

## **Should I Stay or Should I Go: IMF Compliance, Remittances, and Individual Protest Behavior**

### **Introduction**

In March 2019, Ecuador entered into a \$4.2 billion IMF agreement. As part of the agreement, the Ecuadorian government agreed to undertake reforms including tax increases, public sector privatization and spending cuts in order to stabilize and expand the economy over time<sup>1</sup>. One of the reforms that the government undertook was to lift fuel and petrol subsidies, which had previously stabilized fuel prices at an annual cost of nearly \$1.4 billion<sup>2</sup>. When the subsidies were lifted in August 2019, fuel prices doubled, which prompted members of transportation unions, labor unions, students, and indigenous groups to immediately organize protests. For the next two months, protesters from each of the affected groups blocked roads, shut down the Quito airport, and took to looting and violence as they demanded an end to the austerity program that lifted the fuel subsidies<sup>3</sup>. By October, the strength and severity of the continued protests prompted President Lenín Moreno to move the capital from Quito to Guayaquil; before the month's end, Moreno announced that he would cancel the austerity package that required the fuel subsidies<sup>4</sup>. Moreno's decision not to comply with conditions that left so many Ecuadorian citizens aggrieved was widely considered a victory for the protesters.

The decision of Ecuadorian citizens to devote months of their time to protest the government's compliance with IMF conditions suggests that there are relationships between some of the influential factors at play. First, it suggests that protest was motivated by the government's decision to enter into an IMF agreement. Second, it suggests that protests might have been increasingly motivated by the government's decisions to comply with reforms: in this case, the decision to remove fuel subsidies impacted enough individuals that they were willing to express their grievances against Moreno, and were able to mobilize with such strength that they convinced him not to comply. This suggests that, when evaluating the relationship between IMF programs and protest, there is an opportunity to examine the relationship between the presence of the IMF

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<sup>1</sup> Weisbrot 2019

<sup>2</sup> Collyns 2019

<sup>3</sup> BBC 2019

<sup>4</sup> Arnold 2019

as an international actor, the effects of governments' increasing compliance with austerity conditions, and citizens' decisions to protest.

An additional factor of interest is the increasing role of remittances in the Ecuadorian economy. Ecuador has experienced a twenty-three percent increase in remittance inflows over the past five years, with annual receipts estimated at over \$3 billion at the end of 2018. As a result, Ecuador has experienced a fifteen percent increase in remittance receipts as a percentage of GDP since 2014<sup>5</sup>. The reason that remittances are of interest to the relationship between IMF programs and protest is because remittances could affect recipients' willingness to mobilize against their governments. It is worth noting, however, that the relationship between remittances and protest is also currently a point of debate.

One prevailing argument in the literature finds that remittances provide economic stability, smooth household income, can improve recipients' access to public goods,<sup>6</sup> and can substitute for the goods that citizens would otherwise demand from government<sup>7</sup>. Remittances have also been found to shift recipients' demands for redistribution, and have a countercyclical relationship with economic activity at home<sup>8</sup>. By this logic, remittances should foster political stability during times of nationwide economic hardship, and as remittances increase, recipients should be less likely to protest, voice their grievances, and make demands of the government<sup>9</sup>. However, a second prevailing argument finds that remittances make recipients more willing to voice their grievances against their governments, which is observable on the streets<sup>10</sup>, in civil conflict<sup>11</sup>, and at the polls<sup>12</sup>. What makes this debate interesting in cases like Ecuador is that we observe a country where the government has entered into an IMF program and has become increasingly compliant, its citizens have increasing access to foreign sources of cash, and a sustained mass mobilization effort was so

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<sup>5</sup> World Bank 2019

<sup>6</sup> Adida and Girod 2011

<sup>7</sup> Ahmed 2010

<sup>8</sup> Singer 2010

<sup>9</sup> Tertychnaya et al 2018

<sup>10</sup> Escribà-Folch et al 2018

<sup>11</sup> Regan and Frank 2014

<sup>12</sup> Escribà-Folch et al 2015; Tyburski 2012

strong that it forced its president to relocate the capital and eventually end compliance with the reform that caused the contention.

A case like Ecuador suggests that there is an opportunity to learn more about the effects of IMF reforms and remittances on citizens' decisions to protest. When citizens in countries under IMF programs receive remittances, will those receipts make them more or less likely to mobilize? Is increased mobilization due to their negative perception of IMF agreements? Or, is it due to the actual costs they incur from their government's decision to comply with reforms? We seek to answer these questions in this paper. We use survey data from the Latin American Public Opinion Project (LAPOP) as well as data from the State-level Compliance with IMF Programs (SCIP) datasets to test the relationship between compliance with IMF programs (both total compliance and compliance with social policies) and protest. We test for the relationship between whether an individual receives remittances, whether a government implements IMF conditionality, and individual protest behavior.

We find that, as governments implement more of the conditions attached to IMF lending, individuals are more likely to protest, but this effect is conditioned by whether an individual receives remittances. Those who receive remittances are significantly less likely to protest compared to those who do not receive remittances. When looking at IMF social policies, compliance has no effect on whether remittance recipients protest, but individuals who do not receive remittances are more likely to protest as compliance increases. This is consistent with arguments that remittances substitute for government cuts to social safety nets.

By examining the relationship between remittances, IMF programs and conditions, and protest, this paper makes three valuable contributions. First, by including IMF compliance in our models, this paper takes steps toward understanding whether citizens are motivated to protest once the costs of reform have been imposed on them, separate from the IMF as a focal point for dissent. Second, while there is a wide range of evidence about the relationship between IMF agreements and their effects on the countries that they reach agreements with, to our knowledge, this paper is the first that looks systematically at how migration decisions affect individual protest behavior under IMF lending. This is valuable because, while the actual short and long-term effects of IMF lending can be debated, using survey data allows us to test how individuals believe they are

affected by the presence of IMF programs and compliance with conditions, as well as whether those beliefs will drive them to action.

By accounting for the variation in remittance receipts, this paper also gives an opportunity to contribute to the debate on the relationship between remittances and political activity. The presence of an IMF agreement, and a government's compliance with conditions, create perceived costs for citizens in borrower countries. Citizens may respond by sending a member of their family abroad (exit), in which case that individual can no longer protest. Alternatively, family members may ask those who have previously migrated to remit a larger share of their wages, which may allow a family to mitigate the consequences of IMF conditionality (such as cuts to social safety nets). This suggests that IMF lending has a significant impact on remittance inflows into borrower countries that has previously been ignored.

In order to determine the relationship between IMF programs, compliance, remittances, and protest, it is necessary for us to first understand what motivates individuals to protest. In the next section, we will give an overview of the discussion of micro and macro-level factors that give individuals incentive to protest. We will build off of this overview to discuss some of the macro-level debates about the effects of IMF programs, and will tie these ideas to individual-level decisions of whether to protest against the IMF. We will then introduce the role of remittances by looking at the current discussions on the relationship between remittances and political mobilization against governments. After establishing the relationship between remittances and mobilization, we will bring the debates about IMF programs, remittances and protest together into a set of testable hypotheses, introduce our research design, and our findings.

## **Opportunity and Protest**

Political opportunity forms a core explanation of individual protest behavior.<sup>13</sup> While all societies have inequities, individuals rarely mobilize to overthrow or change the regime. Most economic policies create winners and losers, yet the losers rarely organize. This is why we do not see the poor throughout the world engaging in violent collective action even though they may have the

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<sup>13</sup> See Collier and Hoeffler 2004; Meyer 2004; Vráblíková 2013; Dalton, Van Sickle, and Weldon 2010

most reasons to do so. Individuals weigh the costs and potential benefits of collective violence, and if the benefits outweigh the costs, then they choose to dissent. This framework places importance on the probability of policy concessions versus punishment of dissenters, the likelihood others join in, the private spoils to be won, and the strength of the state. Individuals engage in dissent when they stand to gain from it. So, we may see protest in countries when it is opportune, but fail to see protest at inopportune times despite the same level of grievances.

Vráblíková<sup>14</sup> shows that, as the number of veto-players in a country increases, we are more likely to see activism, both because there are more individuals who may be sympathetic to demands, and because this increases the chance that participating in collective action will change policy decisions. Those in the minority party are more likely to participate in protests than those in the majority party.<sup>15</sup> Dalton, Sickle, and Weldon<sup>16</sup> argue that protest is shaped by the interaction of national contexts and individual characteristics. Individuals with greater resources may be more likely to participate in protests. Wealthier individuals and more educated individuals are argued under this framework to participate in collective action at higher levels. Others argue that participation is greater when political opportunities are closed, and that the effect of individual resources on protest depends on macro-level economic conditions.<sup>17</sup>

Research on mobilization has also considered opportunities from the various forms of mobilization, including the utility associated with mobilizing in urban areas<sup>18</sup>, the influence of strong civil societies on mobilization<sup>19</sup>, the process of using clear focal points to build effective and lasting social movements<sup>20</sup>, and the relationship between elite defection and mobilization<sup>21</sup>. Mobilization has also been found to be more effective when movement leaders in one country could coordinate and learn from successful movement leaders around the world who previously used protest to win

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<sup>14</sup> Vráblíková 2013

<sup>15</sup> Anderson and Mendes 2006

<sup>16</sup> Dalton, Van Sickle, and Weldon 2010

<sup>17</sup> Dalton, Van Sickle, and Weldon 2010

<sup>18</sup> Tilly 2005

<sup>19</sup> Cornell and Grimes 2015

<sup>20</sup> Tarrow 2011, Bunce and Wolchik 2010

<sup>21</sup> Beissinger 2007

concessions from government<sup>22</sup>.

The debates surrounding opportunity and protest suggest a few insights about how IMF lending might affect protest behavior. First, citizens might mobilize against the government's decision to enter into an IMF program because they see the agreement as a symptom of foreign encroachment. In this case, the IMF is a focal point that represents corruption and exploitation that individuals can rally against. Second, citizens who possess greater resources should be more likely to protest. IMF conditionality has been argued to impose significant hardship on borrower populations at large, so individuals with greater economic resources should be more likely to take to the streets compared to the poor. Third, leaders who have to go under IMF lending are often seen as vulnerable and incompetent, so IMF lending may create opportunities for collective action due to this perceived vulnerability. Finally, since a large number of countries undergo IMF lending, individuals can learn from past movements which tactics are successful and emulate them.

### **Austerity, Reforms and Mobilization**

There is disagreement in the literature about whether IMF programs cause harm. The first line of discussion identifies the conditions attached to IMF agreements as imposing costs on most citizens. Abouharb and Cingranelli<sup>23</sup> look at the effects of IMF structural adjustment programs, and they find that the costs from structural adjustment are disproportionately borne by the poor. In particular, efforts to liberalize the economy weaken the ability of employees to ensure their working conditions and wages are protected, which combines with cuts to social programs to hurt them twice. As a result, structural adjustment programs reduce respect for economic and social rights<sup>24</sup>, and because the reforms weaken the rule of the government in order to facilitate open markets, also leads to reduced respect for physical integrity rights<sup>25</sup>. Blanton et al<sup>26</sup> find that adopting market-oriented reforms typically weakens the role of organized labor in borrower countries, which leads to decreases in labor rights.

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<sup>22</sup> Bunce and Wolchik 2010; Beissinger 2007

<sup>23</sup> Abouharb and Cingranelli 2007

<sup>24</sup> Abouharb and Cingranelli 2007

<sup>25</sup> Abouharb and Cingranelli 2008

<sup>26</sup> Blanton et al 2015

It is worth noting that, even though reforms are intended to liberalize market activity, there is evidence that the destabilizing nature of the reform process can make multinational corporations (MNCs) hesitant to invest. When this happens, MNC hesitance can lead to significant decreases of FDI inflows once a country participates in an IMF program<sup>27</sup>. This effect likely contributes to Przeworski and Vreeland's<sup>28</sup> findings that participating in programs leads to lower economic growth rates. The deteriorated growth rates will also combine with cuts in social spending to hurt the affect the poor twice<sup>29</sup>.

A second line of discussion argues that the costs associated with IMF programs are misattributed to the international institution. This discussion argues that the focus should instead be shifted to the political influence of IMF member nations which distort program design. Factors that can influence IMF programs include the domestic economic and political conditions that precede a country's decision to enter into, and stick with, austerity programs, as well as the motivations of donor countries. These factors, as well as the time horizons that are used when evaluating the effects of programs, are likely to influence whether the program is seen as successful. Bas and Stone<sup>30</sup> argue that IMF loan applications are innately an adverse selection problem because the optimal candidates for loans are those who will never apply. As a result, the IMF is only able to weed out borrowers who do not maintain good-faith efforts to implement reforms after repeated interactions. For this reason, they find that long-term borrowers experience greater growth than do short-term borrowers. Dreher and Gassebner<sup>31</sup> argue that, while IMF programs increase the probability of government crisis, these effects are leader-specific: once a new leader enters, the relationship between IMF programs and government crisis no longer holds. They also find that the probability of government crisis increases if leaders remain under IMF programs after their economic performance improves. Stone<sup>32</sup> argues that the IMF's effectiveness is tied to its ability to create loans that can be credibly enforced, and that credible enforcement is dependent

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<sup>27</sup> Jensen 2004

<sup>28</sup> Przeworski and Vreeland 2000

<sup>29</sup> Vreeland 2003

<sup>30</sup> Bas and Stone 2014

<sup>31</sup> Dreher and Gassebner 2012

<sup>32</sup> Stone 2004

on the relations between the borrower country and its developed-country patrons. In this case, a program's effectiveness depends on borrower country linkages and the degree to which a donor country interferes with the enforcement of the agreement. Chapman et al<sup>33</sup> extend the ideas of adverse selection and donor country interference to capital market responses to IMF announcements, and find that when borrowers are of greater strategic interest to US foreign policy, the IMF is less able to enforce reforms.

Even if the actual short and long-term effects of IMF programs are a point of debate, it is worth restating that the puzzle we are trying to explain is not of the consequences of IMF programs. Instead, we aim to explain how austerity programs and conditions are perceived by citizens, and whether these perceptions will motivate them to protest. It is possible that IMF programs can create negative consequences at the micro and macro levels, just as it is possible that IMF programs can have long-term positive effects at the macro level. In this paper, we remain agnostic about the actual effects of IMF programs in the aggregate. For our purposes, the events of interest are the individual-level decisions to protest, which are tied to citizens' beliefs of how they are affected by the presence of IMF programs.

We expect the presence of IMF programs to drive citizens to protest for two possible reasons. First, citizens could perceive the presence of the IMF in their country as a symptom of international encroachment. Ortiz and Béjar<sup>34</sup> argue exactly this, and they find that citizens are motivated to protest because the presence of the IMF is an effective focal point against the meddling of an "international organism (493)." Similarly, Remmer<sup>35</sup> looks at austerity implementation across regime types in Latin America and makes two important observations. First, she observes that prior periods of IMF programs have left a legacy of distrust in the institution. Second, she observes that, even in democratic systems, voters that are subject to austerity programs are unlikely to consider the counterfactual when evaluating how they are affected by reforms. Remmer's points are noteworthy because they open up the space for us to consider what leads citizens to develop perceptions of the IMF as a negative influence that shouldn't be trusted. Citizens may protest against the IMF because they see the organization as an historical source of

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<sup>33</sup> Chapman et al 2015

<sup>34</sup> Ortiz and Béjar 2013

<sup>35</sup> Remmer 1986



international encroachment, but this raises the question of which actions qualify as encroachment. This question is important because, in order for prior IMF programs to leave a legacy of distrust and build a negative reputation, there would need to be prior actions that imposed identifiable costs on citizens. The idea of identifiable costs is central to the second possible reason that we expect the presence of IMF programs to drive citizens to protest.

We expect citizens to become more likely to protest as their government complies with an increasing number of conditions. The relationship between conditions and anti-austerity protest is straight forward: each condition imposes costs to a group of people within the country, so when the government complies with more reforms, a greater number of citizens and groups are affected by each additional reform. As the number of affected groups goes up, the costs to each affected individual of acting collectively go down, in part because increasing compliance gives new groups reasons to cooperate in order to demand the government take on less reforms. Almeida<sup>36</sup> looks at mobilization against economic adjustment policies in Latin America and finds that the groups who anticipated being harmed by reforms were able to mobilize their members, collectively act, and demand their government stop cooperating with the international agencies. Auvinen and Bratton and van de Walle<sup>37</sup> describe how austerity reforms hurt public sector employees and organized labor, while Auvinen and Vreeland<sup>38</sup> both explain how austerity reforms impact the poor. Arce and Rice and Bellinger and Arce look at neoliberal reforms in Latin America and find that liberalization reforms of this type lead to increased protest in democratic<sup>39</sup> and semi-democratic<sup>40</sup> contexts. Hartzell et al<sup>41</sup> find that IMF structural adjustment reforms create new economic winners and losers, which increases the probability of civil conflict. Silva<sup>42</sup> argues that protests emerged in Argentina, Ecuador, and Venezuela as a response by groups that were disadvantaged by the removal of labor protections, unemployment protections, social insurance, and small business opportunities.

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<sup>36</sup> Almeida 2007

<sup>37</sup> Auvinen 1996; Bratton and van de Walle 1992

<sup>38</sup> Auvinen 1996; Vreeland 2003

<sup>39</sup> Arce and Rice 2009; Bellinger and Arce 2011

<sup>40</sup> Belinger and Arce 2011

<sup>41</sup> Hartzell et al 2010

<sup>42</sup> Silva 2009

We expect the presence of IMF programs to increase the likelihood that citizens will participate in protest. But, if citizens protest due to a negative legacy and not due to current compliance with conditions, then protest should be anticipatory: rather than taking to the streets after the costs from reforms have been imposed on them, citizens expect that costs will be imposed on them based on the IMF's history as an agent of encroachment, and this expectation prompts them to take to the streets. While a great deal of research has explored how the presence of an IMF program affects protest, this is the first paper to our knowledge that systematically explores the relationship between compliance and protest. If we find that citizens become more likely to protest as their governments become increasingly compliant, then we can interpret this as evidence that the reforms imposed on citizens motivates them to collectively dissent. In order to determine the relationship between the presence of IMF programs, compliance with conditionality, and the probability of individuals participating in protests, we will test the following hypotheses:

**H1:** *A country's citizens are more likely to protest as their government complies with a greater number of austerity conditions.*

While there is evidence of a relationship between IMF programs and protest, one factor that has not been accounted for is whether individuals receive remittances. To our knowledge, this is the first paper to consider how remittances affect citizens' decisions to protest when their governments have entered into IMF programs. In the next two sections we outline how the receipt of remittance conditions protest behavior under IMF lending.

### **Remittances, Grievances and Government Stability**

The effects of remittances on individuals' willingness to voice grievances against their governments is currently under debate. There are two main lines of argument with regard to this relationship. The first sees remittance receipts as a source of economic stability and a substitute for household shortfalls in income. From this perspective, remittances make up the difference between a household's economic needs and what it is able to access through work and social services. Since remittances make up the difference, any grievances that recipients would otherwise make without them are ameliorated by the additional income they receive.

Evidence in support of this argument at the micro level has found that recipients are also able to use remittances as substitutes for income as well as to supplement their incomes and minimize household borrowing<sup>43</sup>, and can use receipts to improve household access to public goods<sup>44</sup>. As a result, recipients have less need to make demands for goods from the government. This can lead to lower electoral support for left parties<sup>45</sup>, can decrease the likelihood of recipients turning out to support opposition candidates in future elections<sup>46</sup>, and make them less likely to support violent opposition groups<sup>47</sup>. Tertychnaya et al<sup>48</sup> find that remittances will keep recipients satisfied with their household economic situation, and in the process, their government. Recipients will only start to become dissatisfied with the government when their remittance receipts start to decrease.

Another argument along this line sees the decision to migrate and send remittances home as a strategic choice. Individuals choose between supporting governments (loyalty), expressing grievances through actions like protest (voice), or leaving and moving to the jurisdiction of another government (exit).<sup>49</sup> Those who migrate abroad cannot participate in anti-government protests if they have left the country and do not return. Those of wage-earning age with few opportunities tend to be the same individuals who participate in protest, so if these individuals have migrated abroad in order to send remittances home, then protest should decline.

At the macro level, the inflow of foreign currency provides stability during economic crises<sup>50</sup>, and because remittances often run countercyclical to economic crises, they can smooth domestic spending and have a multiplier effect throughout the economy<sup>51</sup>. Similarly, Ahmed<sup>52</sup> looks at the influence of remittances in autocracies and finds that the combination of remittance and foreign aid receipts can increase the likelihood of leader survival. Flores-Macías finds that

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<sup>43</sup> Ambrosius and Cuecuecha 2015

<sup>44</sup> Adida and Girod 2011

<sup>45</sup> Doyle 2015

<sup>46</sup> Germano 2013

<sup>47</sup> Regan and Frank 2014

<sup>48</sup> Tertychnaya et al 2018

<sup>49</sup> Hirschman 1970

<sup>50</sup> Eckstein 2009; Ratha et al 2011

<sup>51</sup> Singer 2010; Ratha et al 2011

<sup>52</sup> Ahmed 2012

governments can partner with domestic remittance networks in order ease the entry of cash into the country in exchange for increased political influence<sup>53</sup>, which can create long-term stability of remittance inflows.

A second line of discussion has argued that increases in remittances free recipients from dependency on the government for social services, and instead shift their political demands away from the incumbent government. Escribà-Folch et al find that remittance receipts provide individuals with the resources they need to coordinate and mobilize in the streets<sup>54</sup> as well as at the polls<sup>55</sup>. Tyburski<sup>56</sup> conceives of remittance recipients in Mexico as an interest group, and finds that their access to outside resources allows them to shift their support away from parties that are known for engaging in corruption. Similarly, Tyburski<sup>57</sup> looks at the effects of remittances on corruption across regime types, and finds that remittance receipts in democracies lead to greater control of corruption.

### **Tying it All Together: IMF Programs, Remittances and Protest**

By connecting remittances to the relationship between IMF programs and protest, we contribute to the discussion about remittances and citizens' willingness to express grievances. For individuals under IMF lending it is worth exploring how protest behavior may be conditioned by remittances. We present two hypotheses below that outline how remittances might condition the relationship between IMF compliance and protest behavior.

One line of argument is that remittance recipients are less likely to protest relative to non-remittance recipients. Recipients have been found to use remittances to supplement family income, minimize borrowing, and improve access to public goods.<sup>58</sup> Those who receive remittances are comparatively better off, more satisfied with their governments, and more likely to see their

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<sup>53</sup> Flores-Macías 2012

<sup>54</sup> Escribà-Folch et al 2018

<sup>55</sup> Escribà-Folch et al 2015

<sup>56</sup> Tyburski 2012

<sup>57</sup> Tyburski 2014

<sup>58</sup> Ambrosius and Cuecuecha 2015; Adida and Girod 2011

economic circumstances positively.<sup>59</sup> This explains why remittance recipients have less support for leftist parties<sup>60</sup>, are less likely to choose an opposition candidate<sup>61</sup>, and less likely to support violent groups pushing for change than their non-remittance peers.<sup>62</sup> These results indicate that remittance recipients seem to have a less positive view of those who use collective action than those who do not receive remittances.

Relative deprivation theories suggest that, as discontent increases, individuals are more likely to participate in collective action.<sup>63</sup> Given the findings above, we expect that remittance recipients have fewer grievances compared to non-recipients. We also expect that, as the costs of IMF austerity increase, this group is likely to be better off than their non-recipient peers. When governments cut social safety net programs, remittances can substitute for these losses by mitigating the costs to individuals from the cuts. Conversely, as compliance increases, non-recipients will see a growth in grievances since they feel the immediate effect of these social safety net cuts as well as losses in employment and labor conditions. This leads us to expect that remittance recipients are less likely to protest relative to non-recipients as compliance with IMF lending increases.

Remittances can substitute for public goods reducing the expression of grievances because the decision to exit<sup>64</sup> acts as a safety valve for domestic political pressure<sup>65</sup>. Individuals who are capable of working but are unable to find work, and who might otherwise protest, leave the country. These individuals are unable to protest against the government while they are out of the country. Similarly, as we argue above, the families left behind who receive remittances are relatively better off than their non-recipient peers. As IMF compliance increases, those who receive remittances are better able to weather the costs of these policies.

**H2:** *Compliance is associated with an increased number of protests, but this effect is offset by remittance receipts.*

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<sup>59</sup> Tertychnaya et al 2018

<sup>60</sup> Doyle 2015

<sup>61</sup> Germano 2013

<sup>62</sup> Regan and Frank 2014

<sup>63</sup> Gurr 1970; Ortiz and Béjar 2013; Cingranelli et al. 2018

<sup>64</sup> Hirschman 1970

<sup>65</sup> Barry et al 2014

It is also possible that citizens who receive remittances are more willing to protest when their government enters into an IMF agreement because the conditions impose new costs on them in excess of the remittance inflows they have already accessed. We assume that remittance recipients are members of a household in which a member has already relocated in order to work abroad and send money home. In this case, recipients have already taken on the costs of sending a member of the household abroad to earn money and remit in order to compensate for the shortfalls in income and services that they cannot access at home. When a government enters into an IMF program, the additional costs from austerity reforms may compel recipients to use their voice to express their grievances against the new, additional economic hardship that they must overcome due to reforms.

A second reason that remittances could increase protest against compliance comes out of political opportunity arguments. A number of studies have found that individuals with more resources participate in collective action at higher levels.<sup>66</sup> Wealthier and more educated individuals participate at much higher levels of political participation than those with less income and less education. Remittances provide families with additional resources which may allow them to participate in protest activities. Escribà-Folch et al find that remittance receipts provide individuals with the resources they need to coordinate and mobilize in the streets<sup>67</sup> as well as at the polls<sup>68</sup>. Since the consequences of IMF compliance are widespread across large portions of society<sup>69</sup>, remittance recipients may be more likely to protest compared to their non-recipient counterparts. This suggests a third hypothesis:

**H3:** *Compliance is associated with an increased number of protests, and this effect is amplified by remittance receipts.*

## **Estimation Strategy**

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<sup>66</sup> Dalton et al. 2011

<sup>67</sup> Escribà-Folch et al 2018

<sup>68</sup> Escribà-Folch et al 2015

<sup>69</sup> Abouharb and Cingranelli 2007

Countries that participate in an IMF program are not a random subset of all countries; IMF borrowers are systematically different from non-borrowers. There is reason to believe that the factors which drive a country to participate in an IMF agreement may also affect whether individuals protest<sup>70</sup>. Economic factors driving IMF participation are largely observable: we can see whether a country is facing economic trouble and might opt for IMF lending. However, many of the political factors are unobservable, particularly the political willingness to implement reforms<sup>71</sup>. Since these unobservable factors predict both a government's entry into an IMF program and whether an individual protests, failing to include them in a model leads to omitted variable bias. There is the further issue that, while those negatively affected by lending policies may or may not protest, there is another population of individuals who are unlikely to ever protest against the government because they benefit from, and support, the government and its policies. This suggests the need for a split population model. We employ the following modeling strategy.

First, we adopt a similar modeling strategy as the one used by Ortiz and Béjar<sup>72</sup>, who examine how IMF lending affects anti-government protest in Latin America. They adopt a control function approach, which is a variant of the Heckman selection model that can control for unobservable factors that affect selection into an IMF program<sup>73</sup>. This is more efficient than instrumental variable approaches which rely on a dichotomous selection variable, especially when the variables in the outcome equation differ significantly from those in the selection equation<sup>74</sup>. Our outcome equation has a set of individual demographic variables, while our selection equation is made up of country-level variables. The control function approach estimates entry into an IMF program using a probit model and generates an inverse-mills ratio using the predicted probabilities from the model. This IMF participation equation requires an excludable instrument which affects entry into an IMF agreement but is not related to our protest outcome. We discuss our choice of instrument below. The inverse-mills ratio is included as a covariate in the outcome equation, which is estimated on all IMF borrower observations.

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<sup>70</sup> see Smith and Vreeland 2006; Abouharb and Cingranelli 2007; Ortiz and Béjar 2013

<sup>71</sup> Przeworski and Vreeland 2000; Vreeland 2003; Smith and Vreeland 2006

<sup>72</sup> Ortiz and Béjar 2013

<sup>73</sup> Stubbs et al. 2018

<sup>74</sup> Woolridge 2015; Stubbs et al. 2018

This differs from Ortiz and Béjar in that our main independent variables are missing for non-IMF member countries. So, our sample only includes survey respondents in IMF borrower countries. We expect that, during this time period, the countries that independently implement reforms cannot be directly compared to IMF borrower reforms. As a result, we limit our sample to IMF borrowers, which is a common approach in the literature<sup>75</sup>. This gives us the conditioned effect (or ATET) of IMF intervention<sup>76</sup>. This makes sense for our model given that the treatment is whether a country implemented reforms. Given that we are also controlling for selection into an IMF program, this resolves the first non-random nature of our sample. If we had used a single two-stage model, the selection equation would only include the countries sampled in these two waves of the LAPOP survey.

Our model uses the control function approach to estimate an inverse-mills ratio from the selection equation to be included in a zero-inflated negative binomial model. There exist two populations of individuals within a country: one that is adversely affected and may protest, and another population that is not adversely affected and is unlikely to protest. This model is appropriate where the dependent variable is an event count, there is an excess of zeroes, one population has a lower baseline risk of experiencing an event than another population, and there is overdispersion<sup>77</sup>. Model fit statistics calculated using the countfit command in STATA show that this model performs better than either the zero-inflated poisson or the negative binomial model<sup>78</sup>.

We use the unique\_conditions variable as a measure of exposure. One of the limitations of previous approaches has been to treat all IMF programs as homogenous. By including a measure of exposure to IMF conditionality, we can control for exposure to varying levels of stringency. This method allows us to weight cases by the amount of IMF conditionality that each population is responding to. Thus, the coefficients on our compliance variables reflect how compliance affects protest, while standardizing program design.

## Sample

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<sup>75</sup> see Wei and Zhang 2010; Clements et al. 2013; Kentikelenis et al. 2015; Anner and Caraway 2018

<sup>76</sup> Stubbs et al. 2018

<sup>77</sup> Cameron and Trivedi 2013; King 1998, p.126

<sup>78</sup> Cameron and Trivedi 2013



We use two samples of observations to test our theories. The first sample is used to create a selection equation. It consists of 140 countries between 2003 and 2019. This sample is used to fit the best predictive model of selection into an IMF program. Predictions from this sample are then used in subsequent models explaining protest behavior.

Protest behavior models consist of 32,214 individuals interviewed over the course of two waves (2010 and 2012) in ten Latin American countries (see Appendix C for list of countries). Our dependent variable was only available for these two waves. Our final sample consists of 16,788 individuals in our first model and 8,103 individuals in our second model.

One of the potential benefits of the second sample is that it allows us to minimize political interference in lending decisions. A large literature shows that powerful IMF member countries interfere in lending decisions to help some countries receive easier access to lending with fewer conditions. This can make it difficult to parse out the effects of IMF compliance separate from organizational and program design failure. However, this literature also argues that threats to the international economy minimize the amount of political interference<sup>79</sup>. Because the international economic system was under an existential threat during this time, we expect political interference in IMF lending decisions to be at a minimum.

We use the country weights provided by the LAPOP survey in the variable `weight1500`. This variable standardizes responses in each country to 1,500 individuals and is recommended when making cross-country comparisons. Given that our IMF compliance variables are static within a country in a particular year, cross-country comparisons make sense for our purposes. All state-level variables are lagged a year to ensure that changes occur prior to protest behavior.

## **Dependent Variable**

We use the `prot4` variable from the 2010 and 2012 waves of the LAPOP survey. This question asks individuals how many times they have protested in the last year. It ranges from zero to

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<sup>79</sup> see Stone 2008; Dreher, Sturm, and Vreeland 2013

twenty with an abundance of zeroes. The variable has 4,456 observations, and we recode answers of 'not applicable' to zeroes which increases the sample size to 61,112. We opt for the number of protests rather than simply whether someone protested for several reasons. Our theory suggests the perceived consequences of IMF lending may lead some individuals to protest. We argue that greater compliance with IMF conditionality leads to greater dissent and this can take two forms. First, it can expand the number of individuals who protest. Second, it can create individuals with more serious grievances who are willing to pay much higher costs to engage in dissent. When the same individual repeatedly shows up to protest, it often signals much stronger grievances. The case of Ecuador at the beginning of the article refers to the type of behavior we are interested in.

## Independent Variables

Our theory explores two main causal variables: remittances and IMF lending. To measure the effect of remittances, we use the question 'q10a' which asks individuals if their households receive remittances. This is coded as a 1 for households that receive remittances and as a 0 for households that do not receive remittances.

Our second causal variable surrounds IMF participation and compliance. Previous studies have used a variety of indirect measures of IMF compliance such as a dichotomous measures of IMF participation<sup>80</sup> or a dichotomous measure of compliance<sup>81</sup>. More recent studies have begun to employ counts of the number of conditions in a particular policy area or loan<sup>82</sup> to test IMF outcomes. However, the literature that employs counts does not capture whether a government actually implemented these conditions, only whether they were present.

This study leverages a more fine-grained measure of IMF compliance using the newly created State-level Compliance with IMF Programs (SCIP) dataset, which measures compliance with IMF lending agreements between 2002 and 2019. This data captures the universe of IMF loans over this period and provides a wide range of compliance measures that are suitable for testing our question.

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<sup>80</sup> Vreeland 2002

<sup>81</sup> Dreher 2006

<sup>82</sup> Kentikelenis et al. 2016; Stubbs et al 2018, Rickard and Caraway 2017

We use four variables from the SCIP dataset. First, we use two measures of overall conditionality and compliance. The `unique\_conditions` variable measures how many unique conditions are attached to each loan agreement. This variable ranges from 3 conditions in Guatemala 2010 (arrangement number 616) to 59 conditions in Haiti 2010 (arrangement number 572). We also create a variable called `compliance` which takes the number of conditions 'met' divided by the `unique\_conditions` variable. This variable ranges from 7.1% in Honduras 2010 to 66.7% in Guatemala 2010. The compliance variable ranges from 0 to 1. These variables are lagged by one year to ensure protests did not occur before policies were implemented. We treat the unique\_conditions variable as a measure of the stringency of conditionality. We want to ensure that we are standardizing conditionality so that we can distinguish between the consequences of compliance, stringency, and participation. The `unique\_conditions` variable is used as a measure of exposure in our poisson models to accomplish this purpose.

Second, we use the `unique\_social` variable which looks at social welfare policies attached to IMF loans. These include reforms to pensions, healthcare, education, and other social safety net programs. This `social\_compliance` is created by dividing the number of social policies met by the unique social policies in a loan agreement. In the sample, this ranges from 0% for Honduras 2010 (arrangement number 654) which had no social policies in its program, to Peru 2010 (arrangement number 574) which was 100 percent compliant. This variable ranges from 0 to 1. These are likely to be policy changes that are unpopular and cause significant short-term harm to the most vulnerable in society.

## **Control Variables**

We add a number of covariates which we believe are likely to affect both protest and either remittances or compliance. In our main model, we include a set of standard covariates in public opinion models: age (`q2`), gender (`q1`), years of education (`ed`), and frequency of news consumption (`g10`). We also include how a person rates their personal economic situation (`idio1`) and whether their income has improved or declined (`q10e`)[1]. We include a measure of a person's employment status, which distinguishes between those who are employed, not working but have a job, looking for a job, a student, stay at home, retired, or not employed and not looking. While we

could have collapsed these down to a smaller set of categories, we believe each of these groups of individuals have very different incentives to protest. Lastly, we include a measure of ethnicity coded out of the `etid` variable and captures: white, mestizo, indigenous, black, mulatto, and Asian.

### **Excludable Instrument**

Finally, we include an excludable instrument: temporary membership in the UN Security Council. UN Security Council is coded as 1 for the two years of membership in the council. Previous research has used this as an excludable instrument<sup>83</sup>, since selection into the UN Security Council is seemingly random and does not have an obvious connection to protest. Major IMF shareholders care about how members of this council vote, and there is evidence that members trade votes for economic favoritism. This can take the form of easier access to IMF lending with less stringent conditionality<sup>84</sup>. Alternatively, it may serve to open up alternative economic avenues that leaders can turn to when facing economic trouble. In exchange for their vote on the council, powerful IMF members like the US, France, China, Russia, and the UK (which are permanent members on the council) may offer selective economic incentives. Thus, a council member should be less likely to need IMF lending since this is often a last resort for leaders. This instrument is a strong negative predictor of IMF membership in our selection equation.

### **IMF Selection Equation**

This equation predicts IMF selection using a dynamic random effects logit model. We estimate this model on a global sample of countries to improve the accuracy of the model. This equation is estimated on a global sample of 140 countries between 2003 and 2019. The predictions from this model are the inverse-mills-ratio that are included as a covariate in the zero-inflated negative binomial models to account for non-random selection.

We begin by including a set of economic indicators that capture whether a respondent's country is under an economic crisis. We opt to include GDP growth, inflation, unemployment, and the current account balance. We expect that, as economic conditions deteriorate, we should see IMF participation increase. We also include foreign direct investment and trade as a percentage of GDP,

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<sup>83</sup> see Dreher et al 2009; Woo 2013

<sup>84</sup> Dreher et al. 2009

which capture the value of participating in an international economy, and thus, the need to send a credible signal to trading partners and investors that economic reform is likely. These variables are taken from the World Bank’s World Development Indicator database. We include OECD membership: we expect OECD members to be much less likely to undergo IMF lending, since they often have stronger domestic economic institutions, which both reduce the likelihood of economic crisis, and increase the alternative set of options to redressing a crisis.

We include a set of political variables that capture a government's incentive to undergo IMF lending. We include the ‘democ’ scale taken from the Polity Dataset, which is an ordinal variable ranging from 0 to 10 with 10 being very democratic. Work by Oatley<sup>85</sup> and others suggest that, while democracies may be more likely to implement international agreements, they are also more likely to cave to domestic pressure against IMF reforms; autocracies, on the other hand, have the tools to implement reforms, but often lack the will.

We also include a number of control variables that affect IMF lending decisions. First, we control for the number of countries under an IMF program. Since the IMF has scarce resources, when there are more countries that are under a lending agreement, the IMF can become more selective. Second, we include a counter for the amount of time a country has spent under IMF lending since 2002. We also include a lagged measure of IMF participation because IMF lending occurs over multiple years. Finally, we include a dichotomous variable to capture the global economic crisis - this is coded as 1 for 2008 and after, and 0 prior to 2008. We expect that IMF lending decisions changed significantly in the post-2008 world as the IMF was tasked with mitigating a global economic disaster and political interference should be mitigated during this time. Finally, we include a measure of civil violence taken from the Major Episodes of Political Violence dataset. This is the magnitude of civil violence occurring in a country. Political instability is likely to undermine IMF incentives to lend to a country, as changes in government make it unlikely that loans will be repaid, and conflict presents additional development challenges.

Table 1. Logit model	IMF Selection	
UN Security Council membership	-0.636**	(0.262)
OECD member	-0.753***	(0.238)
GDP growth (annual %)	-0.025	(0.018)
Inflation, consumer prices (annual %)	0.013	(0.011)

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<sup>85</sup> Oatley 2004

Current account balance (% of GDP)	-0.030***	(0.009)
Foreign direct investment, net (BoP)	-0.000	(0.000)
Trade (% of GDP)	-0.005**	(0.002)
Civil violence	0.319**	(0.162)
Democracy	0.021	(0.015)
Unemployment (% of total labor force)	0.032**	(0.014)
Global crisis	-1.423***	(0.211)
Number of borrowers	0.044***	(0.010)
Years under IMF lending	0.226***	(0.040)
Lagged DV	3.095***	(0.218)
Constant	-3.669***	(0.505)
Observations	2,124	
Number of countries	140	

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Robust standard errors clustered at the country level in parentheses.  
Two-tail test \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The results of the selection model can be seen in table 1 above. Our excludable instrument is significant and negatively related to IMF selection. UN Security Council Members are less likely to undergo IMF lending because they can trade their votes for access to less costly sources of revenue and debt forgiveness as we argue above. OECD countries, countries with high current account balances and those with significant trade, and low unemployment are less likely to undergo IMF lending as we expected. Countries facing civil violence are more likely to undergo IMF lending contrary to our expectations. The global crisis seems to have made it harder to get a loan which makes sense given that applications were likely much higher and the IMF could be more selective. As the number of borrowers increased, time under lending increased, and a country was under a loan in a previous year we see a significant increase in the likelihood of being under IMF lending. These results are largely within our expectations. We take the predictions from this model and include them as a covariate in Table 2 in the results section below.

## Results

Our theory has three testable hypotheses. Hypothesis one predicted that all else equal, higher compliance with IMF conditionality increased the number of protests. Hypothesis two predicted compliance is associated with an increased number of protests, but this effect is offset by remittance receipts. Hypothesis three predicted compliance is associated with an increased number of protests, and this effect is amplified by remittance receipts. Thus our argument implies that as governments implement IMF agreements even during times of severe global crisis we should see more protests.

We remain somewhat agnostic as to whether remittances mitigate or amplify this effect though we have found more evidence in the literature in favor of our mitigation theory.

Table 2 below shows the results of our model. The zero inflated negative binomial model has two equations: an inflation equation predicting zeroes, and an outcome equation predicting the number of protests. A positive coefficient in the inflation equation tells us that an individual is less likely to experience any protest event, or said differently they are more likely to never protest. A positive coefficient in the outcome equation tells us that an individual is more likely to experience a greater number of protest events.

The inflation equation shows that individuals who believe the police uphold the law, those with lighter skin colors, those who do not believe protests should be allowed to block roads, and those with less education are less likely to ever protest. This demographic makeup is associated with individuals with a significantly lower baseline risk of ever participating in a protest. On the other hand those who believe the police break the law, are dark skinned, agree with the use of road blocking for protesters, and those with greater education are significantly more likely to protest.

Turning now to the control variables in the outcome equation the IMF selection variable is statistically significant in model 1 which indicates that the use of a control function approach to control for non-random selection is warranted for this model. However, it appears controlling for selection is unnecessary in model 2. We can also see that those with a positive change in income (in model 1 only), men, and those who pay less attention to the news are more likely to see an increase in protest events. While those who identify as indigenous are more likely to protest at higher levels than white individuals, those who are black or mulatto (in model 1 only for both findings) are less likely to protest than those who identify as white. Similarly, those who are working are more likely to protest than those not looking for a job, those who are stay at home, but less likely to protest than those who are retired (in model 1 only). These findings are somewhat consistent with opportunity theories of protest. Those who have more resources (income has improves), are less likely to be discriminated against (men and those who identify as white), and those who are working seem to participate at a higher rate in protests than their peers. However, we also see that those who are less informed (pay less attention to the news) and those who almost by definition cannot receive remittances (indigenous) are also more likely to protest which is inconsistent with opportunity arguments.

Turning finally to our substantive findings for model 1 we find support for hypothesis 1 and hypothesis 2. Because we have an interaction in the model we cannot interpret these coefficients directly since these are conditional relationships. For those who do not receive remittances, as governments compliance increases we see a significant increase in the number of protest events. We can also say that remittance recipients in countries with zero compliance are more likely to protest than their non-recipient counterparts. We can also say that in a country with 100% compliance, remittance recipients are significantly less likely to protest than non-recipients consistent with hypothesis 2. In model 2 we see a very similar set of findings. Remittance recipients protest at higher rates than non-recipients in countries with zero compliance. Compliance also significantly increases protest events for non-recipients. Finally, in a country with 100% compliance remittance recipients are less likely to protest than non-recipients.

	D.V. Protest Count			
	Model 1		Model 2	
	Beta	S.D.	Beta	S.D.
Remittance	0.3322*	(0.1746)	0.6433***	(0.2213)
IMF compliance	2.4446***	(0.2980)		
IMF X remittance	-1.1543**	(0.5704)		
IMF social policy compliance			0.9031***	(0.1809)
IMF social X remittance			-0.9671**	(0.4032)
Years of schooling	0.0016	(0.0123)	-0.0097	(0.0144)
ethnicity = 1, Mestizo	-0.2029	(0.1256)	0.0556	(0.1192)
ethnicity = 2, Indigenus	0.6250***	(0.2090)	0.5089**	(0.2016)
ethnicity = 3, Black	-0.8877***	(0.1723)	-0.0983	(0.2456)
ethnicity = 4, Mulatto	-0.4859**	(0.2252)	-0.0973	(0.2621)
ethnicity = 6, Asian	-0.3595	(0.5631)	0.0156	(0.2829)
Frequency of paying attention to the news	-0.1280***	(0.0418)	-0.1889***	(0.0558)



Rating of personal economic situation	0.0616	(0.0467)	0.0774	(0.0576)
occupation = 1, Not working, have a job	-0.0960	(0.1624)	-0.0197	(0.1913)
occupation = 2, Looking for a job	-0.2948**	(0.1382)	-0.4628**	(0.1968)
occupation = 3, Student	-0.0814	(0.1527)	0.0823	(0.1669)
occupation = 4, Stay at home	-0.5309***	(0.1555)	-0.4720**	(0.2178)
occupation = 5, Retired	0.4126*	(0.2335)	0.1825	(0.3117)
occupation = 6, No job, not looking	-0.2360	(0.1974)	-0.4776*	(0.2828)
Age	-0.0015	(0.0031)	0.0021	(0.0041)
Female	-0.1962**	(0.0929)	-0.1192	(0.1181)
Change in income	0.1201**	(0.0589)	0.0765	(0.0697)
IMF selection	-0.7301***	(0.1751)	0.1454	(0.2646)
Constant	-2.8269***	(0.3498)	-1.6020***	(0.4396)
<b>Inflation equation (probability of a zero)</b>				
Police break laws to capture criminals	-0.2568***	(0.0812)	-0.2733***	(0.0973)
Leaders are interested in what people think	-0.0012	(0.0200)	-0.0201	(0.0244)
Skin Color	-0.1022***	(0.0246)	-0.0860***	(0.0322)
Approval of those blocking roads to protest	-0.1336***	(0.0148)	-0.0962***	(0.0156)
Executive job approval	-0.0581	(0.0397)	0.0025	(0.0495)
Years of schooling	-0.0760***	(0.0112)	-0.0852***	(0.0130)
Alpha (overdispersion)	1.2422***	(0.2576)	0.8165***	(0.2980)
Constant	3.2959***	(0.2768)	-1.6020***	(0.4396)
Observations	16,788		8,103	
Countries in sample	10		10	

Robust standard errors in parentheses. Two-tail test \*\*\* p<0.01, \*\* p<0.05, \* p<0.1  
Model 2 is limited to countries that had at least one social policy attached to their loan  
The ethnicity comparison group is white. The occupation comparison group is working.

We visualize these findings in the two figures below. We create out of sample predictions for model 1 and model 2 for both remittance recipients and non-recipients. These predictions are created by generating a fake set of data that is representative of the true sample. We take the mode of

dichotomous variables, the median of ordinal variables, and the mean of continuous variables as the most representative case in our sample. Note that if we chose a different set of data the predictions would change, but the overall trends would hold. Holding these values constant we generate a set of predictions across all levels of compliance using the results from model 1 and model 2. The resulting figures thus show us the predicted effect of moving from 0% compliance to 100% compliance on protest events. The Y-axis shows the predicted number of protest events. The X-axis represents the percent of unique conditions attached to a loan that a country has implemented. It ranges from 0% to 100%. The line in each graph represents the best predictions from the model. While the confidence intervals around those lines represent 95% upper and lower bound predictions.

Figure 1.

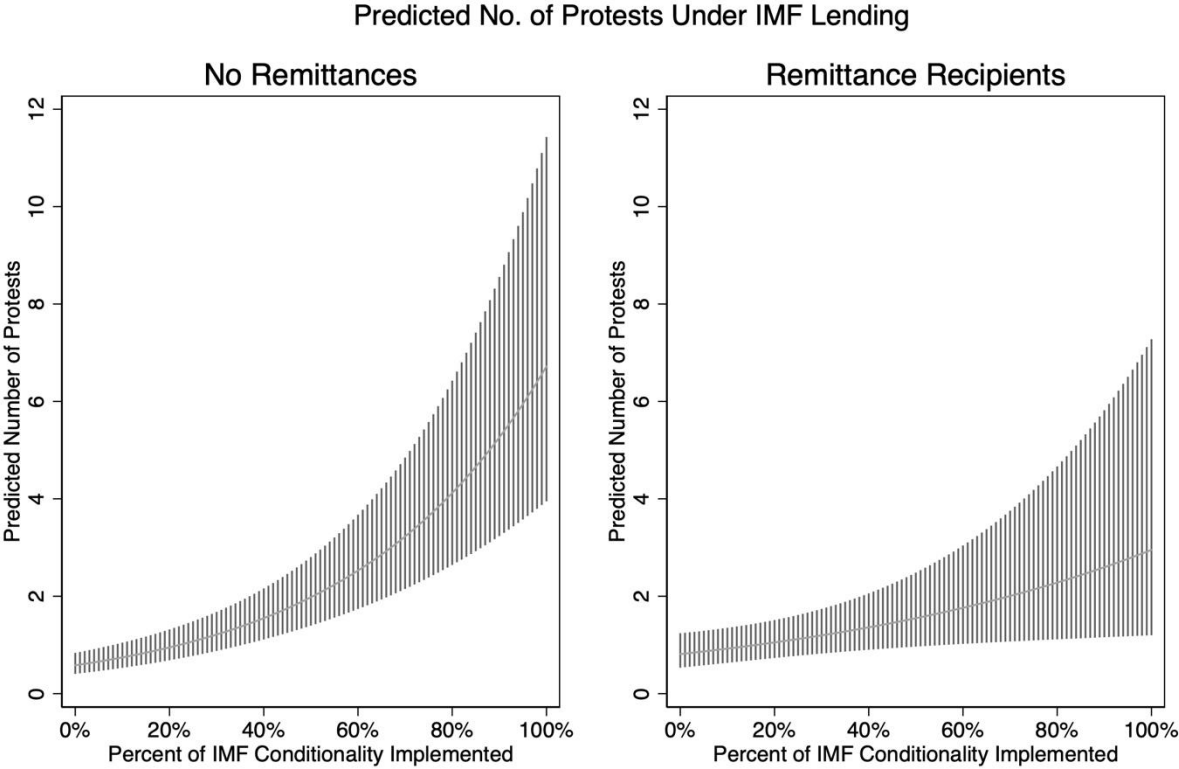


Figure 1 shows the predictions from model 1. We can see that for both remittance recipients and non-recipients as compliance increases, we see an increase in the predicted number of protests. It is also clear that while remittance recipients have a slightly higher predicted number of protest when

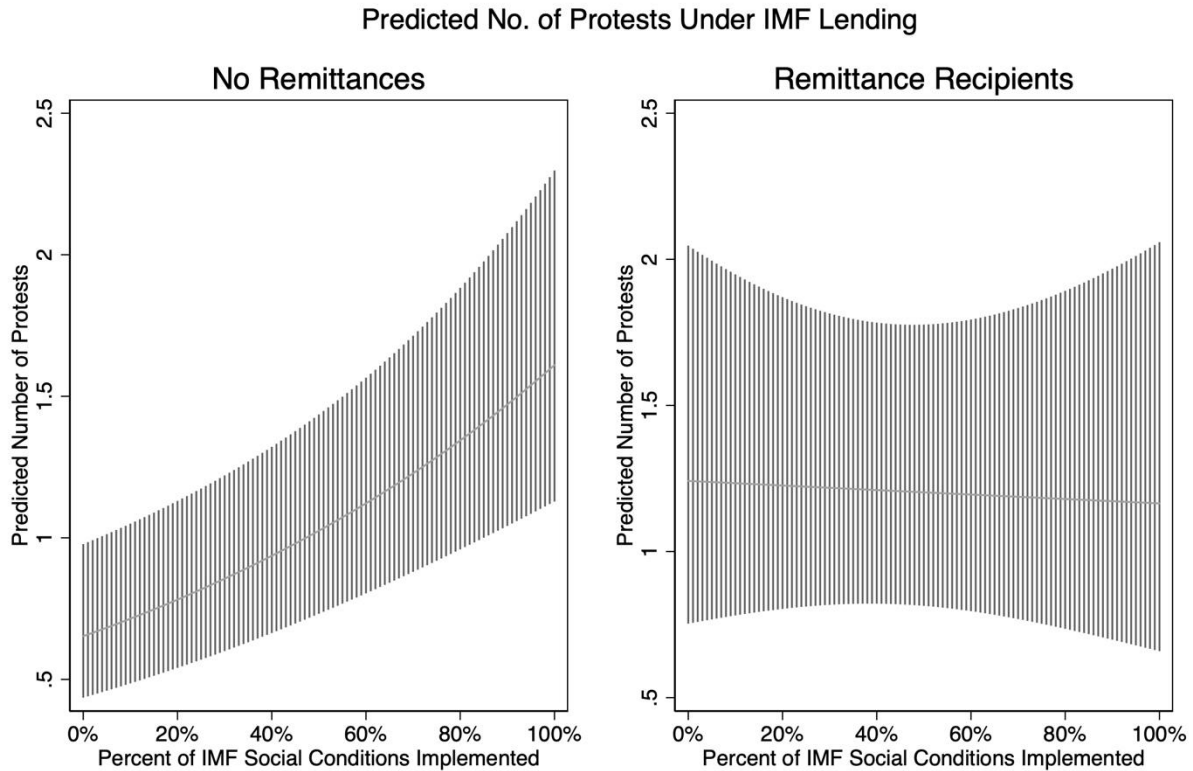
compliance is zero, as compliance increases non-recipients are predicted to have a much larger number of protest events at high levels of compliance. There is far more uncertainty surrounding predictions at high levels of compliance due to the fact that there are fewer cases in the sample with high levels of overall compliance.

In our sample overall compliance ranges from a little less than 3% to a high of 67%. According to our out of sample predictions, non-recipients are predicted to protest 0.63 times at 3% compliance, compared with 0.84 protest for remittance recipients. However, at 67% compliance non-recipients are predicted to protest 3 times compared with 1.93 times for remittance recipients. To put these findings into perspective, the sample average for protest events is 0.2 protest events. For those who engage in at least one protest event the average number of events is about 2.5 events among those who protest. Among those who have some chance of protesting, compliance with IMF conditionality activates dissent, and as compliance increases, governments are more likely to face significantly committed and aggrieved individuals showing up repeatedly to make demands of the government.

Turning now to the predictions from model 2 we notice some differences. First, the confidence intervals are much larger in these predictions. This is due to the smaller sample of countries. since all IMF countries without a single social policy were excluded. Second, the results for non-recipients looks much the same as model 1 with protest increasing as compliance increases. However, for remittance recipients there is no effect of compliance on protest regardless of the level of compliance. This is consistent with our argument that individuals are able to substitute for social safety net cuts with their remittance receipts while non-recipients are not.

The sample for model 2 besides being smaller also has higher levels of compliance. The number of social policies a country was asked to implement in the sample ranged from 1 to 7, with 7 being an outlier on the high end. Compliance ranged from 0% to 100%. At 0% compliance our model predicts a non-recipient will protest 0.65 times while a remittance recipient will protest 1.2 times. At 100% compliance a non-recipient will protest 1.6 times compared with 1.1 times for a remittance recipient. So while governments who implement IMF social policies are unlikely to see any changes in protest behavior among remittance recipients, they are likely to see a sizable increase in protest events among non-recipients.

Figure 2.



## Conclusion

Our paper has explored the relationship between IMF compliance, remittances, and individual protest behavior. We found support for our arguments that when governments comply with IMF conditionality they see a significant rise in the number of protest events. This indicates that compliance increases grievances among citizens, and those who do protest are likely to come out again and again making demands of the government. Thus, as compliance increases so does protester resolve and the costs imposed on the government. We also found support for our second hypothesis that remittances mitigate this effect. Remittance recipients are able to use their remittance receipts to offset the costs of IMF austerity. We also found that with regard to social policies like pensions, healthcare, education, and other social safety net programs the protest behavior of remittance recipients does not change. However, compliance with social policies significantly

increases protest behavior for non-recipients. This is consistent with our argument that remittances can substitute for cuts to social safety nets and public goods.

This paper has added a number of new arguments and quantitative tests of theory to the literature. This is the first paper to systematically test the relationship between IMF compliance and remittances. This is also the only paper to systematically explore the effect of IMF compliance on protests. This paper also adds to the debate on the relationship between remittances and protest finding that remittances can reduce unrest. This paper also explores how macro-level economic agreements with International Organization alter individual protest behavior.

However, this paper also opens up more questions than it answers. We have not been able to successfully distinguish between whether IMF hardship causes more individuals to move abroad or increases the amount of money sent back by those who have already migrated. By choosing the time period we have, we have limited the effect of the first avenue for remittances since there were significantly fewer economic opportunities abroad and global migration decreased during this time. It remains to be seen whether these findings might change during a time when the costs of migrating were lower. Similarly, we have not been able to account for the size of remittances, or whether remittance receipts increased or decreased during this time. It also remains to be seen whether these findings hold for other types of dissent or political behavior.

Future work should explore how protest behavior in IMF countries compares to behavior in non-IMF countries which we are unable to due given our sample.. We would also have liked to explore how the timing of reforms announcements versus compliance affected protest behavior. Finally, this paper suggests that IMF programs have significant impacts on migration behavior, yet there is almost no research exploring this relationship. We leave these questions to future researchers.

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## Appendix

### Appendix A – IMF Selection Prediction Accuracy

Using the selection equation we generated predicted values. These predictions represented the probability a country was under an IMF program in any given year. To check how accurate our selection equation is we created a variable that is equal to 1 if the probability of being under an IMF program is greater than 50% and 0 otherwise. A histogram of predictions shows that we successfully distinguish between two groups which cluster either below a 20% of being under, or above 60% chance of being under.

	Prediction = 0 (no IMF)	Prediction = 1 (IMF)	
No IMF	1,483	92	1,575
IMF	123	426	549
Total	1,606	518	2,124

The accuracy of our IMF selection predictions are as follows:

- Correctly predicted being under an IMF program  $426/549 = 78\%$
- Correctly predicted not being under an IMF program  $= 1,483/1,575 = 94\%$

**Appendix B – Demographic Profile of Remittance and Non-remittance Recipient in Sample**

Demographic Indicator	Receives Remittances	No Remittances
Years of education	9.7	9.0
Modal race	Black	Mestizo
Modal occupation	Working	Working
Age	38.5	39
Change in income	-0.1	-0.07
News consumption	1.64	1.67
Ideology (left = 1, right = 10)	5.3	5.7
Personal economic situation	3.1	3

### Appendix C – Survey Respondents by Country

Country Name	Number of respondents
Costa Rica	1,266
Dominican Republic	2,686
El Salvador	1,099
Guatemala	1,233
Haiti	1,308
Honduras	2,857
Jamaica	1,031
Nicaragua	2,817
Paraguay	1,147
Peru	1,344