adida & Girod, 2011).

This may affect actual electoral outcomes. In Mexico, for example, A. Diaz-Cayeros, B. Magaloni & B. R. Weingast (unpublished data) argue that international migration (and the subsequent 'return' of remittances income) helped reduce the support for the Institutional Revolutionary Party (PRI) in the mid-1990s by offering citizens a viable "exit" option. They argue that remittances enabled citizens to weather reductions in patronage after withdrawing support from the PRI; a claim substantiated by Pfutze (2012).

Given these effects, remittances are increasingly viewed as a potential form of "political investment." For example, O'Mahony (2013) provides cross-national evidence that remittance inflows tend to be higher in the years around an election, and higher still in more competitive races (but does not examine their impact on electoral outcomes). While no studies have yet, to the best of my knowledge, attributed changes in government policies to remittances via an electoral mechanism, several studies have done so through other non-electoral channels, such as international risk-sharing (Singer, 2010) and the composition of government spending (Ahmed, 2012; Doyle, 2015).

2.2 | Remittances and voting decisions

Existing research suggests remittances can affect electoral politics by influencing both a voters' electoral preferences and potentially a government's decision-making in response (e.g., A. Diaz-Cayeros,

B. Magaloni & B. R. Weingast (unpublished data). With this in mind, remittances are particularly salient to two channels in this literature: economic assessments and vote buying.

2.2.1 | Remittances and economic assessments

The additional income remittances offer to a household may alter the recipient's view of the national economy. And this in turn can shape a remittance recipient's evaluation of the incumbent government. At their core, models of pocketbook voting posit that individuals who "feel" richer/wealthier (e.g., due to additional income, such as remittances from abroad) tend to believe that the national economy is doing well and are more likely to vote for the incumbent (Fiorina, 1978). Individuals do so because they attribute favorable economic conditions to the policies of the ruling government, whether justified or not.

While remittances are often viewed as income that is largely beyond the direct control of governments in recipient countries, they may nonetheless influence an individual's assessment of economic conditions (J. Bravo, unpublished data). Remittances are often counter-cyclical, thus buttressing households against negative income shocks (Chami et al., 2008). In doing so, remittance recipients may hold a positive assessment of their own household economic condition, even when the national economy is doing poorly and as such remittance recipients are less likely to hold the incumbent accountable for poor economic performance at the national level (relative to non-remittance recipients). Empirically, there is some validity to this conjecture. Employing survey data from Latin America, J. Bravo, (unpublished data) shows that remittance recipients systematically hold positive views about the national economy as well the incumbent government's economic policies.

2.2.2 | Remittances and vote buying

While remittance income may augur well for an incumbent via the economic assessment channel, it may weaken the ability of incumbents to "buy" electoral support. Theories of vote buying hinge on the notion that governments tactically distribute benefits to elicit the support of voters (Schaffer, 2007).[2] This is particularly salient in many developing countries, where vote buying is pervasive, especially by a well-financed incumbent that has access to government revenues (Keefer, 2007). Indeed, as an electoral strategy, vote buying is especially effective if the vote seller is sufficiently poor. While rich voters could be "bought off," the marginal benefit for an incumbent is higher among voters that tend to be poor. For these voters, a financial transfer from the incumbent represents a larger relative share of their individual income (compared to richer voters) and is therefore more likely to affect their voting calculus (e.g., Dixit & Londegran, 1996; Schaffer, 2007). The value of such transfers can amount to the cost of a t-shirt or basic food stuff (Stokes, 2005).

Of course, for such a strategy to succeed, voters must be willing to tradeoff their political preferences (i.e., party affinity) and their own receipts of transfers. With this in mind, Dixit and Londegran (1996) provide a general framework combining redistributive politics and party policies. A key finding from their model is that vote buying is especially effective in low-income voting blocs because the marginal utility of transfers is higher (i.e., poorer voters are more likely to vote for the politician offering the transfer). Applying this logic to remittances implies that the receipts of these foreign inflows of income raises a voter's income and in doing so may weaken the ability of parties to "buy" the votes of remittance recipients.

2.2.3 | Incumbency advantage

In practice, the ability of parties to engage in vote buying frequently varies by the quality of democratic political institutions, electoral competitiveness, and financial resources of the ruling government. In many developing countries, especially those characterized by "hybrid" democratic-autocratic institutions, the incumbent government party is frequently "dominant" and enjoys discretionary power over public spending. This discretion permits the incumbent to allocate resources unchecked and without the legal scrutiny (oversight) observed in a competitive democracy (Greene, 2007). Given this capability to redistribute funds unchecked, an *incumbent* is better able to target its transfers much more efficiently than the ruling government in a competitive democracy ever could, and thus constitutes the efficacy of vote buying in countries with nascent democratic political institutions, such as those in many Latin American countries (Magaloni, 2006).

2.3 | Suggestive effects

A natural extension from models of vote buying and the prevalence of dominant incumbent governments in many poor, remittance receiving countries is that remittances raise household income for poorer voting groups such that they lower the marginal utility of targeted benefits from the *incumbent* government. This generates the first prediction ($P1$): remittance recipients are less likely to vote for the incumbent. Yet remittance income may induce those voters to give a positive appraisal of both their household and the nation's economy. This positive assessment is likely to strengthen a remittance recipient's support for the incumbent (relative to a non-remittance recipient). The confluence of these divergent channels, underlies the second prediction ($P2$): A remittance recipient is more likely than a non-remittance recipient to vote for a "disliked" incumbent.

Unlike $P1$, $P2$ is not intuitively obvious. Thus, in the next section, I develop a parsimonious formal model to sharpen and formally substantiate these predictions. The model shows that remittances affects an individual's voting calculus *via* the economic assessments and vote buying mechanisms. Thus, the model remittances do *not* directly affect vote choice.

3 | MODEL

Dixit and Londegran (1996) provide a flexible and widely used framework to understand the role of financial transfers by political parties to elicit electoral support. Thus, I follow them and model an electoral contest between two political parties and clearly identifiable voting blocs. Indeed, the model developed in this section builds on a similar formalization by Pfutze (2010).[3] And like these scholars, I model the strategies of one party (recognizing that the strategies of the other will be basically opposite). In particular, I model the strategies of the incumbent party, and do so for two reasons. First, voters tend to attribute the performance of the economy (good or bad) to the incumbent's policies. Second, relative to opposition parties, incumbents (especially in developing countries) have access to government resources and thus are in advantaged position to engage in vote buying (e.g., Greene, 2007; Schaffer, 2007). Hence, modeling the electoral strategy of the incumbent effectively captures the insights from the vote buying and economic assessments channels discussed in the previous section.

3.1 | Setup

There are two types of voters (M,N), all of whom earn income Y which can be taxed by the government. Let the subscript M denote migrant households where the voter i receives remittance

income (R), which is not taxed by the government.[4] In contrast, let N denote non-migrant households where the voter does not receive any remittance income. Voter utility is an increasing function of its consumption. In order to remain in office, the government must garner support from a certain number of voters via patronage, denoted by $\gamma \geq 1$. To finance its own consumption and to pay the transfer T to voters willing to sell their vote, the government levies taxes, $\tau \in [0, 1]$ on income, Y. Consistent with existing studies, remittance income is treated as untaxed (e.g., Ahmed, 2012; Chami et al., 2008; Pfutze, 2010) and the government generates all of its revenue from taxation (although, relaxing either assumption does not change the model's comparative statics).[5]

3.2 | Targeted transfers

An incumbent will engage in vote buying if it believes voters will not vote for it without a transfer. Following Dixit and Londegran (1996) and Pfutze (2010), let $\kappa \in (0, 1)$ be an increasing measure of an individual's underlying (or "baseline") utility for voting *for* the government and assume this utility affects the voter's utility multiplicatively.[6] Existing models of economic voting portend that an individual's assessment of the national economy (which is influenced greatly by her income) will influence κ. In particular, higher income (i.e., Y, R) contributes to a more positive assessment of the national economy. This *in turn* raises an individual's utility for voting for the incumbent (Fiorina, 1978). This means $\frac{\partial \kappa}{\partial R} > 0$.[7] Note, remittances do not have a direct effect on voting for the incumbent. Rather remittances influence an individual's vote choice indirectly through its effect via economic assessments (as well as through the vote buying mechanism described below).

Given these conditions, a household will sell its vote if the following holds:[8]

$$\kappa[(1-\tau)Y + R_i + T_i] \geq [(1-\tau)Y + R_i] \tag{1}$$

where i = N, M. Re-arranging terms, the minimum transfer necessary for the government to vote buy is as follows:

$$T_i \geq (\kappa^{-1} - 1)[(1-\tau)Y + R_i] \tag{2}$$

From Equation 2 it is clear that remittance recipients will always require a larger transfer compared to non-remittance recipients. Consequently, Equation 2 demonstrates that remittance income weakens an incumbent government's capacity to purchase electoral support.

3.3 | Government finances

A government is able to engage in vote buying if it has sufficient funds to do so. This requires the government's revenue, net of transfers, to be non-negative. Assuming that taxation carries an efficiency loss of τ^2, the government net revenue, B, can be expressed as follows:

$$(\tau - \tau^2)Y - \gamma_N T_N - \gamma_M T_M = B \geq 0 \tag{3}$$

where $\gamma = \gamma_N + \gamma_M$.

Using Equation 2, the government's optimal tax rate is:[9]

$$\tau^* = \frac{1}{2} + \frac{\gamma}{2}(\kappa^{-1} - 1) \tag{4}$$

From Equation 4, it is clear that taxes are increasing in the size of the government's patronage network, γ, and decreasing in the utility parameter, κ (i.e., $\frac{\partial \tau}{\partial \kappa} = -\frac{\gamma}{2k^2} < 0$).[10]

3.4 | Remittances and voting behavior

Re-arranging Equation 1, it follows that a remittance recipient will vote for the incumbent (V) if her utility from doing so is positive:

$$V_M = \kappa[(1-\tau)Y + R_M + T_M] - [(1-\tau)Y + R_M] > 0 \tag{5}$$

In the *absence* of the vote buying and economic assessment mechanisms, a remittance recipient is less likely to vote for the incumbent as follows:

$$\frac{\partial V}{\partial R} = \kappa - 1 < 0 \tag{6}$$

Of course, this is a naive way to view the voting calculus of a remittance recipient as it ignores the vote buying and economic assessments channels. Using the comparative statics from Equations 2–4, which takes these channels into account, the total differential of Equation 5 with respect to R shows how remittance income affects a voter's decision to support the incumbent. Doing so and collecting like terms yields the following:

$$\frac{\partial V}{\partial R} = \underbrace{\frac{\partial V}{\partial \kappa}\frac{\partial \kappa}{\partial R}[(1-\tau)Y + R + T]}_{\mathbf{A}} + \underbrace{(\kappa - 1)\left[-\frac{\partial V}{\partial \tau}\frac{\partial \tau}{\partial \kappa}\frac{\partial \kappa}{\partial R}Y + 1\right]}_{\mathbf{B}} \tag{7}$$

3.5 | Interpretation and empirical implications

To understand the total marginal effect of remittances on an individual's decision to vote for the incumbent given by Equation 7, it is worthwhile separating the effects, **A** and **B**.

Since $\frac{\partial V}{\partial \kappa} > 0$, $\frac{\partial \kappa}{\partial R} > 0$, it follows that $\frac{\partial V}{\partial \kappa}\frac{\partial \kappa}{\partial R} > 0$. And this positive effect is multiplied by voter income, which is always non-negative (i.e., after-tax income, remittances, and transfers that are all non-negative). Consequently, the entire term captured by **A** is positive.

The term captured by **B** is positive and *declines* in magnitude as the utility parameter (κ) increases. Consider each partial derivative. All else equal, a higher tax rate typically weakens an individual's decision to vote for an incumbent, thus $\frac{\partial V}{\partial \tau} < 0$.[11] From Equation 4, $\frac{\partial \tau}{\partial \kappa} < 0$ and via the economic assessments relationship, $\frac{\partial \kappa}{\partial R} > 0$. This all implies that $(-\frac{\partial V}{\partial \tau}\frac{\partial \tau}{\partial \kappa}\frac{\partial \kappa}{\partial R}) < 0$. And since the actual level of voter income tends to vastly exceed unity (i.e., $Y \gg 1$), it follows that $[-\frac{\partial V}{\partial \tau}\frac{\partial \tau}{\partial \kappa}\frac{\partial \kappa}{\partial R}Y + 1] < 0$. Moreover, since $0 < \kappa < 1$ it follows that $(\kappa - 1)$ is negative, but less so as κ increases. This implies that the product of κ and $[-\frac{\partial V}{\partial \tau}\frac{\partial \tau}{\partial \kappa}\frac{\partial \kappa}{\partial R}Y + 1]$ is always non-negative and this product declines in magnitude as κ increases. Or stated alternately, since a higher value of κ measures the underlying utility from supporting the incumbent, **B** becomes more *positive* as *disutility increases*.

Together, Equations 6 and 7 generate two testable predictions:

Prediction 1: *Since remittances raise the cost of buying electoral support (for the incumbent), remittance recipients are less likely to vote for an incumbent.*

This prediction stems from Equation 6 in which the *unconditional* marginal effect of receiving remittances on vote choice is negative. Equation 6 implies that in a regression of vote choice on whether an individual receives remittances, the *main effect of remittance on voting for the incumbent is negative* (i.e., the coefficient on remittances will be negative).[12]

Prediction 2: *A remittance recipient is more likely than a non-remittance recipient to vote for a "disliked" incumbent.*

Prediction 2 stems from Equation 7 which incorporates the positive effect associated with the economic assessments mechanism. Equation 7 implies that the *interactive* effect of an individual's underlying *disutility* from supporting the incumbent (i.e., $\kappa - 1$) and remittances on voting for the incumbent is *positive*. Moreover, this differential effect between remittance and non-remittance recipients is larger at higher levels of disutility.[13] Empirically, this means that in an econometric model that regresses vote choice (for the incumbent) on the interaction of incumbent dissatisfaction with whether an individual receives remittances, the interaction effect will be positive.

4 | DATA AND METHODS

4.1 | Specification

To evaluate whether receiving remittances affects an individual's voting preferences, I estimate econometric specifications of the the form:

$$VOTE_{ij} = \alpha + \beta R_{ij} + \lambda D_{ij} + \theta(D_{ij} \times R_{ij}) + \phi X_{ij} + \eta_j + \epsilon_{ij},$$

where $VOTE_{ij}$ indicates whether individual i in country j votes for the incumbent (1) or not (0). R_{ij} is an indicator variable equal to 1 if individual i receives any remittance income from abroad and zero otherwise and D_{ij} is an increasing measure of an individual's underlying dissatisfaction for supporting the incumbent and its policies.[14] X_{ij} is a vector of individual characteristics (e.g., age, education, migration intentions, etc.), η_j is a vector country fixed effects, and ϵ_{ij} is the error term. The inclusion of country fixed effects accounts for any observable and unobservable factor that varies at the national level, but not among voters in the same country. Thus, country fixed effects account for observable country characteristics (during the survey year), such as the left-right placement of the incumbent leader and party, the level of public spending, the country's quality of political institutions (e.g., corruption), and prevailing macroeconomic conditions. These fixed effects also capture various unobservable characteristics, such as the electoral strategies of political parties (incumbent and opposition) in the survey year.

The standard errors are adjusted to account for heteroskedasticity and are clustered at the geographic (district) level. So the results may be interpreted directly as linear probabilities, I estimate the baseline models via OLS.[15] The paper's findings do not hinge on this estimator, as they hold alternate estimators (e.g., probit, logit) and using techniques to mitigate concerns with potential selection effects, such as matching. Finally, concerns related to endogeneity between R_{ij} and $VOTE_{ij}$ are muted as there is no systematic mis-measurement of remittances nor compelling empirical evidence of reverse causality.

4.1.1 | Predicted effects

The formal model generates predictions for the coefficients in the regression model above. Prediction 1 implies that remittance recipients are less likely to vote for the incumbent. Thus β should be negative. Individuals who have an underlying dissatisfaction of the incumbent are inherently less likely to vote for it, so λ is also negative. Prediction 2 implies that a remittance recipient (relative

to a non-remittance recipient) is more likely to vote for an incumbent she dislikes. This implies that the interaction of D_{ij} with R_{ij} is positive (i.e., $\theta > 0$).

4.2 | Data

4.2.1 | Using survey data from Latin America

Ideally, to test whether remittances raise the cost of buying electoral support requires data capturing the relationship between the transfers offered by party officials and the behavior of voters. Given the strategic nature of vote buying and the prevalence of secret ballots, directly observing whether transfers actually affect voting decisions is difficult. This is a problem that all empirical studies of vote buying face. However, one approach scholars increasingly employ to overcome these challenges is to survey respondents to determine whether receiving transfers from political actors affect subsequent political behavior (e.g., turnout, voting for a particular party).

While these surveys sometimes ask respondents whether a party official offered a financial gift in exchange for electoral support, to the best of my knowledge, *no* survey to date has explicitly compared responses to these types of "vote-buying" questions between remittance and non-remittance receiving individuals.[16] This is due in large part to the dearth of surveys that actually field questions pertaining to whether individuals receive remittances from abroad. That said, knowledge of a voter's remittance receiving status, individual characteristics, and voting behavior can offer insights into whether receiving remittances affects an individual's voting preferences.

Cognizant that a country's particular political economy and institution matters in understanding political behavior (Luna, Victoria, Murillo, & Schrank, 2014), testing the article's theory in Latin America offers an ideal environment to gage the effects of remittances on political preferences in a clientelist setting. First, clientelism, in the form of vote buying is pervasive in Latin American electoral politics. Such practices, for example, have been analyzed in Argentina (Auyero, 2000; Stokes, 2005), Brazil (Hagopian, 1996), Chile (Valenzuela, 1977), Columbia (Martz, 1997), the Dominican Republic (Hartlyn, 1998), Mexico (Magaloni, 2006), Peru (Stokes, 1995), and Venezuela (Coppedge, 1994). Second, compared to other regions, remittance inflows into Latin American countries can be quite large (World Bank, 2010). For instance, aggregate remittances to Bolivia, El Salvador, and Honduras totalled around 6.4%, 15.7%, and 17.4% of each country's respective GDP in 2009. On a per capita basis, remittances in these countries amounted to around $76 (Bolivia), $408 (El Salvador), $240 (Honduras). Even in countries with much lower shares of remittances (as a percent of GDP), such as Mexico and Peru, remittance per capita can be quite high. In 2009, the typical Peruvian and Mexican received $55 and $154 respectively in remittance income.

Thus to evaluate the effect of remittances on political preferences in Latin America, I use the 2009 Latin Barometer which surveys nationally representative samples of individuals from 18 Central and South American countries on a battery of economic, political, and demographic questions. The survey has been conducted annually since 1995 and has been used in other settings to understand individual preferences associated with other international capital flows, such as foreign direct investment (Pandya, 2010). Methodologically, the Latin Barometer is very similar in design and implementation to other surveys (Lagos & Chu, 2013). However, unlike surveys from previous years, *only* the 2009 survey asks respondents two questions relevant to understanding the effect of remittances on individual political preferences.

4.2.2 | Main dependent variable

The first question asks,"If elections were held this Sunday, which party would you vote for?" This question fundamentally ascertains an individual's current preference for the incumbent government party in relation to opposition parties.[17]

Answers to this question are country specific. For example, respondents in Mexico can vote for Partido Accion Nacional (PAN), Partido Revolucionario Institucional (PRI), Partido de la Revolucion Democratic (PRD), Partido Verde Ecologista de Mexico (PVEM), Partido del Trabajo (PT), Partido Nueva Alianza (PANAL), and Convergencia. Using answers to this question, I create a binary variable ($VOTE_{ij}$) equal to 1 if the respondent would vote for the incumbent government party, and zero otherwise. Thus, in Mexico if a respondent votes for PAN (the incumbent government party in 2009), $VOTE_{ij}$ is equal to 1. If the respondent votes for a different party, such as PRI or PT, $VOTE_{ij}$ is coded as zero.[18] Respondents that choose not to vote or do not answer are coded as missing.

4.2.3 | Main independent variables

The second question asks respondents "how often do you receive remittances from relatives or friends from abroad, or do you not receive remittances?" Respondents can give the following answers: once a month, at least every 3 months, at least every six months, at least once a year, no I do not receive remittances, do not know, do not answer.[19] Using answers from this question, I create a dichotomous variable, $REMIT_{ij}$, equal to 1 if a respondent indicates she received any remittance income in the past 1 year and a score of zero if she had not received any remittance income.[20]

As Figure 1 shows there is wide cross-national variation in survey responses to whether individuals receive remittances and whether they would vote for the incumbent. Across the region, on average, about 48% of individuals would vote for the ruling government. However, there is substantial variation across countries. For instance, only 8% of respondents would vote for the incumbent in Argentina. In contrast, over 70 of respondents in Costa Rica, El Salvador, and Venezuela would cast a vote in favor of the ruling government. Around 15% of Latin Americans receive remittances, although there is substantial heterogeneity across countries. For instance, the share of remittance recipients households in Guatemala, Mexico, and Peru are around 31%, 16%, and 9% respectively. The highest share of remittance recipients reside in the Dominican Republic (38%) and the lowest share (3%) live in Brazil.

To gage an individual's underlying dissatisfaction with the incumbent government, I use answers to the question about a respondent's level of confidence in the current government. Responses to this question are likely to be an accurate gage of underlying attitudes about the incumbent, since numerous studies, especially in American politics, have long documented that citizens tend to generalize from recent government actions to form evaluations of confidence and trustworthiness (e.g., Citrin, 1974; Hetherington, 1998; Williams, 1985). Thus, answers to this question are likely to be highly correlated with a whether a voter tends to "like" (or not) the incumbent. This variable, however, is *not* a direct measure of whether an individual would cast a vote for the incumbent.

Respondents can offer four responses to this question: a lot, some, little, or no confidence at all. Using these answers, I create an increasing 4-point index measuring an individual's dissatisfaction with the government (D_{ij}) where an individual that has "no confidence" at all in the government receives a score of 4 (i.e., very high dissatisfaction). Individuals with "little," "some," or "a

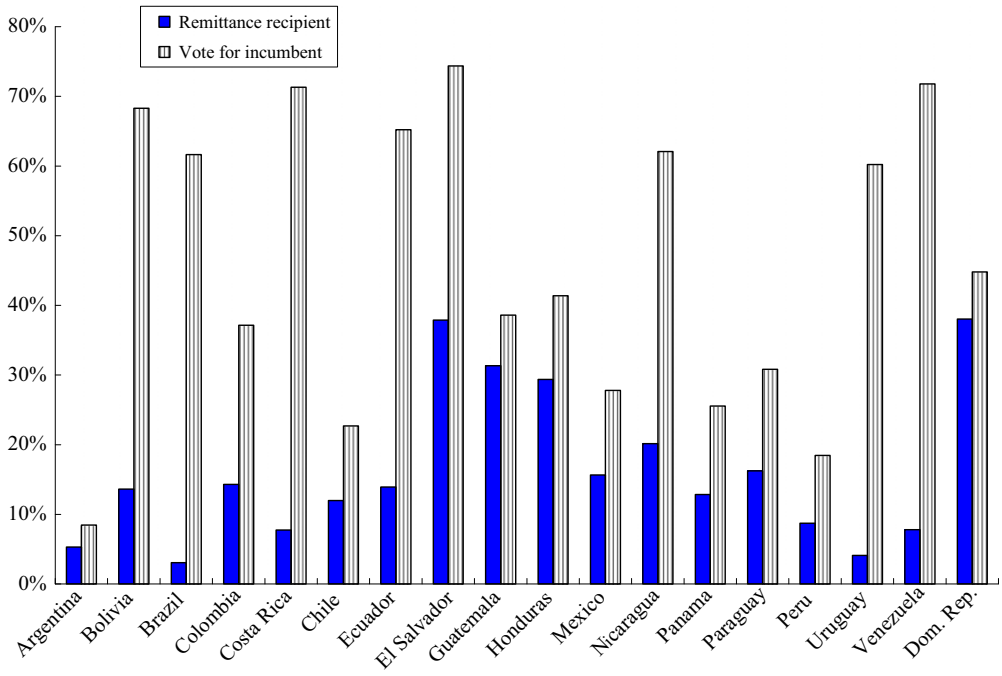

FIGURE 1 Cross-national variation in share of remittance recipients and support for the incumbent government [Colour figure can be viewed at wileyonlinelibrary.com]

lot" confidence in the government receive a score of 3, 2, and 1 respectively on the dissatisfaction index. At the extremes, about 18.8% of respondents express a "very high" and 21.2% hold a "low" dissatisfaction with the government. The typical respondent, however, tends to be content with the incumbent ($\overline{D_{ij}} = 2.45$).

4.2.4 | Control variables

The baseline specification controls for an exhaustive list of factors existing research has linked to individual voting decisions, especially in Latin America.[21] These include a vector of baseline demographic characteristics (e.g., age, gender, marital status, fixed effects for race and employment status); a measure of migration of intentions; and self-reported measures of political interest, socio-economic status, and placement on a left-right political ideology spectrum (0 = most left; 10 = most right).[22]

Controlling for an individual's migration intentions ($MIGRATE_{ij}$) serves to account for potential selection effects and omitted variables. In particular, $MIGRATE_{ij}$ accounts for channels (which may be "unobservable") associated with migrating abroad that may be correlated with both receiving remittances and underlying political preferences (especially towards the incumbent). For example, emigrants often encourage other family members that have remained in their home to emigrate as well. And this in turn, may change these individual's (some of whom are remittance recipients) political preferences in their home country, especially their disposition towards the incumbent. R. R. Bhavnani & M. E. Peters (unpublished data), for instance, show that in Kerala an individual's intention to migrate abroad affects political attitudes. Thus, to account for an individual's intention to migration, I code a binary variable $MIGRATE_{ij}$ equal to 1 if an individual indicates whether she has "seriously considered living abroad" and zero otherwise.

I also control for an individual's views about the provision of public services since existing research suggests finds that remittances can affect an individual's access to these services as well as her potential vote choice (Adida & Girod, 2011; Diaz-Cayeros et al., 2003). Finally, in the specifications without country fixed effects, I also control for the incumbent's placement on a left-right (LR) political spectrum (1 = most left; 20 = most right). This placement is based on the coding by Wiesehomeier and Benoit (2009).[23] Table 1 provides summary statistics for these variables.

5 | REMITTANCES AND VOTING PREFERENCES

5.1 | Remittances and vote choice

5.1.1 | Main results

Table 2 reports the effect of receiving remittances (R_{ij}) on an individual's vote choice for the incumbent. Columns 1–2 report the effect in specifications without country fixed effects, but do include the incumbent's placement on a left-right political spectrum. In contrast, columns 3–5 include country fixed effects and thus do not include incumbent's LR placement as a control, since it is country-specific and subsumed by the relevant country fixed effect.[24] In column 1, a remittance recipient is 15% less likely to vote for the incumbent. This negative effect (coefficient) is consistent with the weakening of vote buying by the ruling government (as given by prediction 1). Unsurprisingly, individuals who express a greater underlying dissatisfaction for the incumbent are less likely to vote him. At the highest level of dissatisfaction (=4), a voter is about 52% less likely to support the incumbent.

Of course, the article's key prediction relates to the interaction of remittances and government dissatisfaction ($R_{ij} \times D_{ij}$). Across all the specifications (columns 1–5), this interaction effect exhibits a robust positive and statistically significant effect on voting for the incumbent, which is consistent with the key theoretical insight (given by prediction 2). For example, in a specification with country fixed effects (column 3), the total marginal effect of remittances is increasing in dissatisfaction ($\frac{\partial V}{\partial R} = -0.12 + 0.04D$). For instance, the most dissatisfied remittance recipient is 4% more likely to vote for an incumbent.[25] In contrast, the most dissatisfied non-remittance recipient is 12% less like to vote for an incumbent. Thus, a remittance recipient with the highest level of incumbent dissatisfaction is 16% more likely to vote for the incumbent relative to a non-remittance recipient with an equal level of dissatisfaction. The *total* marginal effect of dissatisfaction ($\frac{\partial V}{\partial \kappa} = -0.14 + 0.04R$) implies that a remittance recipient is 4% more likely to vote for the incumbent than a non-remittance recipient (holding fixed the level of government dissatisfaction). Finally, observe that the coefficient estimates for $R_{ij} \times D_{ij}$ in the specifications with country fixed effects are slightly smaller in magnitude than those without fixed effects (columns 1–2). Thus, these "fixed effects" estimates (and the those reported in Table 3 and Appendix S1) should be interpreted as lower bound estimates of the effect of remittances on vote choice.

Figure 2 further examines the interaction effect by plotting the marginal effects in a specification that disaggregates the interaction effect. This specification regresses vote choice on the interaction of remittances with a dummy variable for *each value* of the dissatisfaction index, D = 1, 2, 3, and 4 (plus the constituent terms, vector of baseline characteristics and country fixed effects).[26] The figure shows that at higher levels of government dissatisfaction a remittance recipient is more likely to vote for the incumbent. In estimating this regression, the "out-category" is individuals with the lowest level of government dissatisfaction (D = 1); thus the coefficients are the marginal effects relative to the lowest level of government dissatisfaction. For instance, remittance recipients

TABLE 1 Summary statistics

Variable	Observations	Mean	*SD*	Min	Max
Dependent variables					
Vote for incumbent	9,436	0.48	0.50	0	1
Assessment of national economy	9,385	2.74	0.95	1	5
Independent variables					
Remittance recipient	9,436	0.16	0.37	0	1
Government dissatisfaction	9,436	2.45	1.03	1	4
Remit. × Gov. dissatisfaction	9,436	0.40	1.00	0	4
Gender	9,436	1.50	0.50	1	2
Age	9,436	40.45	16.70	16	98
Years of education	9,436	7.83	4.21	0	14
Left-right placement (0 = most left, 10 = most right)	9,436	4.46	3.27	0	10
Political interest	9,436	2.76	1.01	0	4
Socio-economic status	9,436	2.69	0.89	1	5
Self-reported income status	9,436	2.41	0.84	1	4
Local public goods	9,436	2.43	0.95	0	4
Intent to migrate	9,436	0.20	0.40	0	1
Race dummies					
No answer	9,436	0.01	0.10	0	1
Asian	9,436	0.01	0.09	0	1
Black	9,436	0.05	0.23	0	1
Indigeneous	9,436	0.09	0.28	0	1
Mestizo	9,436	0.42	0.49	0	1
Mulato	9,436	0.06	0.25	0	1
White	9,436	0.29	0.45	0	1
Other race	9,436	0.02	0.12	0	1
Do not know	9,436	0.06	0.24	0	1
Employment status dummies					
Self employed	9,436	0.33	0.47	0	1
Salaried employee in a public company	9,436	0.07	0.26	0	1
Salaried employee in a private company	9,436	0.18	0.38	0	1
Temporarily out of work	9,436	0.07	0.25	0	1
Retired	9,436	0.07	0.26	0	1
Do not work	9,436	0.23	0.43	0	1
Student	9,436	0.05	0.22	0	1
Marital status dummies					
Don't know/no answer	9,436	0.01	0.07	0	1
Married/living with a partner	9,436	0.58	0.49	0	1
Single	9,436	0.30	0.46	0	1
Separated/divorced/widower	9,436	0.12	0.32	0	1

Note: Sample restricted to estimating sample from baseline specification in Table 2.

TABLE 2 Remittances and political preferences

Dependent variable:	Vote for incumbent					Assessment of national economy	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Remit. × Gov. dis.	0.050	0.049	0.038	0.037			
	(0.019)***	(0.019)**	(0.017)**	(0.017)**			
Remit. freq. × Gov. dis.					0.012		
					(0.006)**		
Remit. recip.	−0.153	−0.177	−0.122	−0.129		0.182	
	(0.050)***	(0.064)***	(0.042)***	(0.049)***		(0.037)***	
Remit. freq.					−0.037		
					(0.014)**		
Gov. dissatisfaction	−0.13	−0.13	−0.139	−0.139	−0.138		−0.258
	(0.018)***	(0.018)***	(0.016)***	(0.016)**	(0.016)***		(0.011)***
Inc. left-right (Inc. LR)	−0.019	−0.02					
	(0.003)***	(0.003)***					
Remit × Inc. LR		0.002					
		(0.004)					
Left-right (LR)	−0.007	−0.007	−0.011	−0.012	−0.011	−0.011	−0.006
	(0.003)**	(0.002)***	(0.003)***	(0.003)***	(0.003)***	(0.004)***	(0.003)*
Remit. × LR				0.002			
				(0.005)			
Intention to migrate	0.016	0.016	−0.004	−0.004	−0.005	−0.072	−0.029
	(0.018)	(0.018)	(0.015)	(0.015)	(0.015)	(0.030)**	(0.027)
Gender	0.033	0.033	0.029	0.029	0.029	−0.111	−0.095
	(0.012)***	(0.012)***	(0.011)**	(0.011)***	(0.011)**	(0.023)***	(0.022)***
Age	−0.001	−0.001	−0.0005	−0.0005	−0.0005	−0.001	−0.001
	(0.0005)***	(0.0005)***	(0.0005)	(0.0005)	(0.0005)	(0.001)	(0.001)**

(Continued)

TABLE 2 *(Continued)*

Dependent variable:	Vote for incumbent					Assessment of national economy	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Years of education	−0.007	−0.007	−0.001	−0.001	−0.001	0.004	0.005
	(0.002)***	(0.002)***	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)*
Political interest	−0.003	−0.003	−0.002	−0.002	−0.002	−0.081	−0.048
	(0.007)	(0.007)	(0.006)	(0.006)	(0.006)	(0.009)***	(0.009)***
Socio-economic status	0.001	0.002	0.019	0.019	0.019	−0.052	−0.051
	(0.009)	(0.009)	(0.006)***	(0.006)***	(0.006)***	(0.013)***	(0.012)***
Local public goods	−0.01	−0.011	−0.009	−0.008	−0.009	−0.083	−0.049
	(0.007)	(0.007)	(0.006)	(0.005)	(0.006)	(0.012)***	(0.010)***
Constant	1.107	1.11	0.854	0.854	0.85	3.568	4.029
	(0.128)***	(0.128)***	(0.084)***	(0.084)***	(0.083)***	(0.113)***	(0.099)***
Fixed effects for:							
Employment status	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Marital status	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Race	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country	No	No	Yes	Yes	Yes	Yes	Yes
Number of respondents	9,012	9,012	9,463	9,463	9,436	9,448	9,385
R^2	0.13	0.13	0.21	0.21	0.21	0.19	0.25

Notes: Estimation via OLS. Robust standard errors, clustered by geographic region reported in parentheses. * Significant at 10%; ** significant at 5%; *** significant at 1%. In columns 1–5, the dependent variable measures whether an individual votes for the incumbent (1 = Yes, 0 = No). In columns 6 and 7, the dependent variable measures each individual's assessment of national economic conditions. All the specifications include a vector of fixed effects for individual characteristics, including those for employment status, marital status and race (as described in Table 1). These coefficients and country fixed effects are not reported. In columns 1 and 2, observations for El Salvador are dropped as data on the left-right placement of the incumbent (from Wiesehomeier & Benoit, 2009) is unavailable.

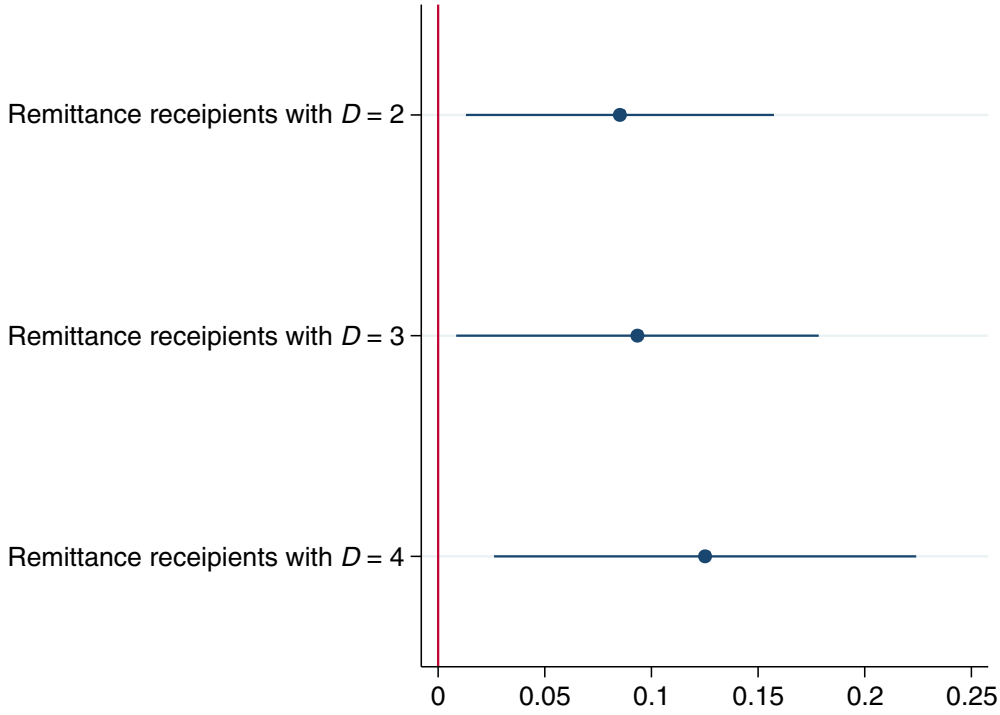

FIGURE 2 Disaggregating the interaction effect of remittances and government dissatisfaction on voting for the incumbent

Note: 95% confidence intervals reported around these coefficient estimates. [Colour figure can be viewed at wileyonlinelibrary.com]

with the highest level of government dissatisfaction ($D = 4$) are about 12% more like to vote for an incumbent (relative to a recipient with the lowest level of government dissatisfaction).

Figure 2 demonstrates that each interaction effect is positive, statistically significant, and rising in magnitude for individuals who exhibit a higher underlying dissatisfaction with the incumbent. This pattern is consistent with the notion that individuals who already like the incumbent (i.e., lower value of D) are less affected by receiving remittances (via the positive economic assessments effect).

The coefficient estimates from the control variables in Table 2 are informative. With the exception of gender, left-right placement, and socio-economic status, most individual characteristics tend to exhibit weak effects on vote choice. For example, neither an individual's age, education, nor views about the quality of local public goods seems to exhibit a robust effect on $VOTE_{ij}$. Surprisingly, an individual's intention to migrate abroad has no effect on her vote choice.[27] Female voters are 3% more likely (than males) to vote for the incumbent, as are individuals who hold a higher self-evaluation of their socio-economic status (in the fixed effects specification).

Individuals who self-identify with a more "left" political ideology tend to support the ruling government. More broadly this individual effect is consistent with the estimated effect of the *incumbent party's* left-right placement on vote choice. Across Latin America (in 2009), the typical voter is less likely to support an incumbent that tends to be associated with a more politically conservative ideology (coefficent = −0.019). This anti-right stance may reflect the weak macroeconomic climate in 2009 (due to the global financial crisis) and a desire for more pro-active/left public policies to ameliorate conditions.

5.1.2 | Accounting for ideological differences

For remittance recipients, however, her left-right ideological placement may affect her vote choice in a differential manner. In particular, a potential concern is that migrants (and their families) do not have the same underlying left-right political placement as non-migrants (and their families). And when this is combined with the ideological lens through which government performance and economic assessment may be viewed by remittance recipients, it is entirely plausible that entire effect associated with $R_{ij} \times D_{ij}$ could be diminished significantly. While all the specifications control for an individual's ideological placement, I allay this concern further by including two additional control variables. In column 2, I control for the interaction of remittances and the *incumbent's* LR placement. In column 4, I control for the interaction of the interaction of remittances and *her* LR placement.

The inclusion of these interaction terms will account for any differential effect associated with remittance recipients (relative to non-remittance recipients) and the incumbent's and her own LR placement. In both columns 2 and 4, the key finding remains unchanged (i.e., $R_{ij} \times D_{ij}$ is positive and significant), while the coefficients on the interaction of remittances and left-right placement are practically nil and not statistically significant. Moreover, the main result holds in a "fully saturated" specification that controls for the interaction of remittances with *all* the individual characteristics (e.g., age, gender, political interest, etc).

5.1.3 | The intensive margin

The results in columns 1–4 evaluate the average effect of receiving remittances on vote choice, yet this effect is likely to vary by the "intensity" or frequency that an individual receives remittances (data on the value of remittances is unavailable in the survey). Column 5 shows that the main and interactive effects associated with remittances on vote choice is more pronounced for individuals who receive remittances more frequently. For instance, individuals who have received remittances at least once during the past year are 4% less likely to vote for the incumbent, while those who receive remittances on a monthly basis are about 15% less likely to vote for the incumbent. The interactive effect remains positive and statistically significant. Holding fixed the level of dissatisfaction, the coefficient estimate (=0.01) implies that an individual who receives remittances every month is 3% more likely to vote for an incumbent than one who receives remittances only once a year.

5.2 | Evidence of mechanisms

This section provides evidence of the underlying mechanisms (economic assessments and vote buying) and how they influence the voting decisions of remittance recipients.

5.2.1 | Economic assessments

The economic assessments channel postulates that remittances raise individual income which makes remittance recipients more likely to *believe* the economy is performing well. And this positive assessment of economic conditions is attributed positively to the incumbent.[28] Columns 6 and 7 in Table 2 provide concrete evidence to substantiate this channel by demonstrating that remittance recipients are more likely to hold favorable assessments of the national economy.

In columns 6 and 7, the dependent variable is a 5-point index based on answers to the question, "In general, how would you describe the country's present economic situation?" Respondents can give the following responses "very good," "good," "about average," "bad" and "very bad." The most favorable rating is assigned the value of 5 and the least favorable given an index value of 1. Column 6 shows that a remittance recipient holds a 0.18 index point higher appraisal of the national economy than a non-remittance recipient. This effect is highly statistically significant (i.e., $p < .01$). Since the measure of economic assessment is an ordinal variable, estimation via OLS may not be appropriate. In an model estimated via ordinal probit the substantive positive effect of remittances on economic assessment remains unchanged (results available upon request). Finally, column 7 shows that voters who hold a greater underlying disaffinity for the incumbent give a worse appraisal of the national economy ($D_{ij} = -0.26$). This finding confirms the theorized connection that higher dissatisfaction is associated with an inferior appraisal of national economic conditions.

5.2.2 | Evidence of vote buying

The voting buying mechanism posits that remittance income raises individual income and makes it more costly for an incumbent to "buy" a remittance recipient's electoral support. Empirically "identifying" the existence of vote buying is near impossible as researchers cannot *directly* observe whether a voter does in fact exchange her vote for a transfer.[29] That said, a voter's likelihood to sell her vote should vary by her income. In particular, a central feature of models of vote buying (including the one in this article, see Equation 2) is that marginal utility of transfers from an incumbent is decreasing in income. This means that vote buying is especially effective if the vote seller is sufficiently poor. Empirically, this implies that the paper's key results (columns 1–5 in Table 2) tying remittances to vote choice should be *more* pronounced among *poorer* voters. Table 3 provides such evidence.

Due to the sensitivity of asking questions about income, the Latin Barometer (like most surveys) does not contain a direct measure of voter income. Instead, I examine the data from several vantage points. First, I leverage answers to a question regarding an individual's self-evaluation of her level of "sufficient" income. Since a voter's decision to sell her vote is based on her *subjective* appraisal of *her* income (relative to the value of the transfer) this self-evaluation of income is a sound and transparent way to categorize a voter as being either rich or poor. Individuals who indicate their income to be "insufficient" or "moderately insufficient" are categorized as poor, while those who report that their income is "sufficient" or "very sufficient" are rich. Rather than estimating a regression model with a triple interaction term, which can be difficult to interpret (Brambor, Clark, & Golder, 2006), I estimate separate models for poor and rich voters.

Columns 1–3 in Table 3 evaluate the effect of remittances on vote choice among rich and poor voters across the full sample of Latin American countries. For rich voters (column 1), remittances recipients are less likely to vote for the incumbent (coefficient = −0.089), while the interactive effect is positive (coefficient = 0.018). While the direction of these effects are consistent with the main results reported in Table 2, they are not statistically significant. In contrast, among poor voters in Latin America (column 2), remittance recipients are 15% less likely to vote for the incumbent while a more dissatisfied remittance recipient is 5% more likely to vote for the incumbent than a non-remittance recipient. These estimated effects are statistically significant and larger in magnitude than among rich voters (column 1) and for the full sample (Table 2, column 3). These inferences also hold for "poor" remittance recipients on the intensive margin (Table 3, column 3).

TABLE 3 Evidence of vote buying

Dependent variable:	Vote for incumbent							
	By voter income			By country income			Poor voters in low-income countries	
Sample:	Rich (1)	Poor (2)	Poor (3)	High (4)	Low (5)	Low (6)	(7)	(8)
Remit. × Gov. dis.	0.025	0.055		0.018	0.054		0.071	
	(0.021)	(0.019)***		(0.027)	(0.015)***		(0.021)***	
Remit. freq. × Gov. dis.			0.017			0.017		0.021
			(0.006)***			(0.005)***		(0.007)***
Remit. recip.	−0.075	−0.188		−0.089	−0.152		−0.228	
	(0.051)	(0.051)***		(0.068)	(0.040)***		(0.054)***	
Remit. freq.			−0.064			−0.047		−0.071
			(0.016)***			(0.013)***		(0.018)***
Gov. dis.	−0.159	−0.122	−0.120	−0.126	−0.156	−0.154	−0.134	−0.131
	(0.019)***	(0.016)***	(0.016)***	(0.025)***	(0.019)***	(0.019)***	(0.018)***	(0.018)***
Recipient characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects *Y*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of respondents	4,541	4,895	4,895	5,181	4,255	4,255	2,468	2,468
R^2	0.23	0.21	0.21	0.20	0.24	0.23	0.24	0.24

Notes: Estimation via OLS. Robust standard errors, clustered by geographic region reported in parentheses. * Significant at 10%; ** significant at 5%; *** significant at 1%. All the specifications include a vector recipient characteristics, employment status, marital status and race dummies (as described in Table 1). Recipient characteristics include: migration intentions, left-right political placement, gender, age, years of education, political interest, socio-economic status, preferences over local public goods, and a vector of recipient fixed effects for employment status, marital status, and race. These coefficients, country fixed effects, and a constant are not reported. In column 4, the sample is restricted to high-income countries (i.e., above the median per capita GDP in Latin America). High-income countries include: Argentina, Brazil, Costa Rica, Chile, Dominican Republic, Mexico, Panama, Uruguay, and Venezuela. In columns 5–8, the sample is restricted to low-income countries (i.e., at or below the median per capita GDP in Latin America). Low-income countries include: Bolivia, Columbia, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Paraguay, and Peru.

Rather than classifying the relative poverty of a voter by her own level of "sufficient" income, one can do so at the country level. Columns 4–6 in Table 3 provide evidence in support of the vote buying mechanism in samples stratified by the relative income of a *country*. In particular, columns 4–6 evaluate the effect of remittances on vote choice among voters in high- and low-income countries. A high (low) income country is a country with per capita income greater (lower) than the median for Latin America. For example, Brazil is high income while the Guatemala is low income. In low-income countries (columns 5 and 6), remittance recipients are less likely to support the incumbent, while a more dissatisfied remittance recipient is more likely to do so (relative to a non-remittance recipient). These effects are statistically significant. In contrast, while voters in high-income countries tend to exhibit similar preferences, these effects are not statistically significant (column 4). Finally, columns 7 and 8 stratify on *both* the relative income of countries and voters, and shows that the main results hold for *poor voters* in *low-income countries*. On balance, the results in Table 3 clearly demonstrate that remittances have a more pronounced effect on vote buying and subsequent electoral preferences among poor voters.

5.2.3 | Economic assessments vs. vote buying

The discussion of the underlying mechanisms so far shows the presence of each mechanism in isolation. The paper's counterintuitive result, however, requires that the economic assessment mechanism dominate the wealth (vote buying) effect for remittance recipients. Figure 3 examines when this "economy" effect dominates the "wealth" effect. The figure plots the marginal effect associated with an individual's assessment of the national economy on her vote choice for the incumbent across all voters and split samples for remittance and non-remittance recipients.[30] If the reception of remittances affects an individual's vote choice via the economic assessments channel (as predicted by the formal model), then one would expect a larger marginal effect on vote choice among remittance recipients than non-remittance recipients.

Figure 3 shows this. For the full sample, individuals who give a higher appraisal of national economic conditions are more likely to vote for the incumbent (as expected). However, this effect is larger than among remittance recipients than non-remittance recipients. This larger effect among remittance recipients implies that reception of remittances enables the economy effect to dominate the wealth effect.

5.3 | Evaluating alternate explanations

5.3.1 | Accounting for non-income effects

The theory and empirics has conceptualized remittances as a purely financial transaction that affects a recipient's electoral preferences through largely economic channels (e.g., affecting individual assessment of the national economy, raising the costs of vote buying). Yet this may not be the only channel(s) through which remittances can affect voting preferences. For example, remittances may also transmit "knowledge" about democratic norms and practice that may affect voting decisions; a concept often referred to as "social remittances" (e.g., Levitt & Lamba-Nieves, 2011).

To account for this alternate channel, I control for an individual's views about democracy ($DEMOC_{ij}$) and its interaction with remittances (i.e., $DEMOC_{ij} \times R_{ij}$) in the main regression specifications.[31] In this specification, the substantive effects from Table 2 remain unchanged. In fact, the coefficient estimate on $R_{ij} \times D_{ij}$ tends to be larger in magnitude than those reported in Table 2.

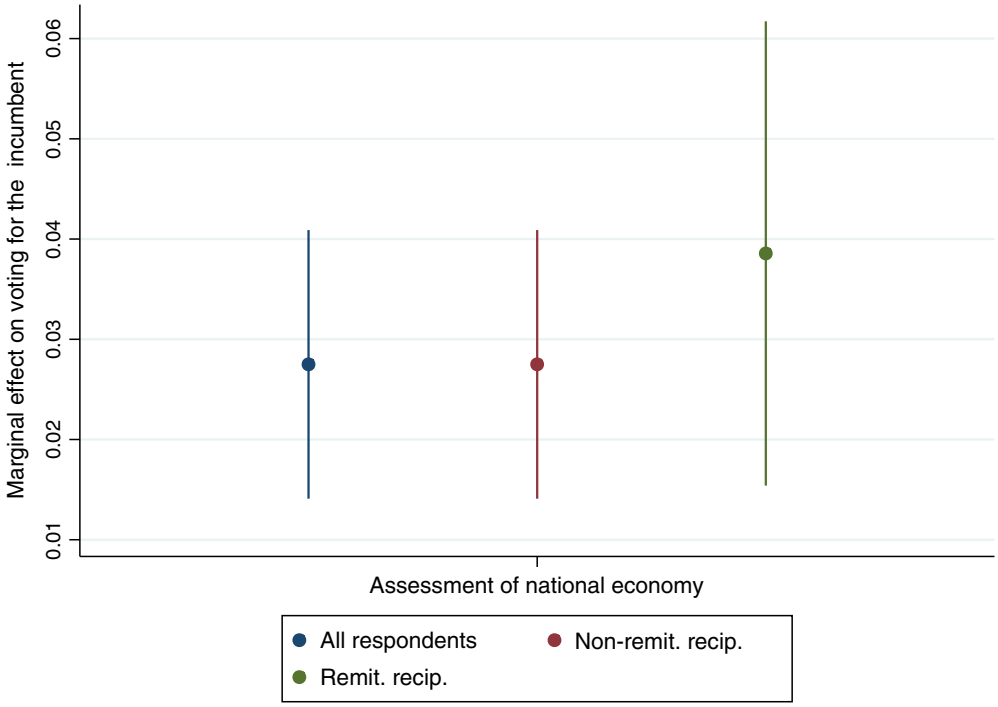

FIGURE 3 Marginal effect of an individual's assessment of national economic conditions among all respondents (left), non-remittance recipients (middle), and remittance recipients (right)

Notes: Coefficient estimate (marginal effect) of an individual's assessment of the national economy on his/her vote choice for the incumbent in regressions that also control for recipient characteristics (e.g., gender, education, political interest, ideology, etc.) and country fixed effects. Estimates reported for specifications across samples of all voters (left), non-remittance recipients (middle), and remittance recipients (right). 95% confidence interval reported around these estimates. [Colour figure can be viewed at wileyonlinelibrary.com]

With respect to the additional controls, $DEMOC_{ij}$ and $R_{ij} \times DEMOC_{ij}$ have no meaningful effect on vote choice.

5.3.2 | Discounting turnout buying

Rather than affecting vote buying, remittances may influence whether political parties are able to "turnout" (mobilize) voters. While vote buying and turnout buying are conceptually distinct, models for both often generate similar predictions and are empirically difficult to distinguish (Nichter, 2008). For instance, votes cast by richer individuals may be more costly for an incumbent to "buy" (as the formal model demonstrates). Yet richer voters may be more costly for an incumbent to mobilize (as predicted from models of turnout buying). In either instance—voter abstention or supporting the opposition—the incumbent's electoral prospects can be damaged.

To account for this possibility in the main vote choice regression, I include a dummy variable indicating whether an individual voted in last election ($DIDVOTE_{ij}$) and its interaction with R_{ij}. The latter interaction term (i.e., $R_{ij} \times DIDVOTE_{ij}$) identifies the differential effect of prior electoral participation between remittance and non-remittance recipients on voting for the incumbent. In these specifications, the substantive effect of $R_{ij} \times D_{ij}$ on $VOTE_{ij}$ remains unchanged from Table 2, while the coefficient estimate on $R_{ij} \times DIDVOTE_{ij}$ does not exhibit a robust effect on an

individual's vote choice. This null finding for $R_{ij} \times DIDVOTE_{ij}$ implies that controlling for the potential effect of remittances via the voter-turnout channel does not attenuate the core claim in this article.

5.4 | Sensitivity analysis

5.4.1 | Alternate specifications

The substantive findings hold across alternate specifications, including those estimated via logistic and probit regression; without country fixed effects; remittances measured on the intensive margin; and specifications that allow for "non-linearities" in the interaction effect. For example, the analysis of nonlinear effects shows that the interactive effect is more pronounced at increasingly higher levels of government dissatisfaction. Moreover, in the specifications estimated via probit, the marginal effects are larger than those reported in Tables 2 and 3, suggesting that those OLS estimates are conservative.[32]

5.4.2 | Accounting for "selection" effects

The key results also hold in specifications with matched data, which helps address concerns associated with "selection on observables." For instance, since political parties are likely to strategically target voters on certain observable characteristics, matching on pretreatment observables (e.g., gender, age, education, etc.) offers a partial and increasingly used solution to this address this concern.[33] In specifications that employ coarsened exact matching, the main and interaction effects tend to be more pronounced in magnitude and statistical significance than those reported in the baseline specifications (despite these specifications having slightly smaller samples due to the elimination of non-matched observations).[34]

While matching offers a means to mitigate potential concerns with selection on observables, one may also be worried about selection on unobservables. To gage whether selection on unobservables is unduly influencing the findings, I consider a bounding technique (for the regression estimates) proposed by Rosenbaum (2002) with an empirical application advanced by Becker and Caliendo (2007).[35] Applying this approach, with the appropriate test statistic, I do not identify any compelling evidence of over- or under-estimation of the treatment effects (i.e., receiving remittances) due to an "unobservable variable."[36] For instance, across samples of all, poor, and rich voters, the treatment effects (from Tables 2 and 3) are insensitive to bias that would double the odds of assigning to receiving remittances. This conclusion holds when I triple or quadruple the odds of assigning individuals to receive remittances.

6. | CONCLUSION

Across both rich and poor countries, democratic governments frequently engage in tactical redistribution of benefits around elections to elicit support from voters. In poorer countries, often with lower quality democratic political institutions, the efficacy of such an electoral strategy is enhanced by the relative poverty of the average voter and the "power" of incumbency. Thus, rising incomes (as a result of remittance inflows) can raise an incumbent government's costs associated with maintaining its clientelist grip on voters. Yet additional household income in the form of remittances may induce these same remittance recipients to hold a more positive view of current economic

conditions and attribute this favorably to the incumbent's performance. The confluence of these divergent mechanisms muddles the expected net effect of remittances on a recipient's vote choice.

To help sharpen the potential effect of remittances on vote choice, I present a parsimonious model that integrates the vote buying and economic assessments channels to generate the non-trivial prediction that a remittance recipient is more likely than a non-remittance recipient to vote for an incumbent she dislikes more. This prediction and the causal mechanisms that underlie it are empirically substantiated for national representative surveys across Latin America.

The theory and empirics advanced in this article suggest that remittances can influence individual voting behavior, especially in clientelistic settings and where voters may engage in naive retrospective economic voting. As such, the theory and empirical findings may be applicable in similar electoral settings, such as in many African countries (Dionne et al., 2013). Indeed, the parsimony of the article's formal model can be augmented to better incorporate the particularities of other electoral settings (e.g., role of ethnic groups) and test the influence of remittances (or other forms of non-tax income, such as earnings from the informal sector) on voting behavior. This is a potentially fruitful area of future research.

This article also offers insights into understanding the potential economic and political welfare effects associated with remittances. For instance, by raising the cost of buying electoral support, remittances can concomitantly reduce the perverse socio-economic effects associated with such clientelistic behavior and potentially compel an incumbent to spend a greater share of its budget on the provision of welfare goods to the masses and reduce its payments to a narrow group of voters.[37] On the other hand, via the assessments channel, remittance recipients may unduly attribute "good" policies to an incumbent and thus vote for the continuation of ineffective governance. Future research should strive to reconcile the *net* welfare effects associated with remittances through the electoral channel as well as how remittances can influence election outcomes.

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NOTES

[1] The model does *not* assume that remittances *directly* affects an individual's vote choice. Rather, remittances influence vote choice *via (indirectly)* the vote buying and economic assessments channels.

[2] Vote buying is the proffering of voter of cash or (more commonly) minor consumption goods by political parties, in office and in opposition, in exchange for the recipient's vote.

[3] This model differs from the one developed by Pfutze's (2010) working paper on a number of dimensions (his working paper was subsequently published without the formal model, see Pfutze, 2012). First, Pfutze models the effect of remittances on vote buying only, while my model evaluates the effect of remittances on vote buying in conjunction with a voter's assessment of economic conditions. Second, to keep the mathematics simple, the voter's utility function in this paper is linear in income. In contrast, the model in Pfutze is concave in income. Third, in my model the incumbent utility parameter (κ) varies with income. In Pfutze's model, income has no effect on the utility parameter. Fourth, the techniques to derive the comparative statics are different across the two models. As a consequence each model derives distinct equilibrium predictions.

[4] Remittance income may be taxed *indirectly* via consumption taxes. Allowing for this does not change the model's comparative statics.

[5] For instance, government revenues from non-tax sources, such as oil rents and/or foreign aid, do not change the comparative statics. Moreover, allowing for the government to tax consumption (and hence some fraction of remittance income that might be spent on consumption) does not change the model's comparative statics.

[6] An alternative (but equivalent) interpretation is κ gages the voter's preference for the government and its ideology, where a *higher value of* κ means the voter *supports* the incumbent government's ideological orientation.

[7] To keep the notation simple, κ is not explicitly denoted as a function of Y and R (i.e., $\kappa(R, Y)$). However, in deriving the comparative statics, I use the relationship that $\frac{\partial \kappa}{\partial R} > 0$. It is plausible that $\frac{\partial \kappa}{\partial R} < 0$. For example, the reception of remittances might indicate weakness in the national economy which might reduce an individual's affinity for the incumbent. Such a concern, however, is not borne out empirically. Table 2, column 6 shows that remittance recipients hold a more positive assessment of the national economy. Given this robust finding, I am confident in assuming that $\frac{\partial \kappa}{\partial R} > 0$.

[8] For mathematical convenience, I assume voter utility is linear in income. Allowing for alternate functional forms (e.g., concavity) does not change the comparative statics.

[9] Derivation of the optimal tax rate is required in discerning the comparative static in Equation 7.

[10] Through the latter, it follows that taxes are decreasing (indirectly) in remittances ($\frac{\partial \tau}{\partial R} > 0$). In particular, $\frac{\partial \kappa}{\partial R} < 0$ and $\frac{\partial \tau}{\partial \kappa} < 0$, then $\frac{\partial \tau}{\partial R} = \frac{\partial \tau}{\partial \kappa}\frac{\partial \kappa}{\partial R} > 0$.

[11] See Besley and Case (1995) on taxes and incumbency.

[12] This is consistent with the vote buying mechanism that remittances weaken the capacity of an incumbent to buy electoral support.

[13] This 'positive' interaction effect stems from the positive effect of remittances on supporting the incumbent via the economic assessment mechanism (i.e., $\frac{\partial \kappa}{\partial R} > 0$).

[14] D_{ij} measures $(\kappa - 1)$ from the formal model.

[15] The average value of the dependent variable ($VOTE_{ij}$) is around 0.48 which falls on the linear portion of conventional maximum likelihood estimators (e.g., probit, logit). Thus, I employ a linear probability model (i.e., OLS) to estimate the baseline models.

[16] For example, Brusco, Nazareno, and Stokes (2004) and Stokes (2005) use surveys to evaluate vote buying, but do not look at remittances.

[17] The 2009 wave proved to be effective to evaluate the proposed theory. First, responses to vote intention question mapped extremely close to actual voting outcomes in each country's most recent Presidential election. For example, in the Dominican Republic 44.8% of survey respondents would vote for the incumbent. This is almost identical to the actual vote share for the incumbent in the 2008 Presidential election (44.9%). Across Latin America, the average difference in hypothetical (from the 2009 survey) and actual (from the country's most recent Presidential election) vote shares is one-tenth of 1%. Second, compared to future waves, the 2009 survey had the highest response rate to the relevant questions.

[18] In the case of a coalition government, $VOTE_{ij}$ measures whether a vote is cast for the largest government party in that coalition.

[19] Respondents that answer "do not know" or "do not answer" are coded as missing.

[20] Since there is no reason to assume that individuals who receive remittances more frequently necessarily receive higher amounts, dichotomizing the measure of remittances avoids introducing this problem. Of course, the findings are also robust in specifications that use the frequency ("intensity") that individuals receive remittances.

[21] Wiesehomeier and Doyle (2012) provide a superb overview of these individual characteristics.

[22] Socio-economic status serves as a proxy for individual income, since an income question is not directly asked. An individual's self-placement on the left-right spectrum also serves as an appropriate measure of individual's level of partisanship in Latin America. Wiesehomeier and Benoit (2009), for instance, provide strong evidence from 18 Latin American countries that positioning of all political issues reduces to a single left-right contestation. Moreover, they show that this left-right placement corresponds to partisan differences over redistribution and social inequality. For instance, consistent with standard conceptions of left-right, left-leaning Latin Americans support parties that favor redistribution and lowering inequality.

[23] The incumbent's left-right placement is not a control variable in the fixed effects specification, since this placement varies across countries but does not vary among individuals within the same country. Thus, the country fixed effect subsumes the effect of an incumbent's LR placement.

[24] The fixed effects specifications are preferred, as they explain 50% more variation in an individual's vote choice than those without any fixed effects. In columns 3–5, the R2 is 50% greater than those for the models in columns 1 and 2.

[25] $-0.12 + 0.04 \times 4$.

[26] The specification is: $VOTE_{ij} = \alpha + \beta R_{ij} + \Sigma_{l=1}^{4}\lambda_l D_{l,ij} + \Sigma_{l=1}^{4}\theta_l(D_{l,ij} \times R_{ij}) + \phi X_{ij} + \eta_j + \epsilon_{ij}$, where l refers to each index value of government dissatisfaction ($l = 1, 2, 3, 4$), i for each individual, and j for each country.

[27] The coefficient estimate is essentially nil and statistically insignificant across all the specifications (columns 1–5).

[28] More specifically, this positive attribution holds regardless (in addition to) of the individual's underlying disutility for the incumbent. This implies that at each level of government dissatisfaction, remittance recipients are more likely to vote for the incumbent (relative to a non-remittance recipient). This underlies the positive interaction effect associated with $R_{ij} \times D_{ij}$ in columns 1–5.

[29] Schaffer (2007) and Stokes (2005) discuss these inferential problems.

[30] These specifications control for the full set of covariates in Table 2 (e.g., government dissatisfaction, demographic characteristics, etc.).

[31] I code a binary variable ($DEMOC_{ij}$), equal to 1 if an individual views democracy as a way to solve problems and zero. The question's actual wording is: "Some people say that democracy solves problems that we have in the [NAME OF COUNTRY]. Other people say that democracy does not solve the problems. Which statement is closest to your views?" This question measures one major dimension of social remittances in which remittances transmit ideas/norms about the efficacy and benefits of democracy (Levitt & Lamba-Nieves, 2011).

[32] These results (and from the additional alternative specifications) are available upon request.

[33] It is worth noting that existing studies pertaining to clientelism and vote choice that use survey data (e.g., J. Bravo, unpublished data; Dionne et al., 2013; Stokes, 1995) make no attempt to deal with these types of "selection effects" and biases.

[34] See Iacus, King, and Porro (2008) for further discussion on coarsened exact matching.

[35] The Rosenbaum (2002) technique is specifically designed to determine how strongly an unmeasured variable must influence the selection bias to weaken the inferences from the regressions.

[36] This statistic is the *Q*-statistic (Mantel & Haenszel, 1959). The *Q*-statistic evaluates the conditional probability of mis-assignment of a treatment condition and thereby establishes a basis for assessing selection biases associated with unobservable factors. In this article, the treatment refers to whether an individual receives remittances (i.e., *REMIT* = 1), and the control condition refers to a non-remittance recipient.

[37] See Keefer (2007) and Schaffer (2007) for the costs associated with clientelism.

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