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# Collective Remittances and the State: The 3×1 Program in Mexican Municipalities

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**Summary.** — The Mexican 3×1 Program for Migrants is a grant scheme whereby the municipal, state, and federal governments match by 3 to 1 the funds that migrant clubs send to their hometowns to finance public projects. Using municipal-level data on Program participation for the period 2002–07, we evaluate both the economic bias and the political bias of the Program. Since migration and poverty have a nonlinear relationship, we find that poorer municipalities are less likely to participate than those with medium poverty levels. We also find that the Program rewards PAN strongholds rather than competitive municipalities.  
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## 1. INTRODUCTION

Remittances are a crucial aspect of the migratory phenomenon. They form a substantial proportion of the wealth of a large number of countries, and are among the most important sources of those countries' foreign exchange. For instance, in Mexico remittances are the second largest source of revenues after oil exports, surpassing the revenues from tourism and foreign direct investment. Whereas Mexico is the third-largest remittance recipient in the world in absolute terms (behind India and China), remittances amount to some 2.5% of GDP. In contrast, in other countries remittances are a vital source of income: they amount to 27% of Moldova's GDP, 16% of El Salvador's, and 13% of the Philippines'. In the top 19 recipient countries, remittances make up more than 10% of their GDP (World Bank, 2006; Ghosh, 2006).

Given the enormous importance of these capital flows and their potential to contribute to development, international organizations and governments of migrant sending and receiving countries are designing public policies to encourage remittance flows. State governments are also encouraging the so-called productive use of remittances, so that they are devoted not only to current consumption but also to the improvement of living conditions in sending countries. Unlike individual remittances, whose private character makes them difficult to monitor and influence, collective remittances are in principle available as a tool to improve the provision of social and productive infrastructure in the backward hometowns of migrants.

The Mexican 3×1 Program for Migrants is one such policy. Indeed, it is taken to be an international reference in the development cooperation between diasporas abroad and their communities of origin (Fernández de Castro, García Zamora, & Vila Freyer, 2006; World Bank, 2006). Municipal, state, and federal governments enter the picture by tripling the amount of money sent by hometown associations (HTAs) to finance local development projects, such as electrification, water, road paving and maintenance, housing infrastructure, educational and health projects, and town beautification, among others.

Since 2002 the Program has been implemented at the federal level, and today it involves 27 Mexican states and more than 1,000 HTAs abroad. In this period it has financed more than 6,000 projects with an average annual federal investment of US\$15 million (García Zamora, n.d. García Zamora, 2007). In 2007 it received about US\$22 million from the federal government; in 2008 this amount almost doubled to US\$42 million.

We investigate municipal participation in the 3×1 Program for Migrants and assess both the economic and the political sources of bias in the Program. First, we study whether the Program is able to target relatively poor municipalities or to devote more resources or projects to those localities. We argue that the current design of the Program, which gives migrants the initiative in proposing projects, tends to favor municipalities with high migration and a long-standing migration tradition, in which migrant associations are both numerous and well organized. However, since poverty imposes an important constraint on the ability to migrate and to send collective remittances (Hatton & Williamson, 2002) the municipalities that are most likely to benefit from the Program need not be among the poorest.

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Second, we explore the political or partisan uses of the Program. On the one hand, the involvement of the three levels of government (municipal, state, and federal) as well as of migrants themselves raises coordination problems that may benefit some political parties at the expense of others. On the other hand, the collusion of state and municipal governments may be used to benefit partisan strongholds or to target politically competitive localities.

Using a unique dataset on municipal participation in the 3×1 Program for Migrants during the 2002–07 period, and evidence from fieldwork in the state of Guanajuato, we study three different measures of Program participation, namely, whether any projects were funded in a municipality in a given year, the monetary amount awarded for all projects, and the number of projects funded in the municipality. We find that, after controlling for state and municipal characteristics, high-migration municipalities are more likely to participate, but the Program is progressive only up to a point because there is a nonlinear relationship between poverty and the probability of participating in it. Indeed, poorer municipalities are less likely to benefit: we find that very poor municipalities receive fewer projects than wealthier localities with similar levels of migration. This result is robust to different estimation methods and to different operationalizations of our dependent and independent variables. All in all, we find evidence that the Program design has regressive consequences at the municipal level.

As for the political economy of the Program, our empirical analysis reveals that municipalities and states ruled by the conservative *Partido de Acción Nacional* (PAN) were more likely to participate in the Program than their *Partido de la Revolución Institucional* (PRI) and *Partido de la Revolución Democrática* (PRD) counterparts. Municipalities with greater PAN electoral support were also more likely both to participate and to receive more projects. This result holds after we control for migration and poverty levels. To make sense of this finding, it is important to keep in mind that the federal version of the Program was launched by the PAN as a federal initiative under the administration of Vicente Fox (2000–06), building upon the alleged success of similar Programs in certain high-migration states. Also, the PAN held power at the federal level for the entire sample period of our study, and it rules in two of the four states with the highest migration intensity. Thus, without disregarding the importance that the Program may have in strengthening the linkages between migrants and their localities of origin, we argue that the Program has regressive consequences both because of the relationship between migration and poverty and because of the existence of a partisan bias.

Taken together, these results raise serious questions about the design of this public policy, as it now stands, in terms of its ability to improve the conditions of the poorest localities. There is also a real concern that the Program may largely benefit those states where migrants are better organized, to the disadvantage of poor communities of recent but intense migration and with lower organizational skills. Thus, before this sort of Program is promoted internationally—El Salvador, Somalia, Ecuador, Colombia, and Peru have already adopted similar Programs (García Zamora, 2007)—sober reflection is called for about the consequences of policy interventions in the management and allocation of collective remittances. To our knowledge, this paper is the first systematic contribution to that topic.<sup>1</sup>

The paper proceeds as follows. In Section 2 we provide an overview of the policy debate about remittances, their impact on development, and common practices in remittance manage-

ment. In Section 3 we set out the precedents of the 3×1 Program for Migrants, describe its current format, and hypothesize about the expected relationship between poverty, politics, and Program participation. In Section 4 we present the data and our empirical methodology. Section 5 discusses our main empirical findings and their policy implications. Finally, since this research casts doubts on the alleged promise of the Program to reduce poverty, in our concluding section we propose some Program amendments and reflect on government intervention in the management of collective remittances.

## 2. REMITTANCES, DEVELOPMENT AND PUBLIC POLICY

Parallel to the surge in international migration, international remittances have become a crucial capital flow. According to World Bank estimates, remittances worldwide amounted to US\$58 billion in 1995. In 2004 they increased to US\$160 billion, far surpassing international flows of official development assistance (US\$79 billion) and of private debt and portfolio equity (US\$136 billion). By 2004 remittance flows were as large as foreign direct investment flows (US\$160 billion) (World Bank, 2006). Moreover, according to World Bank estimates, 50% of remittance flows remain unrecorded due to the use of informal channels for transferring currency. In other words, the official figures may seriously underestimate the actual magnitude of remittances.<sup>2</sup>

Increased awareness and improved accounting methods of these flows have directed the attention of researchers and policymakers to the multiple effects that remittances may have on migrants' countries of origin. In turn, both host countries and home countries have put in place a range of public policies with two main objectives: to encourage the use of formal channels for remittance sending and to promote the "productive" use of remittances back home, that is, using remittances to finance projects with an eye on employment creation and growth. Notably, these interventions cast doubt on the view that remittances are capital flows free from "governmental middlemen." On the contrary, state intervention in the management of remittances is pervasive (Carling, 2004; Spector and de Graauw, 2006) and is expected to increase.

Governments have plenty of reasons to try to influence both the amount of remittances that are sent back home and the way they are used. On the negative side, remittances may affect economic growth if they damage the export sector *via* exchange rate appreciation (Fajnzylber & López, 2007) or if remittances change the propensity to work. On the positive side, remittances help to alleviate the living conditions of families with members abroad.<sup>3</sup> And at best, remittances may be successfully channeled to enhance the development of communities of origin—the so-called meso level (World Bank, 2006; OECD, 2007).

Spector and de Graauw (2006) provide a description of public policy interventions during the life cycle of remittances (before, during, and after remittance sending). Obviously, migration regulations have an impact on the amount of remittances sent back home. Thus, policies that facilitate emigration, legal recognition, and job placement abroad increase remittance flows (Spector & de Graauw, 2006). Policymakers have intervened to regulate transfer services and to encourage the use of formal remittance channels, particularly the official banking sector. Other policies directed at preserving the political and social attachments of migrants abroad (such as providing voting rights, dual citizenship, and cultural and

educational Programs) aim at keeping migrants' loyalties alive in the event of family reunification and the permanent settlement of migrants in receiving countries.

Finally, governments have offered incentives (mostly in the form of tax breaks) to save and to invest remittances once they have arrived in the sending countries. Governments have also encouraged the participation of migrants in the development of community projects. In particular, sending states around the world have courted organizations of migrants abroad, encouraging their activism by building upon their spontaneous initiatives to finance community projects and to engage in philanthropic activities. Overall, such public interventions challenge the view of remittances as immune to political influence.

Mexico has been an active country on all these fronts. Since the 1990s, consular activity and official Programs to assist migrants abroad have multiplied. Starting in 1997, Mexico allowed for dual nationality. In 2006 Mexicans abroad were allowed to vote in the presidential election. From 2002, under the US–Mexico Partnership for Prosperity Program, Mexicans could use the so-called *matrícula consular* to open bank accounts in the United States and transfer money, regardless of their legal migration status. Since 1999 the cost of remittance sending in the US–Mexico corridor has been reduced by about 60%. State and federal administrations have courted the Mexican diaspora, seeking its help in improving the living conditions of its communities of origin (Alarcón, 2006; Burgess, 2005; Spector & de Graauw (2006), World Bank, 2006; Fernández de Castro *et al.*, 2006).

The 3×1 Program for Migrants is one such policy. Whereas the Program has been publicized in policy circles as an example of a transnational policy, “a careful evaluation of support to HTAs through matching grant schemes and other means is yet to be undertaken” (World Bank, 2006: 94). Indeed, numerous discussions of the Program exist (Burgess, 2005; García Zamora, 2006, 2007; Goldring, 2004; Iskander, 2005; Moczuma, 2002; Moctezuma & Pérez, 2006), but they are mostly based on anecdotal evidence or on case studies whose selection is not always theoretically justified. Since most of these studies focus on high-migration states or on localities with well-organized migrants, they cannot offer a conditioned comparison between communities that participate in the Program and otherwise similar ones that do not participate. Nonetheless, it is remarkable that these evaluations point to a relatively limited impact of the Program on community development *per se* but identify other potential virtues—such as in strengthening the linkages between migrants and their communities, or improving local governance and accountability. The studies by Burgess (2005, 2006) and De Graauw (2005) anticipate in different ways the hypothesis that we systematically test here: because the Program is based on migrants' demands, organized migrants have an advantage in project allocation, which does not necessarily coincide with one of the Program's stated objectives of providing infrastructure in the poorest areas. Indeed, as our evidence indicates, it does not.

### 3. MEXICAN MIGRATION, POVERTY, AND THE 3×1 PROGRAM FOR MIGRANTS

The international migration of Mexicans to the US at the start of the 21st century can be summarized in terms of three features: a common border of more than 3,000 km, a long-standing tradition of more than 100 years, and a diversity of origins in Mexico and of destinations in the US (Durand, Parrado, & Massey, 1996). Today, 96.2% of Mexican municipalities register

international migration. Approximately 450,000 mostly young and male Mexicans migrate each year.<sup>4</sup> More than one million Mexican households benefit from remittance flows. For 40% of them, remittances represent their sole or main source income (García Zamora, 2005; Soto & Velázquez, 2006). In recent years migration has intensified, its destinations have become more permanent, and its origins have become more urban and diversified (Leite & Acevedo, 2006).

The precedents of the 3×1 Program for Migrants are found in the state of Zacatecas, which is the state with the strongest and oldest migratory tradition in Mexico. The Federation of Zacatecan Clubs first started to raise funds to help expatriates abroad (mostly in the event of illness or death) and to fund social and recreational projects back home in the early 1960s.

Building upon these initiatives, in 1986 the 1×1 Program was born under the auspices of PRI governor Genaro Borrego. In its initial design, the Program contemplated just state support to double the amount of money sent by migrants associations. Although just 28 projects were carried out under the Program between 1986 and 1992, the initiative encouraged the Federation of Zacatecan Clubs to undertake more and more philanthropic activities. Parallel to President Carlos Salinas's (1988–94) interest in courting migration, the Zacatecan initiative received further support under Borrego's successor, Arturo Romo, resulting in the Program of International Solidarity among Mexicans, also known as the 2×1 Program. Under this scheme not only the state but also the federation matched the contributions of HTAs. Despite a temporary reduction in support for the Program during President Ernesto Zedillo's term (1994–2000), the Program continued to operate without the support of the federation but instead with the support of the municipalities. Under PRD governor Ricardo Monreal, the Program gathered momentum, in part in recognition of the crucial support of migrants for Monreal's platform. By 2002, in the state of Zacatecas, a total of 868 projects had been funded with an investment of 464 million pesos (Burgess, 2005). In the meantime, the initiative had been replicated by the state governments of Jalisco, Durango, and Guanajuato.

Initiatives to encourage the formation of HTAs abroad multiplied under Carlos Salinas. In 1989 Salinas launched the *Paisano* Program and in 1990 the Program for Mexican Communities Abroad, which was based in the Foreign Ministry and operated through a network of Mexican consulates, institutes, and cultural centers. In turn, the Program for Mexican Communities Abroad promoted the formation of State Offices for Mexicans Abroad. Among other things, these offices promoted the formation of HTAs and publicized schemes of collaborative partnership among HTAs and their communities of origin. It is no coincidence that during this period the number of migrant clubs abroad surged (Orozco, 2003; Orozco & Welle, 2005). Between 1995 and 2002 the total number of registered clubs grew from 263 to 580, and they federated at an increasing pace (Burgess, 2005). Alarcón reports that there are 2,000 Mexican HTAs in the US, of which some 700 are formally registered (Spector & de Graauw, 2006).

When Vicente Fox came to power in 2000, he renewed his commitment to work with HTAs and restored the federal support for collaborative Programs that Ernesto Zedillo had suppressed. Fox set up the *Instituto para los Mexicanos en el Exterior*, and resurrected the matching-grant Program with federal support. The 3×1 Program–Citizen Initiative was started in 2002, and two years later became the 3×1 Program for Migrants.

The purpose of the Program is to support the investment initiatives of migrants living abroad that help increase the coverage

and the quality of basic social infrastructure in localities a large proportion of whose populations suffer from poverty or social backwardness. The Program also seeks to strengthen the linkages between migrants and their communities through collaborative development projects and the organization of migrants abroad (Soto & Velázquez, 2006).

In its current design the 3×1 Program for Migrants is administered by the Mexican Ministry of Social Development (SEDESOL) following the initiatives of hometown associations. A Committee of Validation and Attention to Migrants (COVAM), which includes representatives of the four parties involved (migrants and municipal, state, and federal governments *via* SEDESOL), prioritizes and decides by majority rule on the technical viability of the projects. Each of these four parties contributes 25% of the total cost of the approved project. The degree of participation of different government levels can vary: for instance, the federation can cover up to 50% of the project if its social impact justifies it.<sup>5</sup> However, this is rarely observed in practice. Since the maximum federal participation amounts to about US\$67,000, the total cost of each project funded can be as high as US\$268,000. Thus, although collective remittances are small in absolute terms, they are an important complement to the finances of the municipalities and their inadequate public infrastructure.

According to our data, all Mexican states except Baja California Sur, Coahuila, Quintana Roo, and Tabasco have already participated in this initiative. However, the percentage of municipalities benefiting from the Program has ranged from just 10% in 2002 (239 municipalities out of 2,435) to 20% in 2007 (487 municipalities out of 2,439).

We study the economic and political incidence of the Program. First, we assess its ability to target communities living in poverty and suffering from social backwardness as opposed to reaching only communities of high migration. Given that the Program design gives the initiative to HTAs, it certainly prioritizes the areas with the highest migration traditions. However, the Program objective of targeting the poorest communities will be achieved only as long as the areas of highest migration are also among the poorest ones. As it turns out, this is not the case.<sup>6</sup> For instance, in 2007 68% of the federal money was invested in municipalities of low and medium poverty, and only 24% was invested in poor and very poor municipalities (Aparicio, Maldonado, & Beltrán, 2007). Moreover, 70% of all migrants' clubs are affiliated with the states of Guerrero (PRD), Guanajuato (PAN), Jalisco (PAN), and Zacatecas (PRD) (Zárate, 2005). Not surprisingly, in 2007 Zacatecas, Jalisco and Michoacán (PRD) hosted 59% of the projects and received 54% of the total federal resources allocated to the Program (Aparicio *et al.*, 2007).

To the extent that matching grant Programs respond to the income distribution of the actors involved, it is expected that wealthier communities will be more likely to participate than poorer ones. Therefore, a Program that *unconditionally* supports migrant and hometown associations' initiatives will not be progressive if poverty and migration are not directly correlated. If this is the case, the Program will be biased against poor communities. Based on this reasoning, we propose the following hypothesis:

*H1—self-selection bias:* Given that migrants self-select into the 3×1 Program, and that Mexican migration is not evenly distributed relative to poverty, the Program disproportionately benefits relatively well-off municipalities to the detriment of poor ones.

Our second area of concern is the political use of the Program. Systematic research on the politics of *collective* remit-

tance management is practically nonexistent. There is incipient research on the political consequences of *individual* remittances at the local level, but they refer to private, not collective, remittances. For instance, Pfütze (2007) reports that the additional income from private remittances may weaken the power of clientelistic arrangements and vote buying at the local level. The author reports a greater likelihood of the opposition winning in Mexican municipalities where a high proportion of households receive remittances. However, case studies suggest that political uses of the 3×1 Program may not have been rare. This seems to be especially true in municipal politics, where collective remittances can supplement the finances of local governments (Valenzuela, 2006).

Some examples may illustrate the particularistic use of the Program. In their study of the 3×1 Program in Jalisco, Hernández and Contreras (2006) report that local politicians have used it to increase their popularity. In her study of the municipality of Jala, in the state of Nayarit, Imaz (2003: 396) asserts that "They [migrants] were actively sought because they could mobilize people." In turn, migrants declared that local politicians "*los politiqueros* [manipulate them]" (Imaz 2003: 400). This suggests that remittances have empowered migrants as strategic municipal political allies (Jiménez, 2008). Indeed, knowing the resources they possess, migrants have been able to shape the rules of the Program to secure a monopoly over it.<sup>7</sup>

With this background in mind, we explore the political economy of the Program by testing for three different sorts of political distortions in fund allocation: partisan bias, coordination bias, and electoral bias. On the one hand, a federal PAN administration governed throughout the entire sample period we survey. Thus, SEDESOL, the federal counterpart of the Program, could bias funds and project allocation in favor of PAN-ruled states or municipalities. This manipulation is feasible because, unlike other federal Programs, such as the well-known OPORTUNIDADES, participation in the 3×1 Program requires no objective formula or criteria (other than the technical viability of the projects, assessed by SEDESOL) to be met. Moreover, two of the Mexican states with the greatest migration intensity and tradition, Jalisco and Guanajuato, have historically been political strongholds of the ruling PAN. Therefore, we expect that:

*H2—partisan bias:* All else equal, states and municipalities ruled by the PAN, as well as PAN strongholds, are more likely to participate, and to receive more funds and projects, than those dominated by other political parties.

On the other hand, since the Program requires the tripartite involvement of three different levels of government—municipal, state, and federal—this provides ground for hypothesizing that shared partisanship is likely to distort resource allocation: states are likely to be more supportive of projects proposed by municipalities with the same party label. Thus, we hypothesize that shared partisanship between municipal and state governments will increase the chances of Program participation. Therefore, we expect that:

*H3—coordination bias:* All else equal, municipalities ruled by the same political party as their state governments are more likely to benefit from the Program, than so-called vertically divided governments.

To further hypothesize about the patterns of fund allocation under the 3×1 Program for Migrants, we rely on the literature on redistributive politics (Cox and McCubbins, 1986;

Calvo & Murillo, 2004; Dixit & Londregan, 1996; Kitschelt & Wilkinson, 2007; Londregan, 2006; Stokes, 2005). This literature emphasizes that power-hungry but risk-adverse politicians could use public projects to target politically competitive localities in order to win over the so-called *swing voters*, thereby optimizing the electoral returns of the Program's limited resources (Dixit & Londregan, 1996; Díaz Cayeros, Estévez, & Magaloni, 2007).

A second strand of this literature elaborates a different prediction concerning the allocation of public projects. Cox and McCubbins (1986) argue instead that public projects can be used to reward or mobilize *core voters*. In a similar vein, Bueno de Mesquita, Smith, Siverson and Morrow (2003) and Chhibber and Nooruddin (2004) contend that in competitive multiparty political systems the size of the coalition of voters required to win an election is relatively small and better secured with spending on private goods. Conversely, in less competitive venues relatively large winning coalitions are better secured through spending on public goods. The observable implication of these models runs in the opposite direction to the swing voter model: we should expect *more* spending on public projects in partisan strongholds.

In sum, political parties can potentially use spending on public goods under the 3×1 Program to address swing voters in competitive venues or to reward and mobilize core supporters in their political strongholds. To test these rival predictions empirically, we rely on two commonly used measures of political competitiveness: the margin of victory and the effective number of parties in local elections. In principle, we are agnostic about which of these rival theories will prevail, if at all: whereas there is abundant research on the political use of social programs by the hegemonic PRI (Hiskey, 1999; Molinar & Weldon, 1994; Magaloni, 2006; Díaz Cayeros *et al.*, 2007), there is a dearth of studies on the political use of social programs under the PAN administration. Therefore, we leave this hypothesis open.

*H4—electoral bias:* All else equal, municipalities with larger margins of victory (or a smaller effective number of parties) are more likely to participate, and to receive more funds and projects, than more competitive jurisdictions. Alternatively, if politicians use the program to target swing voters, municipalities with narrower margins of victory are more likely to participate.

#### 4. DATA AND EMPIRICAL METHODS

To test our hypotheses, we collected data from the 3×1 Program for Migrants for all Mexican municipalities that participated during 2002–07 period (SEDESOL). The dataset includes yearly information on whether a given municipality participated in the Program, the total amount invested, and the number of projects awarded in any given year. We have information for each project funded by the Program over the sample period, which we aggregated at the municipal level to match the political covariates that exist only at the municipal level. Since information on the complete pool of project applications is not publicly available, we rely on the projects that were approved and funded. On average, we have yearly data for more than 2,400 municipalities during 6 years of Program operation, which amounts to more than 14,000 municipality-year observations.

To assess the effect of migration, poverty, and political covariates on participation in the 3×1 Program in Mexican municipalities, we estimate a series of regression models of the following form:

$$Pr(\text{PARTICIP}_{ijt} = 1 | \mathbf{X}) = F(\beta \text{MIGRATION}_{ij} + \chi \text{POVERTY}_{ijt} + \text{SOCIODEMOG}_{ijt} \delta + \text{POLITICS}_{ijt} \phi + \mu_j + v_t) \quad (1)$$

$$\log(\text{AMOUNT}_{ijt}) = \alpha + \beta \text{MIGRATION}_{ij} + \chi \text{POVERTY}_{ijt} + \text{SOCIODEMOG}_{ijt} \delta + \text{POLITICS}_{ijt} \phi + \mu_j + v_t + \varepsilon_{ijt} \quad (2)$$

$$Pr(\text{NUMPROJECTS}_{ijt} = k | \mathbf{X}) = F(\beta \text{MIGRATION}_{ij} + \chi \text{POVERTY}_{ijt} + \text{SOCIODEMOG}_{ijt} \delta + \text{POLITICS}_{ijt} \phi + \mu_j + v_t) \quad (3)$$

where the subscripts refer to the *i*-th municipality in the *j*-th state, and *t* refers to a given year. The dependent variable (Program participation) is measured in three different ways. First, PARTICIPATION is a dichotomous variable indicating whether a particular municipality in a given year had any project funded by the Program. Second, the variable AMOUNT measures the logarithm of the total amounts of funds (from all four sources, in constant 2006 pesos) invested in a particular municipality-year as a result of Program participation. Finally, NUMPROJECTS measures the number of projects that were awarded to a particular municipality in a given year. For example, in 2003 Tanhuato, a municipality located in the state of Michoacán, participated in the 3×1 Program with six projects and a total investment of approximately US\$95,000.

Our main explanatory variables are different measures of migration intensity, poverty, and political conditions.<sup>8</sup> Measures of migration and poverty were obtained from CONAPO and INEGI, respectively. The variable MIGRATION is an ordinal variable that classifies municipalities in six categories encompassing very high, high, medium, low, very low, and no migration municipalities. This variable is a categorization of the MIGRATION INDEX, a continuous variable that we used in some of our statistical specifications. The MIGRATION INDEX is a principal-component score based on census data on the number of family members who live abroad, circulatory migration, and return migration in the household. These migration measures are based on the 2000 census and remain constant throughout our sample period. The measure of POVERTY is a categorical variable that classifies Mexican municipalities in very high, high, medium, low and very low poverty, or marginality. It is derived from the continuous POVERTY INDEX, which summarizes information on literacy rates, income levels and social infrastructure in each municipality. Our poverty measures are based on 2000 and 2005 census data, which means that the poverty index is updated roughly in the middle of our sample period.

To test hypotheses H2–H4, the POLITICS vector includes indicator variables that capture the party label of municipal and state governments. To explore electoral biases in the selection of participants and the allocation of funds, we include several variables that are standard in the redistributive politics literature and that capture the levels of political competition and political fragmentation in Mexican municipalities. As explained above, we want to explore whether the Program benefits either partisan strongholds or target jurisdictions where political competition is tighter. For that purpose, we include a set of indicators that capture the political strength of PAN and PRI, and a group of variables that capture the levels of political competition, regardless of party label.

Local elections are held every 3 years in Mexico but the state electoral calendar is staggered. Every year, a number of states and/or municipalities hold elections of municipal mayors and state legislatures. Thus, the political covariates are updated every 3 years. But, given the staggered electoral calendar, we are able to distinguish partisan effects from state or year

effects. The political variables were set to control for state governments led by the PAN, the PRI, or the PRD—the three main political parties in Mexico. In one specification, we also consider the VOTE SHARES of each of these parties in municipal races (CIDAC), and the vote share difference between the PAN and the PRI.<sup>9</sup> These variables allow us to test whether PAN strongholds are rewarded with more investments under the 3×1 Program (partisan bias). If a rewarding logic underlies the allocation of funds under the Program, we should observe that municipalities ruled by the PAN, municipalities where the PAN obtains the greatest electoral support, and municipalities in which it wins with the greatest margins report a higher probability of participating in the Program and of receiving more funds and projects. The contrary would indicate that the PAN is trying to target more competitive venues.

To test for possible electoral biases and the impact of political competition on Program decisions, we use the MARGIN of victory between winner and runner-up in municipal races (regardless of party label). We also include the municipal Effective Number of Parties (ENP), which is a measure of political fragmentation. We calculate the municipal ENP using the Laakso and Taagepera (1979) formula ( $ENP = 1/\sum v_i^2$ ), where  $v_i$  is the vote share received by each party in municipal elections. Roughly speaking, there are more swing voters in jurisdictions with closer margins and where more parties effectively compete. If there is a distinctive feature in recent Mexican political history, it is precisely increasing political competition, which culminated in the election of an opposition presidential candidate in 2000 following 71 years of PRI rule. The average ENP in municipal races increased from 1.31 in 1980, to 2.02 in 1994 and 2.75 in 2000. It was 2.87 for municipalities participating in the 3×1 Program in the period 2002–07. Thus, in Mexican municipal elections a hegemonic party system has changed into something close to a three-party system (De Remes, 2005). Therefore, if the ruling PAN tries to mobilize swing voters in an increasingly competitive electoral environment with public projects, we should find that tighter margins of victory and increasing political fragmentation are related to a higher probability of participating, with more resources.

To test our third hypothesis concerning coordination biases, we control for SHARED PARTISANSHIP. This is a dummy variable that equals 1 when the municipality and the state are governed by the same political party, regardless of party label. LOCAL ELECTION is a dichotomous indicator that controls for the holding of municipal elections in a given year. To control for the heterogeneity of Mexican municipalities and public service provision, the SOCIODEMOG vector includes the log of population as well as the coverage of water, sewage, and electricity (CONAPO).

Finally,  $\mu_j$  and  $v_t$  represent, respectively, state and year fixed effects, which we use in our models to capture the time-invariant heterogeneity of the Mexican states as well as any systematic year-by-year changes in the size of the Program or its rules of operation.<sup>10</sup> Since we use state fixed effects we estimate, for instance, the effect of poverty on Program participation in a given municipality relative to other municipalities in the same state.

Our estimation techniques vary according to the nature of the dependent variables. Thus, for the binary dependent variable PARTICIPATION, we estimate maximum likelihood logistic models as indicated by Eqn. (1). For the AMOUNT variable, we estimate OLS models following Eqn. (2). To verify the robustness of our estimates for the AMOUNT variable, we estimate both a two-way fixed effects OLS model and a Heckman sample selection model. The first stage or selection equation of the Heckman model estimates the likelihood of Program participation using a probit model, which is then used in a second stage to estimate the (log of) amounts awarded while controlling for the Program selection process. We use the coverage of public services (water, sewage, electricity) to identify the selection equation from the amount equation (see below). Since the NUMPROJECTS dependent variable is a count measure, we estimate another maximum likelihood model, in this case assuming a negative binomial distribution. Our over-dispersion tests suggested that a negative binomial was preferred to a Poisson distribution. Furthermore, since only a fraction of all municipalities participate in the Program, we estimate a zero-inflated negative binomial model (ZINB) for the number of projects that a particular

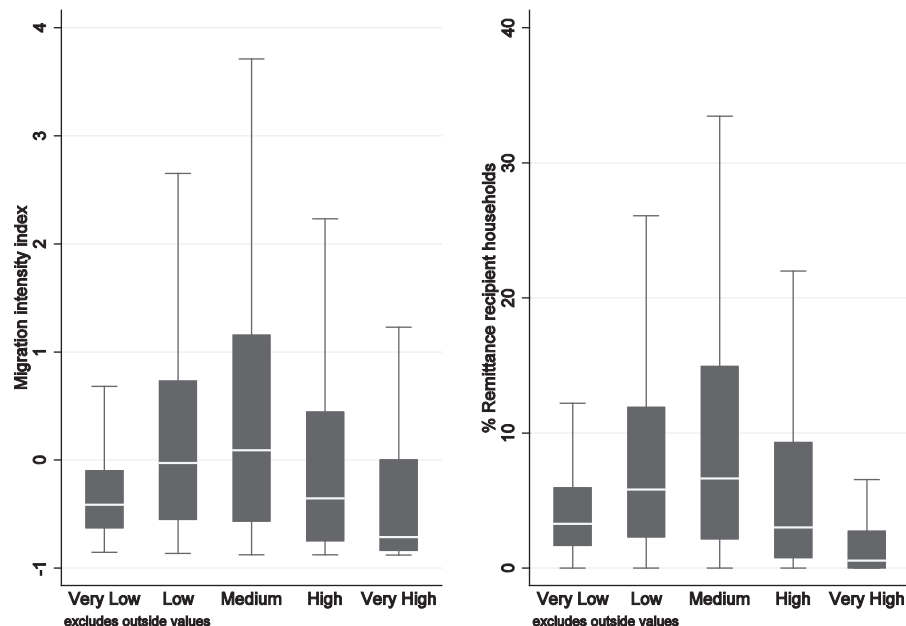


Figure 1. Migration and poverty levels in Mexican municipalities, 2002–07 (box plot).

municipality was awarded in a given year.<sup>11</sup> As in the Heckman models, we use the coverage of public services to identify the cases with no projects awarded at all.

Figure 1 presents two box plots that illustrate the relationship between migration and poverty. We measure migration using CONAPO's index of migration intensity (left panel) and the percentage of households that receive remittances (right panel). As the figure reveals, migration is greater in medium- and low-poverty municipalities. The richest and poorest municipalities have the lowest migration intensity. In fact, the *lowest migration* intensity is found in *very high* poverty municipalities. Similarly, the highest percentage of remittance-receiving households is located in municipalities of low and medium poverty. And again, the poorest municipalities have the lowest percentage of remittance-receiving households. Taken together, these descriptive data indicate a nonlinear relationship between migration and poverty: very affluent and very poor municipalities have the lowest migration intensity and the lowest percentage of remittance-receiving households. Given this curvilinear relationship, we include the POVERTY INDEX in linear and quadratic forms in our specifications.

Recall that the initiative to participate in the 3×1 Program lies with migrants' HTAs. But HTAs take time to emerge and acquire the necessary organizational skills. As a result, HTAs are likely to cluster in areas not only of high migration but also of long-standing migration tradition. Given this premise, it is not surprising to find preliminary evidence suggesting that high-migration municipalities and relatively affluent municipalities are the ones that have most often benefited from the Program.

Figure 2 illustrates these relationships. The box plot graphs the logarithm of the total amount of resources and the number of projects devoted by the Program to municipalities of different poverty levels during the 2002–07 period. As expected, low and medium-poverty municipalities were awarded more projects and greater funding than those with high poverty levels. Moreover, a comparison of Figures 1 and 2 suggests that the Program is more biased toward low poverty municipalities than migration per se. By granting migrant organizations the

initiative to self-select projects, the Program design seems to produce a perverse outcome: since organized migrants do not come from the poorest Mexican municipalities, the Program is biased against poor and very poor communities.

If the Program favors relatively well-off municipalities to the detriment of poor ones, can this bias be partly motivated by partisan or political reasons? Figure 3 depicts municipal election returns for different migration and poverty categories. It suggests that the PAN may have good reasons to actively use the Program to reward its strongholds. Whereas the PRI leads in high-poverty municipalities regardless of their migration levels, PAN voter support increases with migration intensity in municipalities with medium to very low poverty. Thus, a political bias may in fact operate in tandem with the self-selection bias that we have hypothesized: if the Program has a bias in favor of the PAN, it will not only benefit high-migration municipalities but also favor the relatively well-off ones.

Figures 1 and 2 lend support to our first hypothesis regarding the self-selection bias of the 3×1 Program. And Figure 3 is suggestive of a potential partisan bias in the selection of municipalities that participate in the Program, to the advantage of municipalities where PAN electoral support is stronger. However, these figures indicate only pair-wise relationships, that is to say, they do not control for other factors that may determine successful participation in the 3×1 Program. To verify which of our hypothesized biases is supported by evidence in a more controlled setting, we turn now to multiple regression analysis.

## 5. RESULTS AND DISCUSSION

To estimate the conditional effect of migration, poverty, and political covariates on participation in the 3×1 Program in Mexican municipalities, we estimate Eqns. (1)–(3) detailed above with a series of multiple regression models using a panel dataset that comprises observations from more than 2,400 municipalities over the 2002–07 period. Table 1 presents descriptive statistics of our data for all municipalities in the sample period, and for the subset of municipalities that

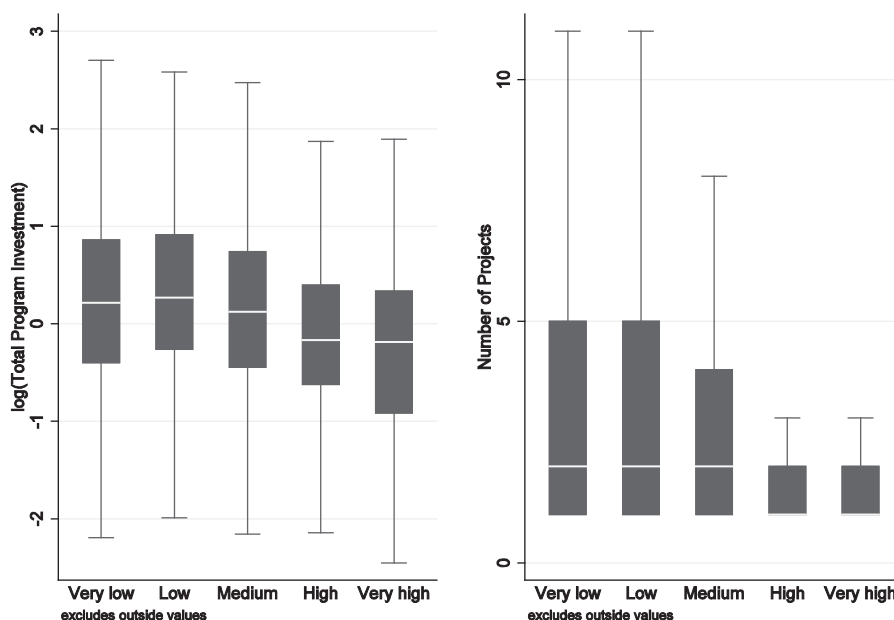
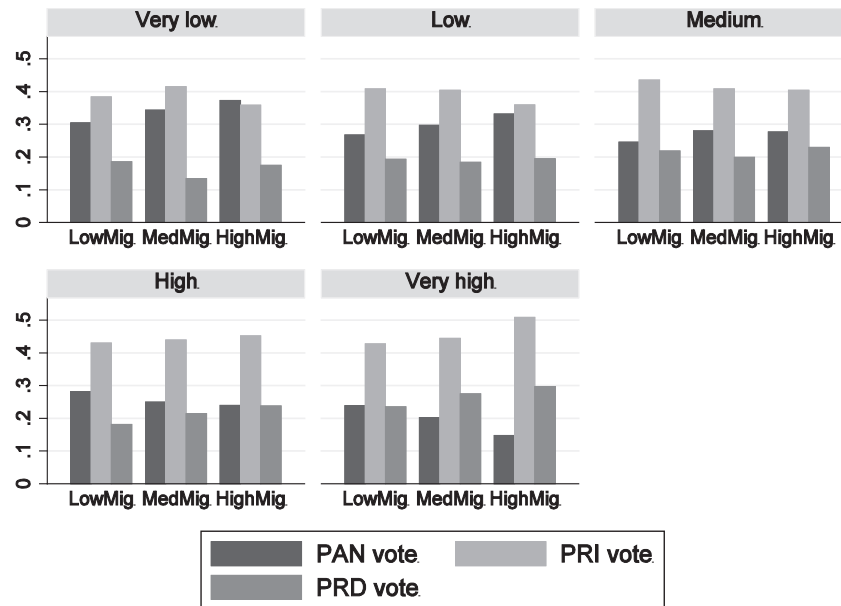


Figure 2. Number of projects awarded and total investment of the 3×1 Program in Mexican municipalities by different poverty levels, 2002–07 (box plot).



Graphs by Marginality

Figure 3. Municipal vote share for PAN, PRI, and PRD by level of poverty and migration intensity, 2002–07.

participate in the Program. About 11.4% of municipalities have participated in the Program, with an average investment of US\$146,000 on 3.4 projects. As the table indicates, the poverty levels of participating municipalities are below the full sample average (0.012 *vs.*  $-0.33$ ), and their migration intensity is well above average (0.038 *vs.*  $0.89$ ). Water, sewerage, and electricity coverage is also higher than average in participating municipalities. Relative to overall sample averages, states and municipalities governed by the PAN and the PRD are overrepresented in the participating sample, whereas the PRI is underrepresented. Shared partisanship between local and state governments is also higher than average, while electoral competitiveness is slightly lower, and NEPs are slightly higher.

To test whether these differences remain significant when other factors are held constant, we estimate a set of multiple regressions. In order to assess the economic incidence of the Program, Table 2 summarizes the results from six different model specifications for our three measures of Program participation: whether the municipality participated in the Program, the (log of) total amounts of money received and the number of projects awarded to a municipality in a given year. Our main independent variables are migration and poverty levels, with other socio-demographic characteristics of municipalities controlled for.

Model 1 in Table 2 presents a baseline logistic estimation of Program participation, coded as a binary outcome. Since we do not assume *ex ante* a monotonic or a linear relationship between Program participation and migration or poverty levels, our first specification includes indicator variables for each category of migration (coded from no migration to very high migration), and for each level of poverty (coded from very low to very high poverty). With state and year effects controlled for, the model indicates that the likelihood of Program participation significantly increases with migration intensity. On the other hand, high and very high poverty municipalities are also more likely to participate than localities with very low poverty levels. Program participation also increases with (the log of) population size, a variable that is strongly correlated with municipal income—a result that will prove to be robust

in all other models. Also, water and sewerage coverage positively affect participation.

In principle, the finding that Program participation is increasing with poverty levels seems to run against our hypothesis concerning the regressive character of the  $3 \times 1$  Program. But focusing on participation as a binary outcome obscures the fact that some municipalities receive more funds and projects than others. Thus, Model 2 directs attention to the total amount of resources devoted by the Program to a given municipality. This model presents two-way fixed effect OLS estimates for the (log of) amounts awarded in the sample of participating municipalities. As expected, results indicate that municipalities with high or very high migration receive significantly larger amounts of money (about 60% larger) than those with no migration. However, the investments awarded by the Program do not vary significantly between low-, medium-, and high-poverty municipalities. Model 2 also indicates that public service coverage does not have an effect on the Program amounts.

Given that migration intensity is not randomly or evenly distributed in Mexican municipalities, it may be the case that our previous OLS results have a sample selection problem: if some municipal or state features influence both Program participation and the amounts received, OLS estimates may be biased. Moreover, since we observe only the amount of money awarded to participating municipalities, and zero otherwise, we need to correct for the incidental truncation of the amount variable. Models 3 and 4 in Table 2 address this issue with a Heckman sample-selection estimation. As Models 1 and 2 in Table 2 indicate, public services are correlated with Program participation but not with the amounts awarded. Thus, we are able to exclude the public services covariates from the second stage equation in our Heckman models to identify the selection equation. This exclusion restriction makes sense because migration intensity and poverty levels are crucial inputs in both equations. Migration intensity is a proxy for migrant initiatives and collective remittances, whereas population and poverty indexes proxy for the budgetary capacity that municipalities are willing to commit to the Program.<sup>12</sup>

Table 1. *The 3×1 Program in Mexican Municipalities, 2002–07*

	Descriptive statistics			
	All municipalities		Participating municipalities	
	Mean	Std. dev	Mean	Std. dev
Municipal participation	0.114	0.318		
Amount (in million constant pesos)	0.267	1.071	1.755	2.219
Number of projects	0.512	2.292	3.362	4.992
Poverty index	0.012	0.991	−0.333	0.754
Very low poverty	0.102	0.302	0.089	0.285
Low poverty	0.173	0.378	0.281	0.450
Medium poverty	0.203	0.402	0.296	0.457
High poverty	0.368	0.482	0.281	0.449
Very high poverty	0.154	0.361	0.054	0.225
Migration intensity index	0.038	0.986	0.895	1.083
No migration	0.038	0.192	0.003	0.052
Very low migration	0.354	0.478	0.080	0.272
Low migration	0.244	0.429	0.157	0.364
Medium migration	0.162	0.368	0.225	0.418
High migration	0.136	0.343	0.339	0.473
Very high migration	0.067	0.250	0.196	0.397
Water coverage	0.728	0.241	0.789	0.214
Sewerage coverage	0.554	0.302	0.681	0.255
Electricity coverage	0.874	0.183	0.886	0.203
Log (population)	−4.504	1.493	−4.063	1.215
PAN state	0.206	0.404	0.412	0.492
PRI state	0.674	0.469	0.276	0.447
PRD state	0.190	0.392	0.337	0.473
PAN municipality	0.218	0.413	0.311	0.463
PRI municipality	0.437	0.496	0.408	0.492
PRD municipality	0.160	0.367	0.205	0.404
PAN vote share	0.226	0.187	0.277	0.175
PRI vote share	0.337	0.194	0.359	0.149
PRD vote share	0.170	0.177	0.208	0.175
PAN–PRI vote margin	−0.111	0.206	−0.082	0.217
Margin of victory	0.101	0.119	0.110	0.102
ENP	2.819	0.843	2.866	0.773
Municipal election year	0.363	0.480	0.325	0.468
Shared partisanship	0.425	0.494	0.478	0.500
Number of observations	14,557		2,222	

2435 municipalities/31 states/6 years

Note: *t*-tests for differences in means are statistically significant at the 5% level in all cases.

Once we control for the selection process, we find evidence of a nonlinear relationship between poverty and Program selection. Indeed, the quadratic term has a negative and statistically significant coefficient, which is consistent with the curvilinear relationship that we found in the descriptive statistics, and suggestive of a regressive bias in Program participation. The poorest 20% of municipalities are less likely to participate in the Program than those in the medium income deciles. Moreover, we find that poverty is uncorrelated with the amounts received. As expected, migration is positively and significantly related to both participation and the amounts obtained under the Program.

Our third dependent variable measures the number of projects awarded to a particular municipality. To assess whether our previous results hold if we focus on this count variable instead of the amounts awarded, Models 5 and 6 in Table 2 present estimates from a zero-inflated negative binomial regression (ZINB). As in our previous Heckman model, we use the coverage of electricity, water, and sewage to predict Program

nonparticipation before estimating the count model.<sup>13</sup> Model 5, which is the zero inflation equation, indicates that the probability of *not* being awarded a project decreases with migration but increases with poverty after a critical point. In turn, the count equation in Model 6 indicates that increasing poverty levels lead to fewer projects awarded, significant at the 1% level, with migration intensity, population size, and year effects controlled for. Since the quadratic poverty term is not significant, we find that the number of projects linearly decreases with poverty. As a robustness check, we also estimated a standard negative binomial model and our substantive results hold.

To sum up, our regression estimates in Table 2 indicate that migration intensity and population size are very good predictors of Program participation for every one of our three dependent variables. Poverty levels are positively correlated with the likelihood of Program participation as a binary outcome, but only up to a particular level of marginality, after which the likelihood of Program participation

Table 2. *Participation in the 3×1 Program for Migrants in Mexican Municipalities, 2002–07*

	Program participation (1)	log(Amount) (2)	Program participation (3)	log(Amount) (4)	Program participation (5)	Number of projects (6)
	Logit	FE OLS	Heckman selection model		Zero inflated negative binomial	
<i>Migration</i>						
Very low	1.006 [0.424]**	0.465 [0.115]***				
Low	1.781 [0.430]***	0.373 [0.131]***				
Medium	2.202 [0.431]***	0.468 [0.156]***				
High	2.798 [0.432]***	0.592 [0.138]***				
Very high	3.03 [0.437]***	0.608 [0.149]***				
<i>Poverty</i>						
Low	0.565 [0.123]***	0.077 [0.101]				
Medium	0.538 [0.138]***	-0.006 [0.102]				
High	1.099 [0.158]***	-0.095 [0.092]				
Very high	1.267 [0.210]***	-0.129 [0.143]				
Migration intensity index			0.262 [0.018]***	0.093 [0.022]***	-2.247 [0.111]***	0.352 [0.042]***
Poverty			0.814 [0.095]***	-0.096 [0.130]	-1.753 [0.279]***	-0.915 [0.292]***
Squared poverty			-0.13 [0.018]***	0.015 [0.025]	0.255 [0.057]***	0.082 [0.058]
Log (population)	0.239 [0.032]***	0.163 [0.041]***	0.153 [0.017]***	0.171 [0.025]***	-0.239 [0.063]***	0.38 [0.044]***
Water	0.606 [0.157]***	-0.058 [0.117]	0.256 [0.086]***		-1.348 [0.273]***	
Sewage	0.292 [0.156]*	-0.03 [0.078]	0.209 [0.084]**		-0.694 [0.229]***	
Electricity	0.155 [0.159]	-0.028 [0.111]	0.012 [0.087]		0.303 [0.273]	
Constant		0.171 [0.368]	-0.582 [0.238]**	0.313 [0.160]**	2.826 [0.477]***	3.109 [0.340]***
Observations	14,142	2,216	14,534	14,534	14,534	14,534

Program participation is a binary outcome, amount awarded is measured in million pesos in constant prices. Robust standard errors in brackets. All models include state and year effects, except models 5 and 6, which only include year effects.

\*Significant at 10%.

\*\*Significant at 5%.

\*\*\*Significant at 1%.

decreases. On the other hand, poverty is not correlated with the amounts of money received; but it is negatively correlated with the number of projects awarded to municipalities—a result that lends support to our first hypothesis of self-selection bias.

To test our different political-bias hypotheses, Table 3 adds the political covariates to the previous Heckman regression models. In Model 1, we included dummy variables that indicate whether the PAN or the PRI controls the state and municipal government, using PRD governments as the comparison group. Results indicate that, after migration, poverty, and other covariates are controlled for, PAN municipalities in states ruled by the PAN are significantly more likely to participate in the Program. Once selected among the participating municipalities, however, PAN governments are not awarded any more resources than their PRI or PRD counterparts (Model 2).

To test whether the public good investment under the Program favors any partisan strongholds, Models 3 and 4 include

both PAN and PRI municipal vote shares. We find evidence suggesting that municipalities with stronger PAN support among voters are more likely to participate in the Program. Also, PRI strongholds are less likely to participate than PRD strongholds, which is the baseline in this specification. In contrast, Model 4 indicates that PAN electoral support does not affect amounts any more than support for the PRD. To further test the partisan bias in favor of PAN strongholds, Models 5 and 6 include the margin of difference between the PAN and PRI vote shares. Here we find that, controlling for poverty and migration intensity, municipalities where the PAN vote share is particularly high relative to the PRI, which still controls a majority of municipalities in the country, are more likely to be selected in the Program and to receive more resources.

Besides the self-selection and partisan bias favoring the PAN identified above, the remaining models in Table 3 test for the coordination and electoral bias hypotheses. As we

Table 3. Political determinants of Participation in the 3×1 Program for Migrants in Mexican Municipalities, 2002–07 (Heckman selection models)

	Program participation (1)	log (Amount) (2)	Program participation (3)	log (Amount) (4)	Program participation (5)	log (Amount) (6)	Program participation (7)	log (Amount) (8)	Program participation (9)	log (Amount) (10)	Program participation (11)	Log (Amount) (12)
Migration index	0.261 [0.018]***	0.093 [0.023]***	0.278 [0.022]***	0.093 [0.024]***	0.279 [0.021]***	0.092 [0.024]***	0.277 [0.021]***	0.092 [0.024]***	0.276 [0.022]***	0.094 [0.024]***	0.278 [0.022]***	0.091 [0.024]***
Poverty	0.833 [0.096]***	-0.102 [0.131]	0.864 [0.106]***	-0.058 [0.139]	0.863 [0.106]***	-0.057 [0.139]	0.835 [0.105]***	-0.077 [0.139]	0.834 [0.105]***	-0.082 [0.139]	0.864 [0.106]***	-0.078 [0.140]
Squared poverty	-0.133 [0.018]***	0.016 [0.025]	-0.148 [0.020]***	0.014 [0.027]	-0.148 [0.020]***	0.014 [0.027]	-0.144 [0.020]***	0.016 [0.027]	-0.144 [0.020]***	0.018 [0.027]	-0.149 [0.020]***	0.016 [0.027]
<i>Politics</i>												
PAN state	0.214 [0.100]**	0.006 [0.128]	0.167 [0.111]	0.071 [0.131]	0.167 [0.111]	0.071 [0.131]	0.189 [0.110]*	0.089 [0.130]	0.197 [0.110]*	0.085 [0.130]	0.16 [0.110]	0.074 [0.130]
PRI state	0.161 [0.107]	0.067 [0.145]	0.114 [0.110]	0.134 [0.145]	0.114 [0.110]	0.135 [0.145]	0.133 [0.112]	0.145 [0.147]	0.136 [0.112]	0.145 [0.147]	0.138 [0.112]	0.135 [0.146]
PAN municipality	0.112 [0.049]**	-0.013 [0.057]									0.024 [0.076]	0.084 [0.083]
PRI municipality	-0.066 [0.043]	0.011 [0.049]									0.007 [0.066]	0.108 [0.078]
PAN municipal vote share			0.338 [0.126]***	0.185 [0.142]								
PRI municipal vote share			-0.295 [0.170]*	-0.24 [0.191]								
PAN–PRI municipal vote share					0.322 [0.093]***	0.207 [0.107]*						
Municipal competitiveness							0.111 [0.153]	0.085 [0.196]			0.018 [0.407]	0.756 [0.468]
Shared partisanship							0.033 [0.036]	-0.008 [0.039]	0.033 [0.036]	0.001 [0.039]	0.025 [0.036]	-0.001 [0.043]
Local election							-0.154 [0.040]***	-0.038 [0.046]	-0.154 [0.040]***	-0.042 [0.046]	-0.159 [0.040]***	-0.039 [0.046]
Effective number of parties									-0.012 [0.024]	0.034 [0.027]		
Competitiveness × PAN municipality											1.272 [0.528]**	-0.717 [0.589]
Competitiveness × PRI municipality											-0.198 [0.456]	-0.863 [0.547]
Log (population)	0.15 [0.017]***	0.171 [0.025]***	0.143 [0.020]***	0.17 [0.026]***	0.143 [0.020]***	0.17 [0.026]***	0.147 [0.020]***	0.176 [0.026]***	0.147 [0.020]***	0.174 [0.026]***	0.14 [0.020]***	0.173 [0.026]***
Water	0.249 [0.086]***		0.192 [0.095]**		0.192 [0.095]**		0.2 [0.095]**		0.201 [0.095]**		0.193 [0.095]**	
Sewage	0.211 [0.085]**		0.168 [0.097]*		0.168 [0.096]*		0.172 [0.096]*		0.164 [0.096]*		0.165 [0.097]*	
Electricity	0.006 [0.087]		0.022 [0.094]		0.022 [0.094]		0.029 [0.094]		0.03 [0.094]		0.008 [0.094]	
Constant	-0.846 [0.259]***	0.303 [0.204]	-0.784 [0.287]***	0.183 [0.215]	-0.768 [0.273]***	0.164 [0.200]	-0.694 [0.273]**	0.208 [0.202]	-1.357 [0.278]***	0.084 [0.224]	-0.863 [0.282]***	0.071 [0.210]
Observations	14,519	14,519	10,897	10,897	10,897	10,897	10,897	10,897	10,897	10,897	10,897	10,897

Units are municipality/year observations. Program participation is a binary outcome, amount awarded is measured in million pesos in constant prices. Robust standard errors in brackets. All models include state and year effects.

\* Significant at 10%.

\*\* Significant at 5%.

\*\*\* Significant at 1%.

Table 4. *Political determinants of Participation in the 3×1 Program for Migrants in Mexican Municipalities, 2002–07 (zero inflated negative binomial models)*

	Inflation eq. (1)	Number of projects (2)	Inflation eq. (3)	Number of projects (4)	Inflation eq. (5)	Number of projects (6)	Inflation eq. (7)	Number of projects (8)	Inflation eq. (9)	Number of projects (10)
Migration index	−2.308 [0.118]***	0.277 [0.039]***	−2.41 [0.116]***	0.26 [0.040]***	−2.413 [0.116]***	0.262 [0.040]***	−2.425 [0.117]***	0.269 [0.041]***	−2.423 [0.116]***	0.267 [0.041]***
Poverty	−1.652 [0.325]***	−0.733 [0.283]***	−1.857 [0.339]***	−0.767 [0.300]**	−1.867 [0.337]***	−0.76 [0.299]**	−1.924 [0.339]***	−0.839 [0.302]***	−1.917 [0.338]***	−0.872 [0.303]***
Squared poverty	0.29 [0.063]***	0.084 [0.056]	0.351 [0.065]***	0.087 [0.059]	0.352 [0.065]***	0.085 [0.059]	0.36 [0.065]***	0.094 [0.060]	0.36 [0.065]***	0.103 [0.060]*
Politics										
PAN state		−0.037 [0.078]		−0.039 [0.083]		−0.061 [0.078]		0.008 [0.077]		0.007 [0.077]
PRI state		−1.459 [0.085]***		−1.323 [0.094]***		−1.346 [0.090]***		−1.365 [0.093]***		−1.345 [0.092]***
PAN municipality		0.133 [0.083]								
PRI municipality		0.045 [0.071]								
PAN municipal vote share				0.485 [0.191]**						
PRI municipal vote share				−0.737 [0.270]***						
PAN–PRI municipal vote share						0.584 [0.143]***				
Municipal competitiveness								0.095 [0.288]		
Shared partisanship								0.089 [0.064]		0.104 [0.065]
Local election								−0.153 [0.072]**		−0.157 [0.072]**
Effective number of parties										0.067 [0.042]
Log (population)	−0.134 [0.069]*	0.272 [0.039]***	−0.196 [0.070]***	0.182 [0.043]***	−0.195 [0.070]***	0.187 [0.041]***	−0.19 [0.070]***	0.202 [0.041]***	−0.192 [0.069]***	0.191 [0.042]***
Water	−1.129 [0.292]***		−1.063 [0.317]***		−1.058 [0.319]***		−1.073 [0.324]***		−1.087 [0.323]***	
Sewage	−0.416 [0.246]*		−0.305 [0.264]		−0.32 [0.263]		−0.347 [0.265]		−0.308 [0.265]	
Electricity	0.48 [0.317]		0.565 [0.332]*		0.562 [0.332]*		0.554 [0.335]*		0.546 [0.333]	
Constant	1.999 [0.531]***	2.773 [0.329]***	1.748 [0.572]***	2.622 [0.346]***	1.768 [0.569]***	2.562 [0.350]***	1.873 [0.573]***	2.693 [0.353]***	1.86 [0.571]***	1.92 [0.430]***
Observations	14,519	14,519	10,897	10,897	10,897	10,897	10,897	10,897	10,888	10,888

Units are municipality/year observations. Program participation is a binary outcome, number of projects is a count measure. Robust standard errors in brackets. All models include year effects.

\* Significant at 10%.

\*\* Significant at 5%.

\*\*\* Significant at 1%.

stated in our third hypothesis, there is the possibility of a non-partisan effect due to coordination problems. Since the Program requires the collaboration of state and municipal governments, it may be the case that when these two levels of government belong to the same political party they are more likely to cooperate and to benefit from the Program than under vertically divided government. Also, as we stated in our fourth hypothesis, the Program may be used to target partisan strongholds or competitive municipalities. Finally, since municipal elections are held every 3 years in Mexico, the election year might actually act as a spur to governments seeking to improve the provision of public goods.

Models 7 and 8 in Table 3 test these hypotheses by including the margin of victory in municipal elections, which is a proxy of electoral competitiveness, as well as two indicator variables for shared partisanship and municipal election years. Next, Models 9 and 10 substitute election margins for the municipal ENP to test whether increased political fragmentation induces Program participation. As it turns out, shared partisanship, electoral competitiveness, and the level of political fragmentation do not have an impact on the participation or amount equations. These findings can be interpreted as evidence that the Program is not being used to target competitive localities or to punish juxtaposed governments but rather to reward

core PAN localities. Election years are negatively correlated with Program participation but have no impact on the amounts received. This suggests that there are more projects funded in the years before the election but their average cost is not affected by the election cycle.

As a robustness check, we performed a further test that combines our partisan and electoral hypotheses and confirms that the Program rewards PAN strongholds. In the last Heckman specification (Models 11 and 12), we interacted our measure of political competition (MARGIN of victory) with the PAN and PRI municipality indicators. Interestingly, the interaction of PAN municipality with political competition is positive and statistically significant. This implies that municipalities with higher margins of victory (low competition) have a higher probability of participating as long as they are PAN ruled, relative to PRD and PRI bastions, after poverty, migration, and population size are controlled for. Finally, it is worth noting that in all specifications in Table 3, the amounts allocated under the 3×1 Program bear no relation to poverty levels.

Table 4 reproduces the previous analysis but directs attention to the number of projects awarded, which we estimate with zero-inflated negative binomial models. The inflation equation shows that the probability of *non*participation is always inversely related to migration and has a U-shaped relationship with poverty (richer and poorer municipalities are more likely *not* to participate than medium-poverty ones). However, the number of projects finally awarded (Models 2, 4, 6, 8, and 10) is negatively and significantly associated with poverty levels, whereas the quadratic term is only significant in Model 10.

One robust result across all specifications is that states governed by the PRI received significantly fewer projects than their PAN or PRD counterparts. According to Model 4, municipalities with greater PAN support received more projects than other party strongholds, a result that is also confirmed by Model 6. Model 8 indicates that shared partisanship and the margin of victory in municipal elections do not affect the number of projects awarded. Finally, Model 10 shows that political fragmentation is also unrelated to the number of projects received. As before, the results concerning migration and poverty remain robust in these specifications: whereas high migration municipalities receive more projects, municipal poverty levels negatively affect the number of projects.

In sum, we find evidence of significant partisan effects in the implementation of the 3×1 Program.<sup>14</sup> We find that PAN municipalities are more likely to participate in the Program, but with no additional amounts or projects, than those governed by other political parties. Municipalities with greater PAN support among voters are also more likely to participate than others. Moreover, PRI strongholds are punished with fewer projects than those of the PAN or the PRD, after migration and poverty are controlled for. Nonpartisan political factors, such as shared party labels, levels of political competition, and fragmentation do not affect any measure of Program participation. All in all, the Program could be used either to reward PAN core supporters or to tilt the balance in favor of the PAN in those localities where political competition is tighter. The finding that margins of victory and political fragmentation are not significant, whereas PAN electoral support and PAN rule are relevant, is indicative that project spending under the Program is being used as a tool to reward PAN strongholds rather than to mobilize swing voters in competitive jurisdictions.<sup>15</sup>

It could be argued that the findings we report here are regressive because we use poverty indexes at the municipal rather than the locality level. We explored the marginality of the localities that participated in the Program. The mean poverty level of participating localities in 2005 (−0.96) is lower than the mean poverty level of the corresponding municipalities (−0.52), where both marginality indexes are standardized with zero mean. As it turns out, it seems that Program participation is even more regressive at the locality than at the municipal level. As explained previously, we did not use locality level data in our models because political covariates do not exist at that level of disaggregation.

Predicted probabilities of participation may help clarify the relative impacts of migration, poverty, and partisan biases on the probability of participation as well as on the amount of funds received. In order to do this, we rely on the Heckman selection Model 1 from Table 3 to estimate predicted probabilities of participation. Figure 4 shows that poverty has a curvilinear impact on the probability of Program participation: rich and poor municipalities have a lower probability of participating than those in the middle (the simulated figure is for PAN municipalities located in PAN states). Figure 5 shows that PAN–PRI vote share differentials positively affect the probability of Program participation, which we interpret as a polit-

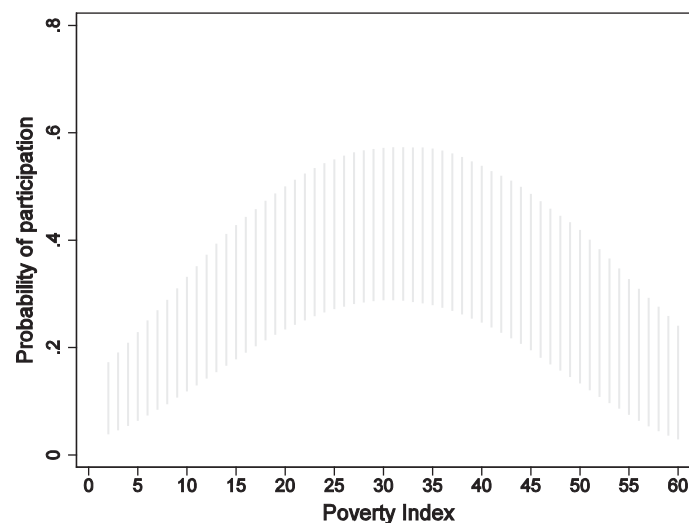


Figure 4. Predicted probability of participation in the 3×1 Program in Mexican municipalities (PAN municipalities in PAN states) by degree of poverty. Estimates are based on Model 1 in Table 3, with all other covariates held at their mean values. Shaded area denotes 95% confidence interval.

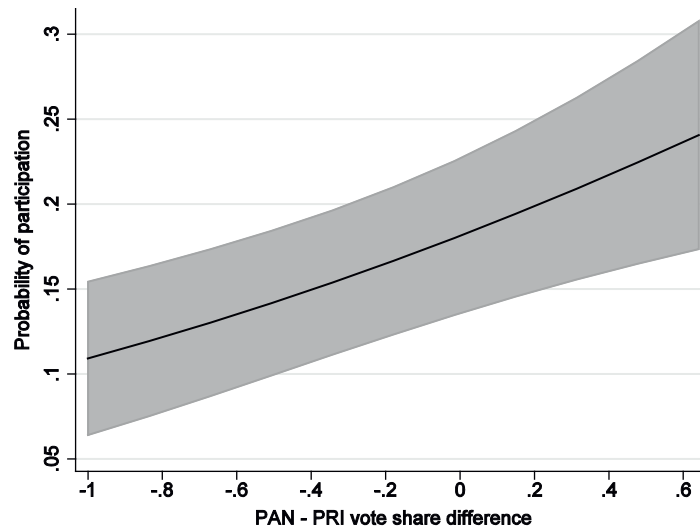


Figure 5. Predicted probability of participation in the 3×1 Program in Mexican municipalities by PAN–PRI vote share difference. Estimates based on Model 5 in Table 3, with all other covariates held at their mean values. Shaded area denotes 95% confidence interval.

ical bias in the Program in favor of PAN strongholds. According to Model 4 in Table 4, a one standard deviation increase in the poverty index *reduces* by a factor of 0.5 the expected number of projects in those municipalities with a chance to participate. A one standard deviation increase in PAN vote share increases the expected number of projects by a factor of 1.

Finally, it is important to note that the political bias in favor of PAN states and municipalities may be either demand-driven, that is, if migrants and HTAs choose to propose projects in PAN localities, or supply-driven, that is, if government actors actively promote and use the Program to reward their partisan supporters. Indeed, recent studies suggest that migrants' demographic characteristics make them likely to hold anti-PRI political preferences (Bravo, 2007). If this is the case, the mechanism would not be one of PAN politicians biasing the selection of projects in favor of their strongholds, but rather one of migrants selecting PAN municipalities for their investments.

We can advance some qualitative evidence suggesting that the latter is not the case. As a related research project, we carried out fieldwork in four high migration intensity municipalities in the state of Guanajuato (PAN) in the summer/fall of 2010 (Tarimoro, Cuéramaro, Huanímoro, and Santiago Maravatío). During the period 2006–09, Tarimoro and Huanímoro were ruled by the PAN. Cuéramaro was a PRI municipality, and Santiago Maravatío was under PRD rule. Among many other actors, we interviewed migrant leaders based in the United States coming from several localities in these municipalities. Using semi-structured interviews, we enquired into migrant leaders' knowledge of municipal politics. We also enquired whether the party affiliation of the municipal president affected the decision of the Club to propose projects under the Program; the unanimous answer was that this was not the case.

We noticed that municipalities exert an extraordinary gate-keeping power, as they possess the technical expertise to complete applications that can be successfully validated at the state and federal levels. As a result, we could not find a single HTA that applied to participate in the 3×1 Program without using municipal intermediation. This means that successful projects come from Clubs that are successfully (and purposely) advised by well-informed municipal governments.

For instance, the locality of Huapango, Tarimoro (PAN), hosts the bulk of projects in this municipality. The Club is

based in Chicago, Illinois. Its leader told us “we do not care about the party; we care about the person [of the municipal president].”<sup>16</sup> The leader of the San Juan Bautista HTA, also based in Chicago, Illinois, and a Tarimoro locality too, made clear that the constitutive acts of Clubs explicitly state that they do not belong to or support any political party: “I would present this project even if this municipality were not *Panista*.”<sup>17</sup> Both San Juan Bautista and Huapango are localities that typically vote for the PAN. According to the former PRI municipal president in the 2003–06 administration, migrants want public works and they do not care who provides them. And, he added, “the PAN plays it safe”, suggesting that the Clubs that are actively supported are those coming from the localities that are PAN strongholds.<sup>18</sup>

Similarly the leader of the Club Ojos de Agua/Novillero, located in Anaheim, California, forcefully stated “we want to work with everybody, regardless of their party.” This recently created HTA from the municipality of Huanímoro has already worked with two municipal governments from different parties (PAN and PT—*Partido del Trabajo*) “and found no differences.” The Club refused the invitation to participate in the campaign of the PAN candidate in the last municipal election (2009–12). “Our policy is to work with whoever is in power. . .” he insisted.<sup>19</sup> The leader of the Club Hawaiian Gardens from the municipality of Cuéramaro, made it clear that her father was a former PRI municipal president but that she does not mind working with the current PAN (2009–12) municipal president “as long as he works well.”<sup>20</sup> Finally the leader of the Club El Aguila from the community of Santa Teresa (Santiago Maravatío), was the only migrant leader we interviewed who voted in the 2006 presidential elections. He voted for the PAN presidential candidate, Felipe Calderón. Interestingly, the Club presented a project in his municipality, which is currently ruled by the PRI (2009–12). “I am not interested in the party that is in the municipality. I just want them to work for us”, he stated.<sup>21</sup>

In sum, we found little evidence of HTAs choosing parties for their project proposals. As a matter of fact, this is a wise stance given that municipal elections take place every 3 years. However, we have evidence of municipal governments selectively approaching Clubs from the localities in which they do well in elections. In none of the municipalities we visited were projects presented without the intervention of municipal governments. This gives those with technical expertise on the Program an extraordinary discretionary power.

Discretion is also exercised at the state level, where projects are validated and approved. We attended a COVAM at SEDESOL Guanajuato in which decisions were made concerning the approval of several productive projects. COVAMs have 12 members, three from each party involved (migrants, state, federation, and municipalities). Decisions are taken by majority rule. Interestingly, the validation and approval of productive projects are left to an outside panel of experts. Migrant representatives do not have a say in this decision. Seventeen productive projects were discussed, of which the expert committee considered only ten as feasible, all of them in PAN municipalities, whereas all nonfeasible projects were located in nonPAN municipalities.

In sum, based on these interviews, we do not have evidence that the bias found in our statistical analysis is driven by the unaided demands of organized migrants, whereas we have found several instances in which the coordination of the different governmental actors produces political distortions in the implementation of the Program.

## 6. CONCLUDING REMARKS

Remittances have become a crucial source of revenue in many developing countries. Whereas some analysts (Durand *et al.*, 1996) regard them as flows that can circumvent state intervention—which is treated as an advantage in poorly institutionalized and often corrupt political settings—the fact is that governments do intervene to influence the amount of remittances that arrive in sending countries, the channels by which they arrive, and their uses once they have arrived. These interventions are likely to increase as governments become increasingly aware of their developmental potential. Precisely because of this characterization of remittances as alien to political intervention, political economy research on remittances has been rare (for exceptions see Bravo, 2007; Pfitze, 2007). In this paper, we explore the 3×1 Program for Migrants, a well-publicized public policy Program directed at channeling collective remittances to “productive uses” in migrants’ communities of origin.

Based on municipal-level data on Program participation for the 2002–07 period, we investigate the economic and political incidence of the Program. First, because the Program design gives the initiative to migrants, its capacity to target poor municipalities crucially depends on the relationship between poverty and migration. If municipalities with the strongest and most long-standing migration traditions are not among

the poorest ones, as is the case in Mexico, the Program will be unlikely to reduce poverty due to self-selection bias. Second, the 3×1 Program for Migrants was launched at the federal level under a PAN administration led by Vicente Fox. The involvement of three different levels of government in addition to migrant organizations in the allocation of projects raises concerns about partisan or electoral biases in the actual implementation of the Program. This is one of the few extant papers exploring the political use of public policies by the PAN, which won the presidency of Mexico in 2000 for the first time after 71 years of PRI rule.

Indeed, our results indicate that medium-poverty municipalities were more likely to participate in the Program than high-poverty ones. We also found that poverty levels were unrelated to the amounts of money received and negatively correlated with the number of projects awarded. Secondly, and perhaps more importantly, there are significant partisan biases in the implementation of the 3×1 Program. PAN municipalities were more likely to participate in the Program than those ruled by other political parties. Municipalities with greater PAN electoral support were also more likely to participate and to receive more projects. We found no evidence of the PAN targeting municipalities where political competition is tight; rather, the Program seems to be used to reward and mobilize core voters in PAN strongholds. Taken together, these results cast doubt on the ability of this kind of policy to target the communities where Mexico’s scarce public resources are most needed. Of course, the finding that medium poverty level municipalities are the most benefited by the Program may be compatible with poor individuals in those municipalities increasing their welfare as a result of public good provision, but the political biases found are incompatible with sound policy in a democratic setting.

Nonetheless, two simple amendments to the Program design might help increase the chances that the poorest communities are not excluded from its benefits. First, only communities below a particular poverty threshold could be eligible to participate. Second, projects from medium- to low-poverty localities could receive a smaller subsidy from the state and federal governments than those from high-poverty areas, where migrant organizations may not be able to afford an equal share of a given project’s costs. Yet changing the rules of the Program is bound to raise all manner of political resistance from relatively well organized migrants whose political power has been on the rise and from local politicians eager to court them.

## NOTES

1. This study also has implications for the political economy of other matching grant Programs as well as co-development projects, which have become popular in development practice.
2. Interestingly, between 30% and 45% of remittance flows come from South–South migration. China, Malaysia, and the Russian federation are among the top 20 sources of remittances (World Bank, 2006).
3. It should be noted that there is an important normative debate regarding the legitimacy of state intervention in the handling of remittances: the way in which these private capital flows are ultimately employed is indeed a prerogative of the recipient families.
4. Between 2000 and 2003 the Mexican population residing in the US grew by 14%. It represents 30% of total US immigration today.
5. The current rules of operation are available at: [www.sedesol.gob.mx](http://www.sedesol.gob.mx).
6. This nonlinear relationship between poverty, migration and therefore inequality and poverty reduction has been acknowledged at the micro and macro levels (for Latin America, see for instance Fajnzylber & López, 2007); but to the best of our knowledge, it has not been explored at the meso level.
7. Burgess (2005) reports that in Zacatecas migrants pressed to change the Program rules so that only migrants belonging to a registered HTA—as opposed to any interested group or individual—could finance projects under the Program. In her study, Imaz concludes that “it is hard to distinguish in theory when these groups support democratic processes and when they do not” (2003: 416). In a similar vein, Bravo (2007) finds that out-migration seems to depress political engagement in Mexico, and that

individuals who receive remittances or expect to migrate are significantly less likely to turn out to vote than those who do not. Goodman and Hiskey (2008) report a similar result. Spencer and Cooper (2006) warn that HTAs may create barriers to broader political participation.

8. Note that we consider migration intensity as a proxy of the number of HTAs (about which we do not have direct information). However, HTAs' capacity for collective action and their organizational skills are an important unobservable variable.

9. We excluded from the analysis 412 municipalities that are ruled according to "*usos and costumbres*" in Oaxaca.

10. We included state instead of municipal effects for several reasons. First, our migration intensity measure is time-invariant in our sample period, which prevented us from using municipal effects. Second, and more important, states also have a strong influence on the Program because they have to commit resources *ex ante* via agreements with SEDESOL. Moreover, since migration has been historically concentrated in certain regions, state effects control for the areas that host the majority of the projects. Year fixed effects control for changes in the rules of operation of the Program from *Iniciativa Ciudadana* (open to any interested group of citizens) to the 3×1 Program for Migrants, which restricted participation to HTAs only.

11. The number of projects awarded had a clear inflation of zeros because only a few municipalities participate in the Program. A Young test to decide between a standard negative binomial and a zero-inflated negative binomial favored the latter.

12. We used the continuous indexes of poverty and migration in the models that follow because some Heckman models did not converge when we controlled for migration and poverty with dummy variables.

13. In ZINB models the first stage or inflation equation estimates a logit model of nonparticipation, and, as expected, the migration and poverty coefficient switches sign. This model includes time effects only because it did not converge when state effects were included.

14. It could be argued that our results may be due to the Program itself having some effect on both poverty levels and electoral outcomes. Our poverty measures are observed in 2000 and 2005, only. When we estimated our models holding constant the poverty levels of 2000 and used lagged election returns, our main results did not vary.

15. Electoral democratic theory also makes predictions about where we should observe an improvement in government delivery of public goods (Cleary, 2007; Przeworski, Stokes, & Manin, 1999). Increasing political competition would spur governments to improve the provision of public goods to avoid electoral sanctions via retrospective voting. In other words, governments would be more responsive and deliver more public goods when elections become more competitive. Cleary (2007) and Moreno-Jaimes (2007) tested whether increasing electoral competition translated into greater responsiveness in contemporary Mexico. Both authors concluded that tighter electoral competition was *unrelated* to an enhanced provision of these goods. This same pattern appears to hold in the case of public good delivery under the 3×1 Program for Migrants.

16. Phone interview, Mexico City, October 7, 2010.

17. Tarimoro, July 1, 2010.

18. Tarimoro, June 30, 2010.

19. Phone interview, Mexico City, October 7, 2010.

20. Phone interview, Mexico City, October 7, 2010.

21. Dallas, TX, November 1, 2010.

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