

# Does Migration Promote Democratization? Evidence from the Mexican Transition. \*

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## Abstract

This paper presents evidence for a causal effect of international migration on the functioning of democratic institutions in the sending country. It does so for the particular case of the Mexican democratization process, using data from municipal elections for the 2000-02 electoral cycle. Estimating an instrumental variable probit model, it is found that migration significantly increases the probability of a party in opposition to the former state party PRI to win in a municipal election for the first time. A one percentage point increase in the proportion of migrant households in a municipality is estimated to increase the probability of an opposition party victory in so far continuously state-party ruled town halls by more than half a percent. This result is robust to the inclusion of controls for party preferences and can be interpreted to be the result of improved democratic institutions.

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# 1 Introduction

Mexico's democratization process, which on many counts started in the late 1960's and progressed with glacial speed to culminate in the election of Vicente Fox Quesada as Mexico's president in 2000, has received considerable attention in political science and among scholars of Latin American studies. The numerous literature includes the general treatments by Camp (2007) and Levy and Bruhn (2006); the recent quantitative analyses presented by Greene (2007) and Magaloni (2006); or Eisenstadt (2004)'s analysis of the role played by electoral institutions.

The biggest part of these studies focuses on political developments at the federal level with those at the state and municipal level receiving relatively scant attention. I believe this to be a critical omission given that in the same year Fox won the presidency, according to the data presented below, more than two thirds of Mexican municipalities were still governed by the old state party, the Institutional Revolutionary Party (PRI). To the degree that this is the result of persistent authoritarian power structures, it is likely to severely affect the local population in its prospects for economic development. For example, Tuiran-Gutierrez (2003) observes "a high correlation between social backwardness and town halls governed by the PRI" (pg.45/46).

This is to my knowledge the first paper to empirically explore the relationship between international migration and the functioning of democratic institutions in the sending countries. It presents evidence for a causal link between migration to the United States and electoral victories of parties in opposition to the PRI in Mexican municipal elections. Using data from the electoral cycle 2000-2002 for essentially all municipalities holding party based elections, it is shown that international migration significantly increases the probability that a party other than the PRI wins an election *for the first time*. A one percentage point increase in the proportion of migrant households in a municipality is estimated to increase the probability of an opposition party victory in so far continuously state-party ruled townhalls by more than half a percent. Moreover, in municipalities that already had a non-PRI government at some point, the entire effect of migration on the electoral outcome is explained by party preferences, while in those that have been continuously PRI governed, this effect remains almost unaltered.

In what follows, the term opposition will be understood as meaning “in opposition to the PRI”, which is not too much of a stretch, given that in the year 2000 the Institutional Revolutionary Party still governed the vast majority of states and municipalities. According to the data used in this study, out of the 1985 municipalities for which complete electoral data is available, 69.82% were still PRI governed, and 50.28% never had any other party in power (since at least 1980). At the state level the PRI was still in control of 19 out of 31 states.

The present study is motivated by the observation that Mexico’s immigrant community in the United States appears to have a sizeable impact on the political process back home. There exists a vast anthropological and sociological literature on the effects of migrant communities and diasporas on sending country politics. For the Mexican case this literature focuses mostly on the role played by home town associations (HTA). These are US-based organizations made up of migrants from the same town or region in Mexico with the principal aim to sponsor public projects in their places of origin. More recently, they have also become politically involved in the U.S. through their advocacy of pro-immigrant policies (see de la Garza and Hazan (2003) for an extensive discussion on HTAs). It is often argued that the economic support for their hometowns, together with their organizational expertise gained in the U.S., converts these organizations into important political players in Mexico. For example, de la Garza and Hazan (2003) argue that they played an important role in bringing opposition candidates to political office in the state of Zacatecas. But this political activism is not necessarily constrained to the support of opposition parties, as the Institutionalized Revolutionary Party (PRI) has also been active in courting the migrant community (Smith (2001), Smith (2005)).

The absence so far of almost any quantitative research on this particular issue is quite surprising, given the vast attention two closely related research areas have received: The process of democratization and the effects of international migration on sending regions. A big part of the democratization literature has analyzed the effect of economic growth, understood as the effect of the income level and its distribution, on the probability for a democratic system to emerge and/or to prevail.<sup>1</sup> In a well known study Przeworski and Limongi (1997) argue that a higher income does not promote a transition to democracy, but rather, prevents countries from falling back into dictatorship once democracy has been

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<sup>1</sup>The probably most comprehensive treatments in recent years has been put forward by Acemoglu and Robinson (2005) and Boix (2003).

established. This result is contested by Boix and Stokes (2003) on empirical grounds, due to small sample size, selection, and omitted variable problems; as well as because of the lack of a clear causal mechanism which would explain it. Such a mechanism is in turn provided in a later paper by Przeworski (2005). Other authors who find evidence for a higher income to promote democracy include Londregan and Poole (1996) and Barro (1999).

The literature on the effects of international migration has traditionally focused on the receiving country <sup>2</sup>. Only fairly recently, development economists have begun to take a closer look at its impacts on the places of origin. This is all the more surprising as the literature on the effects of rural-to-urban migration, which deals with fairly similar questions, can be traced back to at least the 1970s (see, for example, Lipton (1980) or Rempel and Lobdell (1978)).

Most of this research deals with the role played by remittances with only a small number of papers taking into account other effects of emigration. Some early studies have inquired how remittances are spent (Durand, Kandel, Parrado, and Massey 1996) or on their impact on local economic activity (Durand, Parrado, and Massey 1996). More recently, Yang (2007) confirms that remittances act as an insurance against exogenous income shocks in poor Philippine households and Hildebrandt and McKenzie (2005) find that for the case of Mexico, migration improves child health through remittances as well as through knowledge transfers. Regarding school attendance, McKenzie and Rapoport (2006) identify a negative effect of family migration experience for Mexico, while Cox and Ureta (2003) and Yang (2008) find a positive effect of remittances for the cases of El Salvador and the Philippines respectively. Mishra (2007) finds that emigration had a strong positive effect on Mexican wages.

Using data from the 2003 Mexican National Rural Household Survey, a number of papers with a rural focus have emerged recently. Taylor and Lopez-Feldman (2010) find that migration to the United States not only increases rural households' incomes, but also the productivity of agricultural land. On a related topic, Pfeiffer and Taylor (2007) show that the effect of international migration on household production depends crucially on the migrant's gender. The widely reported negative effect is only found for male migrants. Adams, Mora, and Taylor (2005) analyze the effects of remittances on a variety of poverty and inequality measures for rural communities, concluding that international

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<sup>2</sup>almost exclusively the United States, see Borjas (2001) among many others.

remittances unambiguously reduce poverty, but have mixed effect on inequality. Overall, remittances tend to increase inequality, but, as the diffusion of migration starts to include poorer households, they have an equalizing effect in communities with high levels of migration. This latter result is also confirmed in a study by McKenzie and Rapoport (2007).

The quantitative literature on the political effects of migration is, so far, almost non-existent. Diaz-Cayeros, Magaloni, and Weingast (2003) use a migration proxy as an explanatory variable in their work on transfer payments from the state and federal levels to municipalities. Goodman and Hiskey (2008) find that high migration municipalities have a lower level of political participation, manifested in a lower voter turnout and participation in political organizations. In a similar vein, using survey data at the individual level, Bravo (2007) identifies a negative relationship between having a close relative in the U.S. or receiving remittances and a series of variables of political engagement including electoral participation. Both papers argue that high international migration results in an increased detachment from the political process. Potential migrants have less of an incentive to participate in a polity they plan to leave, and remittance receiving communities become less reliant on the state as a provider of social services and public goods. Merino (2005) argues that the receipt of remittances, by weakening the importance of redistributive policies, realigns party preferences in favor of ideological preferences. In support of his argument he finds that the receipt of remittances is associated with lower support for the PRI in the year 2000 federal elections. On a related question, Abdih, Chami, Dagher, and Montiel (2008), using country level data, find that higher remittance flows increase the levels of corruption in recipient countries.

In the next section I will briefly describe Mexico's political environment and provide the motivation for the analysis that follows. Section three presents the empirical model and discusses the estimation strategy. Section four describes the data used and section five presents estimation results, plus a number of robustness checks. Finally, section six concludes and points to further research.

## 2 Background and Motivation

By the time Vicente Fox won the Mexican presidency for the National Action Party (PAN, by its Spanish acronym) the country had been ruled by the Institutional Revolutionary Party since 1929- making it at the moment of its demise the longest ruling party continuously in power worldwide. The Mexican autocratic system had encountered its first major challenge in a brutally repressed pro-democracy movement in 1968. This subsequently forced the PRI to open itself to a larger part of Mexican society and to embark on a more populist political platform, characterized by a huge increase in government expenditure (Krauze 1997). As a result, the party was able to defend its monopoly on power to the point that in 1976 its presidential candidate ran for the first time unopposed. In order to maintain a semblance of electoral competition it decided to loosen some of the restrictions encountered by opposition candidates. Together with the mounting public discontent after the economic crisis, triggered by Mexico's default on its sovereign debt in 1982, and the inaction by the authorities after the devastating 1985 earthquake in Mexico City, these resulted in the first serious electoral challenges to the PRI by the second half of the 1980s. At the gubernatorial level the first seriously contested elections occurred in Chihuahua in 1986, followed by the first serious challenge to its presidential candidate since 1940 in 1988, and the first lost governorship in 1989 in the state of Baja California (to the PAN).

The PRI's monopoly on power fully extended to the municipal level. As documented by Krauze (1997), between 1946 and 1970 the state party lost less than 40 out of a total of 27,000 municipal elections. The subsequent evolution since the early 1980s is documented in Figure 1 using the available electoral results. As can be seen, during most of the 1980s the opposition never managed to govern more than 2-3% of all municipalities. The graph exhibits an interesting pattern, with large increases in the proportion of opposition governed municipalities occurring right after presidential elections and then leveling off. After the highly controversial election, amid allegations of electoral fraud of Carlos Salinas in 1988, the proportion increased to around 8% and stayed there until the end of his term. During the first half of the Ernesto Zedillo presidency (1994-2000) this number shot up to around 30%, where it stayed over the next three years until the watershed elections in the year 2000. During the term of Vicente Fox (2000-2006) it increased again, this time steadily during the entire six years, to cross the 50% threshold toward its end.

(Figure 1 about here)

As can also be seen from Figure 1, Mexico's democratic transition accelerated dramatically during the Zedillo presidency. Not only did opposition parties increase the number of electoral victories at the municipal and state levels, but under Zedillo's watch the Mexican Federal Electoral Institute (IFE) became completely independent of government control in 1996 (Camp 2007). As a result the IFE is widely credited with having assured non-fraudulent elections at the federal level, starting with the 1997 midterm elections in which the PRI for the first time lost its majority in the lower house (Lawson (2000); Magaloni (2006)). For the analysis that follows it is important to note that the IFE "only has jurisdiction over national contests, and sub-national elections are monitored by state level organizations that vary dramatically in political independence and technical capacity" (Lawson (2000), pg. 277).

So while Mexico made the transition to a formal democracy at the federal level in 1997, undemocratic structures are thought to continue to persist at the local level even after the opposition won the presidency. For example, Lawson (2000) identifies the federal bureaucracy, the judiciary, parts of the mass media, and local fiefdoms as persistent authoritarian enclaves after the introduction of competitive elections at the national level. With respect to fiefdoms he argues that "...a handful of ambitious PRI operators have recently created new *cacicazgos*, especially in Mexico's less-developed south. As the national state has withdrawn from stewardship of the economy, and the president's capacity to discipline renegade elements of his party diminished, caciques have become even more entrenched" (pg. 286, italics in original). In a similar vein, some authors, such as Bizberg (2003) or Snyder (1999), argue that the retreat of the old authoritarian centralized structures led in many cases to their replacement by similar structures at the regional and local levels.

The empirical motivation for the analysis that follows is given in Table 1. It shows that municipalities which elected a PRI government during the electoral cycle 2000-2002 had on average a 1.68% percentage point lower proportion of migrant households than those which elected an opposition party. It furthermore shows the average proportion of migrant households for municipalities electing a PRI or opposition government conditional on the nature of the incumbent: In PRI governed municipalities an opposition victory is associated with a much

higher difference in migration intensity than it is in places already run by an opposition party. These differences amount to 2.25% in the former, but only 0.18% in the latter.

(Table 1 about here)

This suggests a strong effect of migration on voting the former state party PRI out of power. Once the transition to competitive elections has been made (as signaled by an opposition victory) it is possibly irreversible. The role of migration in future elections is then confined to its effect on party preferences and significantly reduced. This, in a nutshell, is the hypothesis under consideration in what follows.

Before discussing the possible causal channels through which migration can improve the functioning of democratic institutions, it is important to stress the nature of former Mexican authoritarianism. Following Greene (2007) and Magaloni (2006), Mexico could be described as a “dominant party system” or an “electoral authoritarianism”. In such a system the dominant party is forced to hold elections on a regular basis, and faces a certain degree of scrutiny from other social actors, but is able to perpetuate itself in power and on top to extract rents from society. It can be defined by two essential institutional differences to competitive democracies. First, the dominant party controls the electoral process and is hence in the position to commit fraud if it decides to do so. Second, it also has a big discretionary power over public spending, which allows it to allocate resources unchecked and in a way that would be legally impossible in a competitive democracy.<sup>3</sup> It should be noted that this arrangement does not constitute a Mexican peculiarity. These kind of hybrid regimes, which are neither democratic nor a full-fledged dictatorship, can be found in many different places. Greene (2007) extends his analysis to include Taiwan and Malaysia; one could also think of Russia to fall into this category.

The most common explanation for how migrants yield a significant influence on political outcomes in their home countries falls broadly into the category of knowledge spillovers and social learning. The idea is that “immigrants learn the political values of their host societies and export them to their home countries” (de la Garza and Hazan (2003), pg. 14). Orozco and Lapointe (2004) argue that “HTAs play an important role in transforming political culture and

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<sup>3</sup>In this context Greene (2007) identifies “five types of *illicit* public resources that they politicize for partisan purposes” (italics in original,pg.40).



local politics” and that “The work of these groups has energized participation in local issues and has created greater input on local decisions”. The learning is thought to be achieved through the organization of hometown associations and their subsequent involvement in the provision of public goods back home, which sometimes has them confront local authorities, and advocacy on immigration issues in the United States. This argument is contested by Goodman and Hiskey (2008) and Bravo (2007), based on the observation that most immigrant communities have scant exposure to the host country’s democratic institutions and overall low levels of civic engagement and group membership in U.S. society. Both papers find a negative association between the intensity of migration and political engagement.

Another possible explanation would be a variant of the classic Tiebout (1956) model which lets migrants “vote with their feet”. In this case, migration would be more intense in the most repressive places. But as more people start leaving the authorities would see themselves forced to open up politically in order not to lose most of their constituents.

I would like to add another potential causal channel, which, in the context of the political effects of international migration, to my knowledge has not been discussed so far. That is that remittances, as they increase a household’s disposable income, make recipients less dependent on government handouts and thus weaken clientelistic networks. Clientelism has been defined by Stokes (2008) as “ the proffering of material goods in return for electoral support, where the criterion of distribution that the patron uses is simply: did you (will you) support me?”. As a household’s disposable income increases, the marginal utility of consumption of its members will decrease. As a result, the value of the material goods offered in exchange for political support will likely have to increase. If political parties or candidates face budget constraints with respect to the amount of funds they can spend to maintain clientelistic relationships, the likely outcome is that these arrangements will be weakened or might even break down. This claim is similar to an argument made by De-La-O (2007) in her work on the political effects of Mexico’s conditional cash transfer program PROGRESA. She makes the case that this federally run program, among other things, had the effect of weakening local power brokers by making households less dependent on the locally administered welfare schemes.

For this line of reasoning to work, it is necessary that remittances stay in the

hands of households and cannot be captured by the government, i.e. that remittances are non-taxable or at least only taxable at relatively low rates. This is a common assumption in the literature and seems to be borne out by the facts. For example, Abdih, Chami, Dagher, and Montiel (2008) use non-taxability as a building block in their model on how remittances can increase corruption by government officials. The World Bank notes in the Global Economic Prospects 2006 (WBG 2006) that remittances are usually not taxed, except for small charges on general financial services. The main reason is that remittances can in most cases <sup>4</sup> easily be sent through informal channels and taxes can easily be evaded <sup>5</sup>. In any case, in Mexico such taxes would need to be imposed by the federal government and not at the local level, so remittances can safely be assumed to be non-taxable from the municipal government's point of view.

This argument has an interesting connection to the resource curse literature, which argues that countries in which natural resources play a more prominent role in their economy tend to be less democratic. Ross (2001), for example, identifies a "taxation effect", meaning that the more a state has to finance its expenditure through tax revenue, as opposed to natural resource (or other) rents, the more likely it is to be a democracy. Wantchekon (2002) argues that a rentier economy creates an incumbency advantage which results in one party dominance and social instability. For the case of Africa, Jensen and Wantchekon (2004) show that the more important the natural resource sector is in a given country, the less likely it is to be a democracy. <sup>6</sup> What all these papers have in common is the argument that a natural resource is an asset directly under the state's control. The government is thus able to extract the maximal amount possible, redistribute part of the proceeds among its constituents in order to buy political support, and pocket for itself whatever is left over. In this regard remittances, by their non-taxability, can be thought of as having the opposite effect. A natural resource increases the government's purchasing power for political support by raising its income. Remittances, on the other hand, reduce purchasing power by increasing the price of political support.

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<sup>4</sup>Cuba, which routinely taxes remittances from the U.S., might be an exception here

<sup>5</sup>(WBG 2006) gives the examples of Vietnam and Tajikistan, where remittances through formal channels increased significantly (in the Tajik case almost fourfold) after taxes on such transactions were removed

<sup>6</sup>A good general discussion on the resource curse is provided by Ross (1999). On the theory side, a formal political-economy model of the resource curse, with an extension to autocratic regimes, is provided by Robinson, Torvik, and Verdier (2006). Lam and Wantchekon (2004) show how a resource boom can consolidate an elite's power over the general population.

In order to parse out the merit of each of these different explanations empirically, one would ideally want to control for remittances and migration separately. As will be explained in the next section, this is unfortunately not possible with the available data. Therefore, the objective for the moment is to establish a causal link between migration and the functioning of democratic institutions.

### 3 The Empirical Strategy

A generic probit model will be estimated, followed by its instrumental variable version. A binary dependent variable, taking a value of one for an opposition victory in municipal elections, is regressed on a measure of migration plus a number of control variables. An opposition victory is understood as a simple majority won by a candidate for mayor who is not backed by the PRI. More formally, in latent variable notation:

$$\begin{aligned} y_i^* &= c + \delta m_i + X_i' \beta + \epsilon_i, \\ y_i &= l[y_i^* > 0] \end{aligned} \tag{1}$$

where for municipality  $i$  in state  $j$ ,  $y_i$  is the observed binary outcome of an opposition victory,  $m_i$  is the potentially endogenous measure of migration, and  $X_i$  represents a number of municipal level control variables.  $\epsilon_i$  is a standard normally distributed error term, which is allowed to be arbitrarily correlated across observation. The latent variable  $y_i^*$  can be thought of as representing the difference in “real” power between the opposition and the PRI, taking into account a variety of measures of political control. The parameter of interest is  $\delta$ . A series of problems related to model identification have to be discussed, and possible limitations of the approach taken here need to be pointed out.

#### 3.1 The Reduced Form

First and foremost, as mentioned above, one has to content with running a reduced form specification which only determines the overall impact of international migration on the outcome. It is not possible to further distinguish between the different explanations proposed. The problem is twofold: Firstly, since almost all households who send a migrant receive remittances, variables measuring the intensity of migration and the importance of remittances at the municipal level are very highly correlated. Secondly, suppose that the average size of remittances differs sufficiently between municipalities to induce a large enough variance between the two variables. In that case one would still be concerned with possible endogeneity of both of them, and would need to find two separate instruments.

As discussed in the next section, it is relatively straightforward to come

up with possible instruments for migration. The problem resides in finding a good instrument for remittances. In order to avoid instrument weakness <sup>7</sup>, the instrument for remittances would need to be uncorrelated (or in any case have a very low correlation) with the instrument for migration. In other words, one needs an instrument that affects the amount of remittances received in a municipality through a different channel than the extent of migration, but is otherwise exogenous to the model. The search for such a variable as so far proved fruitless. An additional concern is that the available data on remittances is likely to be plagued by a large measurement error if respondents are reluctant to report their receipt <sup>8</sup>.

### 3.2 Endogeneity

The second problem is potential endogeneity of the migration variable in expression (1). Omitted variables are an obvious concern, since there possibly exist some fixed municipal characteristics that cannot be controlled for. These might affect the intensity of migration, as well as political outcomes. An example for such a characteristic would be nationalist or patriotic values, which might politically favor the PRI and at the same time have people frown on emigration. Since the variables of interest are only available on the municipal level for the year 2000, it is not possible to run panel data specifications to solve this problem. In addition, reverse causation might arise due to the high temporal persistence of the outcome variable and the possibility that more authoritarian places might send more migrants. These problems will be addressed by the use of an instrumental variable which will be discussed below.

### 3.3 Institutions vs. Preferences

Finally, and most importantly, the quality of democratic institutions (the outcome of interest) is not directly observable. Instead, it will be necessary to identify an institutional effect using observable data on electoral outcomes. As

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<sup>7</sup>See Stock, Wright, and Yogo (2002) or Shea (1997) for a discussion on weak instruments

<sup>8</sup>I computed the (unweighted) share of households which report that at least one member receives remittances for those households which report to have sent at least one migrant who didn't yet return in the five years prior to the interview. In most states that proportion is between 20 and 40 percent, which compares with close to 80 percent of Mexican migrants living in the United States who reported to send remittances in a 2005 survey by the Pew Hispanic Center(See <http://pewhispanic.org/datasets/>)

stated above, the dependent variable used denotes an opposition victory in the period 2000-2002. Simply running the model in expression (1) and interpreting a positive significant estimate on the parameter  $\delta$  as evidence for stronger democratic institutions would be unconvincing for two reasons. Firstly, it implicitly assumes that only the PRI is engaged in undemocratic activities, while opposition parties are not. This point will be addressed below, but it should be pointed out that in the time period under consideration the PRI could still rely on a decades-old system of patronage. Opposition parties, on the other hand, are unlikely to have had the time to develop an entrenched clientelism. Secondly, while it does seem reasonable to assume that functioning democratic institutions are a prerequisite for an opposition victory, the approach would assume that a PRI victory automatically implies undemocratic practices. But if, as seems likely, the PRI in some places is perfectly able to win a democratically competitive election,  $\delta$  might just capture party preferences and not institutional quality. That is, even if migration has no institutional effect at all, but migrant households are more likely to vote for an opposition party (e.g. the more right wing PAN as their disposable income increases), one would expect a positive significant estimate on  $\delta$ .

These concerns will be addressed in two ways. The first is to introduce a proxy for party preferences, expecting that a pure political preference effect would be picked up by that proxy rendering the variable of interest insignificant. Such a proxy can be found in electoral results from federal elections. The Mexican Federal Electoral Institute (IFE), after becoming completely independent of government control in 1996 (Camp 2007), is widely credited with having assured non-fraudulent elections at the federal level (Lawson (2000); Magaloni (2006)). It is important to remember that IFE only has jurisdiction over federal elections. It can therefore be assumed that the outcomes reported in federal elections closely reflect political preferences.

Probably the best way to capture these preferences is to use electoral results for the lower house of the legislature and not for the presidency, given that the latter might be influenced by other considerations (such as personal sympathy for one of the candidates). Mexico has a mixed direct/proportional representation system in which one single vote is cast for one of the 300 direct seats, as well as the 200 proportional ones. Voters can therefore be expected to follow party lines more closely than in a pure first past the post system.

More formally, a valid proxy has to fulfill two requirements: First, it has to be redundant. In the present context, this means that it should not be part of the model in (1) if preferences were directly observable. This requirement is easily satisfied, as votes in federal elections should only predict votes in mayoral ones to the extent that they reflect party preferences. The second requirement is that the omitted variable (political preferences) has to be uncorrelated with all the other independent variables once the proxy (federal election results) is controlled for. One can think of this in terms of a hypothetical regression of preferences on federal election results. The parameter on federal elections should, of course, be positive and highly significant, meaning that the proxy captures most of the variation in the omitted variable. Crucially, the second requirement implies that the error term from this regression needs to be uncorrelated with the included independent variables. Or, put differently, that the proxy captures all the correlation between the omitted and the included variables.

If federal elections can be assumed to be free and fair, the only misalignment between votes cast and party preferences could stem from personal characteristics of candidates running for congress. While this possibility cannot be ruled out completely, it would only add noise to the proxy without rendering it invalid. The question then boils down to the possibility that migration might affect political preferences differently at the local and the federal levels. It is hard to see why voters in a migrant sending household would change their preferences to a non-PRI party at the local level, but stay loyal to the PRI in federal elections. The only plausible explanation would, once more, be the effect of differing personal characteristics of mayoral candidates or the local leadership between parties. But such characteristics, while important, can safely be assumed to be assigned in a way unrelated to a municipality's level of migration.

The second approach is to run two additional specifications, conditional on whether an opposition government ever won an election since 1980 (which is the first year for which data is available). The assumption is that municipalities which had been governed by an opposition party need to have democratically competitive elections. With respect to the continuously PRI governed ones, one is unable to determine whether they are clientilistic or not, but one can be sure that all clientilistic ones have to be in this group. Note that this approach is similar to the alternation rule for defining democracies in Przeworski, Alvarez, Cheibub, and Limongi (2000). For the group of continuously PRI ruled municipalities the model then estimates the effect of international migration on

the probability of a non-PRO party winning an election *for the first time* (i.e. transition to local democracy). In the other group, the effect would be expected to be statistically insignificant unless international migration shaped political preferences differently at the local level than at the national level, or if the PRI managed to sustain some of its clientelistic powers even after being defeated.

One concern is that grouping municipalities according to their electoral history might divide the country into two largely separate regions. The subsequent regressions might then simply pick up different regional effects. Table 2 addresses this concern. It shows the percentage of municipalities in either group for each state and the total number of municipalities included (as will be discussed in the next section a small number had to be dropped). As can be seen, for most states with a large number of municipalities the two groups are quite evenly divided. The main exception are a few states (Aguascalientes, Guanajuato, Jalisco, and Michoacan) located in the traditional migrant sending region which have a large number of municipalities that already had been opposition governed. This finding is supportive of this paper's central hypothesis.

(Table 2 about here)

Estimating the model for two distinct groups is, of course, the same as creating a binary variable indicating whether or not a municipality had a non-PRI party in power and then interacting it with all regressors. It may then be argued that this adds a potentially endogenous variable to the regression. I do not believe this to be a valid concern as this would require the existence of some unobserved variable that i) affects past electoral outcomes and ii) has an additional effect on current electoral outcomes that is not captured by past outcomes. I cannot think of any such omitted variable.

In order to sum this discussion up: If migration affects the functioning of institutions as well as political preferences, the latter will act as an omitted variable. Using federal election results as a valid proxy for political preferences should take care of that problem. Moreover, in municipalities which have already experienced a victory by an opposition party, as they can be expected to have competitive electoral institutions, migration should not have any significant effect on the electoral outcome once preferences are controlled for. In continuously PRI ruled municipalities, on the other hand, migration should still be significant. If opposition parties were involved in undemocratic practices,



this should show up as a positive effect only in the group that already had been opposition governed. The validity of the central hypothesis that migration has a positive impact on the functioning of democratic institutions can thus be assessed by testing the following three hypotheses:

- *Hypothesis 1:* Migration significantly increases the probability of an opposition party winning an election.
- *Hypothesis 2:* Migration does not have such an effect in municipalities which already had an opposition government, once the results of federal elections are controlled for.
- *Hypothesis 3:* In continuously PRI governed municipalities this effect persists even after taking federal election results into account.

## 4 Data

The data used comes from a number of different sources. Most of the independent variables are computed using the Mexican year 2000 census, partly from the dataset on municipal characteristics SIMBAD (which shows municipal level data for the entire population) and partly directly from the public use micro data sample. All data sources so far discussed can easily be found on the webpage of the Mexican statistical Institute INEGI <sup>9</sup>. The data on federal elections are taken from the Federal Electoral Atlas (Atlas Electoral Federal de Mexico), published by the Mexican Federal Electoral Institute (IFE) <sup>10</sup>. The dependent variable of opposition victories is constructed using a database on municipal elections since the year 1980, which is provided by the Mexico City based think tank CIDAC (Centro de Investigacion para el Desarrollo) and can be accessed through its webpage <sup>11</sup>. Finally, one instrument is constructed with the help of a Mexican Railroad timetable dating from 1905, a map of the railroad network in 1942 and the interactive map of Mexico on the INEGI homepage. These are then used to determine the distance one had to travel by rail from each municipality to the principal point of entry into the United States. For the other instrument, following McKenzie and Rapoport (2007), I use data on Mexican migration by state of origin in 1924 collected by Foerster (1925) and state level data on population from the Mexican year 2000.

### 4.1 Dependent Variable

Since different states hold local elections in different years, with a municipal term always lasting three years, one has to treat three consecutive years as one electoral process. The dependent variable will therefore denote the electoral outcomes of municipal elections conducted in the years 2000, 2001 and 2002. The corresponding right hand side variables, discussed below, were collected from February 7th-18th 2000.

The dependent variables is binary, taking a value of one if a candidate other than the one supported by the PRI wins in the mayoral elections and zero otherwise (a candidate only needs a simple majority to be elected). It is of no interest here to further distinguish the political affiliation of that candidate for

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<sup>9</sup>See [www.inegi.gob.mx](http://www.inegi.gob.mx)

<sup>10</sup>See [www.ife.gob.mx](http://www.ife.gob.mx)

<sup>11</sup>See <http://www.cidac.org>

two reasons. Firstly, the aim is to explain the emergence of electoral competition which manifests itself in the positive probability of an opposition party to win an election. The second reason is that the Mexican regional landscape is highly divided with regard to the strength of opposition parties. The PRI is the only political party with a strong presence in the entire country, running against one relatively strong opposition party in every place <sup>12</sup>.

## 4.2 Independent Variables

The independent variables of interest that will be reported in the output tables are the proportion of migrant households in each municipality and the percentage of votes obtained by the strongest opposition party in the year 2000 federal elections. Results will be presented for three different specifications: First only for migration and a minimal set of controls, followed by the inclusion of federal election results, and finally controlling a large set of additional socio-economic characteristics at the municipal level.

The proportion of migrant households (*Migration*) is computed from the Mexican census micro data. A household is defined to be a migrant household if i) at least one household member left for the United States in the five years prior to the interview, OR ii) at least one household member returned from the United States during that time, OR iii) at least one household member reports to have received international remittances over the year prior to the interview. This dummy variable is then averaged at the municipal level using sampling weights.

The variable for federal election results (*Federal Elections*) is vote share obtained by the locally strongest opposition party in the year 2000 elections for the lower house of the Mexican congress.

The set of regressors used in the more parsimonious specifications consists of a small number of undoubtedly exogenous variables. Dummy variables for municipal elections held in the years 2001 and 2002 (*Year 2001*, *Year 2002*), with elections in 2000 being the baseline, are included in order to pick up year spe-

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<sup>12</sup>That opposition party is usually the conservative National Action Party (PAN) in the north, west and parts of the center regions (with the exception of the states of Zacatecas and Baja California Sur). In the center and south the main opposition party is the left wing Party of the Democratic Revolution (PRD). In a few cases some smaller parties run against the PRI in some municipalities, but places with strong support for more than two parties are rare.

cific effects. In addition, I control for the direct euclidean distance to the border with the United States <sup>13</sup> (*Distance Border*) and a dummy variable for Northern Mexico <sup>14</sup> (*North*). The necessity for their inclusion will become evident when the instruments are discussed.

The most complete specification controls for an additional battery of socio-economic characteristics. They consist of a number of characteristics that can be expected to have an impact on political outcomes. To the degree that they might have been influenced by early migration patterns, their inclusion also gives additional robustness to the IV estimates. The included economic controls are the log and the standard deviation of the average labor income per household (*Average Labor Income*, *Std Dev Labor Income*) and the unemployment rate (*Unemployment*) in order to control for economic wellbeing and inequality. In addition, I include the municipal illiteracy rate (*Illiterate*), average years of schooling of the population 15 years of age and older and not currently attending school (*Schooling*), the total population (*Population*), and the proportion of the indigenous population (*Indigenous*).

### 4.3 Instrumental Variables

I will jointly use two different instruments. The first one (*Historic Migration*) follows McKenzie and Rapoport (2007) and uses data on the state of origin of Mexican immigrants to the United States in 1924. These numbers were collected during April 1924 at the ports of entry in San Antonio, El Paso, and Los Angeles <sup>15</sup>. I then divide these numbers by each state’s population in 2000 in order to arrive at a measure of the relative importance of historic migration.

As McKenzie and Rapoport (2007) point out, migration is to a large extent driven by social networks and therefore highly persistent throughout time. It is therefore a common approach to use historic migration flows, which will influence current flows only through the importance of social interactions (see, for example, Massey and Espinosa (1997)), but are far enough back in time

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<sup>13</sup>Measured between the seats of the municipality in question and the closest one bordering the U.S.

<sup>14</sup>Where, following the customary classification, the north is defined to consist of the states of Baja California, Baja California Sur, Coahuila, Chihuahua, Durango, Nayarit, Nuevo Leon, San Luis Potosi, Sinaloa, Sonora, Tamaulipas, and Zacatecas

<sup>15</sup>The cities refer to different “districts” (No. 22, 25 and 31), which explains why Los Angeles and San Antonio are included even though they are not border towns

not to influence the outcome variable. As far as its exogeneity is concerned, early migration patterns in Mexico were determined by rail access to the major U.S. labor markets at the beginning of the 20th century. The Mexican rail network never fully recovered from the damage inflicted on it during the revolution (Krauze 1997) and became increasingly insignificant as road transportation started to take over. Today, with the exception of a few tourist trains, it only serves freight traffic.

While I agree with the basic argument, some potential pitfalls have to be pointed out. First of all, while early migration patterns were to a large degree determined by the rail network, they must also have been a function of other municipal characteristics. To the extent that these persisted throughout time, the instrument might be correlated with the error term (even though the use of state level data mitigates this concern). Secondly, the data was collected in 1924 and captures only legally admitted migrants. The first large wave of migration to the U.S. occurred during World War I, responding to American labor shortages combined with unfavorable conditions in Mexico brought about by the instability of the Mexican Revolution. By 1924 this wave had subsided, and even though temporary agricultural labor was still admitted (Craig 1971), the number of legally admitted migrants might be selected on unobservable state characteristics.

If early migration patterns were primarily determined by access to rail transportation to the border, it appears reasonable to use a measure of that access directly. This is what the second instrument (*Distance Juarez*) does. I constructed a measure for the travel distance to Ciudad Juarez, El Paso's sister city across the border in Mexico. Travel distance means the distance by rail from Ciudad Juarez to the station closest to the municipality. I use a 1905 timetable for the Mexican railroad network, which also provides distance between stations in kilometers, to establish which lines were already present at that point in time. With the help of two maps, one railroad map dating from 1942 and a current map which allows the identification of the territorial expansion of each municipality, I then determine which municipalities had a railroad connection and at which distance from Ciudad Juarez <sup>16</sup>. Those not directly

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<sup>16</sup>A small degree of ambivalence is unavoidable in such an exercise, but most likely it will only add noise to the estimates without biasing them in any significant way. The distance measures were computed finding out, first of all, if the municipal seat had a station. If that was the case that station's distance was used; if not I tried to determine the station closest to it; and if that failed I used the station which appeared to have the most central location

connected by railroad are matched with the closest municipality that is.<sup>17</sup> An added advantage of using two instruments is that, under the assumption that the historic rail distance is exogenous, one can test for the validity of using historic migration as an instrument.

The distance to one single point of entry is used due to the paramount importance of El Paso in the early period of Mexican migration. It is widely documented that the vast majority of migrants entered the U.S. via El Paso<sup>18</sup>. This importance derived almost entirely from being a rail hub on both sides of the border. El Paso provided the largest amount of rail connections to the major U.S. labor markets; not only to the American Southwest and California, but also to the Midwest via Kansas City and St. Louis (Romo (1975), pg. 176). Its geographical position also made it the closest border crossing to these places. Ciudad Juarez was the northern terminus of the Central Mexican Railroad, linking it to Mexico City and the central states. This was the first rail line to connect Mexico City directly with the border (Spener (2005), pg.5), the best connected to the American rail network (Woodruff and Zenteno (2007); Spener (2005) pg.5), and up until the late 1920's, the westernmost and northernmost point of entry to be reached by rail from the Mexican interior.

One concern with the second instrument is that it might simply pick up the effect of proximity to the border. To the extent that a number of unobserved variables are correlated with that distance, this could violate the instrument's exogeneity. In order to address this concern the direct distance to the border is included in all specifications. Another problem is that migration patterns are systematically different in the northern part of Mexico. Historic data (Taylor 1930) shows that migrants there were drawn mostly to the border region labor market closest to their hometowns. Today, those early flows predict current migration far less than in the rest of the country. Proximity to the border did not only influence historic migration patterns, but also the demographic development over the last few decades. Most of the northern municipalities were very thinly populated at the beginning of the 20th century, but have since grown into sizable cities with a strong export oriented manufacturing base. Instead of sending migrants north of the border those cities attract internal ones from other parts of Mexico. For these reasons a dummy variable for the north is

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given the territorial extension of the municipality.

<sup>17</sup>Using direct distance, measured in the same way as the distance to the US border.

<sup>18</sup>For a detailed discussion see, among others, citeasnounGarcia81, citeasnounRomo75, citeasnounSpener05, or citeasnounTaylor30 for additional historical data.

always included.

#### 4.4 Summary Statistics

Table 3 provides the summary statistics for all variables used (without applying logarithms). In the year 2000 Mexico had 2443 municipalities (not counting the boroughs of Mexico City), of which complete data on local elections is available for exactly 1985. The difference is mainly explained by the 418 municipalities in the state of Oaxaca which don't hold party based elections, but are governed according to their own local traditions (*usos y costumbres*). All of them are very small towns with an almost exclusively indigenous population. The remaining 40 missing values are due to municipalities for which the electoral results were not observed in the period of interest or in the preceding elections. This can be either because the municipality was just incorporated or elections were annulled. For two municipalities in the state of Chiapas data on control variables is incomplete, and one in Campeche does not report results for the federal elections, bringing the total number of included observations to 1982.

(Table 3 about here)

It can be seen that 41% of municipalities elected a party other than the PRI into office over the year 2000-02 electoral cycle. The sorting of municipalities, based on their electoral history, neatly divides them into two almost equally sized groups. This makes the comparison of significance levels between them straightforward. The average municipality has 12% migrant households (ranging between zero and 63%), and, on average, the strongest party other than the PRI obtained 36% of the vote share in federal elections.

The last four variables in the table will be used for a number of robustness checks. The first two measure the proportion of municipalities which already have had a non-PRI government by 1994 and 1997 (since 1980), respectively. They can be thought of as identifying the early movers in democratization. They are somewhat different from the numbers in Figure (1), which show the proportion of of municipalities run by the opposition at each point in time, but show a very similar time trend. The next variable (*Internal Migration*) measures the proportion of the population that migrated to cities with more than 100,000 inhabitants within Mexico, and the last one (*Return Migration*)

measures the ratio of international return migrants relative to households which sent a migrant between 1995-99.



## 5 Estimation Results

Tables 4-7 present the estimation results. The first two contain the results for the simple probit estimation and the IV version, respectively. They consist of nine columns, where the first three present results for the estimation including all 1982 municipalities. These are followed by results for the set of continuously PRI governed places in columns 4-6. Finally the last three columns present the estimates for municipalities which already had been ruled by a party other than the PRI.

For each set of observations I present results for three different model specifications. Columns 1, 4, and 7 show results for the most parsimonious specification, including only the distance to the border and dummies for northern Mexico and the election year as controls. The following columns (2, 5, and 8) add the control for federal election results. Finally columns 3, 6, and 9 show results for the specification including the complete set of control variables.

Tables (6)-(7) show a number of robustness checks. The first one shows that migration also had a strong effect on which municipalities had had an opposition government by 1994 and 1997. Table 7 presents results for a series of additional estimations, controlling for internal and return migration.

At this point it is worth repeating the identification strategy followed: It is claimed that finding empirical evidence in support of the hypotheses outlined in section (3.3) amounts to the identification of an effect of migration on the quality of democratic institutions. That is, one expects a significantly positive impact of migration on the probability that an opposition party wins an election even after controlling for the federal election result in continuously PRI governed municipalities. In municipalities which already had an opposition government at some point since 1980, on the other hand, one does not expect to identify such an effect once the federal election result is taken into account.

For ease of exposition, all tables present marginal effects instead of parameter estimates. For the variables *Migration*, *Federal Elections*, and *Internal Migration* they show the change in the probability of an opposition party winning the elections of a one percentage point increase in the respective variable. For *Return Migration* it shows the same effect of an increase by one of the ratio of the number of return migrants relative to migrants leaving for the United

States. Below the marginal effects the significance of each regressor is shown as the p-values for the corresponding t test, using a robust standard error variance-covariance matrix.

## 5.1 Probit Results

Table(4) shows the results for the probit estimation of the model presented in expression (1). As can be seen, the proportion of migrant households is mostly positively significant as long as federal election results are not controlled for. After its inclusion it becomes largely insignificant. Only for the estimations including all municipalities and continuously PRI ruled ones some significance persists after including the full set of control variables (at the 5% level in the former case, and slightly below it in the latter). As far as the marginal effect of federal elections is concerned, a one percentage increase in the vote share of the principal opposition party increases the likelihood of an opposition victory in the municipal elections by more than one percent. This point estimate is slightly higher for the second subset (at around 1.5%-1.6%) than for the first (at around 1.3%).

(Table 4 about here)

Even though the results for these estimations are quite weak, comparing the results for the two different subsets of municipalities presents a pattern in support of the above stated hypotheses. The estimated marginal effect of migration is roughly similar for the continuously PRI ruled municipalities, as well as for those which already had an opposition party in power (albeit significance is higher for the latter), as long as federal election results are not controlled for. Once they are included, the point estimates for migration are smaller, and the corresponding p-values higher, in the second group. Once all independent variables are controlled for, migration is almost significant at the 5%-level in the continuously PRI ruled group.

## 5.2 IV Results

Table (5) presents the results of the instrumental variable probit estimation. A few general results are worth pointing out. Firstly, the estimated marginal effect of migration increases and becomes highly significant in all specifications.

This points to a negative bias in the probit results, probably due to more authoritarian communities producing more migrants. Secondly, weak instruments don't seem to be a concern under any specification, and thirdly, the first stage results for both instruments are highly significant. Lastly, the overidentification restriction test never rejects the validity of historic migration as an additional instrument.

The table reports, apart from the number of observations, the first stage parameter estimates of the instruments and their p-values. Furthermore, the p-value for the regression based test on endogeneity is reported <sup>19</sup>, as well as two measures of instrument weakness. The first one is a partial R square measure for the linear model proposed by Shea (1997), the second measure is an F-test based on the Cragg-Donald Statistic which following Stock, Wright, and Yogo (2002) has an application in testing for weak instruments. This last statistic is computed using the Kleibergen-Paap rk statistic, given that the error terms are allowed to be arbitrarily correlated (see Kleibergen and Paap (2006) for details). Following Stock and Yogo (2002) this statistic, for one endogenous variable and two instruments, should ideally be above 19.93<sup>20</sup>. Lastly, the table also reports the p-value for an overidentifying restrictions test (OIR) based on Hansen's J-Statistic. Under the assumption that the historic rail distance to Ciudad Juarez is exogenous, this test allows to verify the validity of historic state level migration as an instrument. The OIR test, as well as the two tests for instrument weakness, were computed by running a linear probability model on each specification.

The first three columns of Table 5 show results for all municipalities. Migration is always positively significant, with a one percentage point increase in the proportion of migrant households resulting, on average, in an roughly one percent higher probability of a victory by someone other than the PRI. After controlling for federal election results and the whole set of independent variables, that number drops to 0.45% and 0.64% respectively. Comparing results for the two different subgroups, it can be seen that the estimated marginal effect of migration is very similar, at 0.84% and 0.79%, as long as federal election results are

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<sup>19</sup>This tests for the significance of the inclusion of the residuals from the first stage regression in the probit model

<sup>20</sup>Stock and Yogo (2002) defined instruments to be weak if the 5 percent Wald test has an actual size that could exceed a certain worst case threshold, denoted by  $r$  (the worst case limiting rejection rate). The critical values of 19.93 of the Cragg-Donald Statistic refers to the case of  $r=0.1$  for the case of one endogenous variable and two instruments

excluded. Migration is also significant at the one percent level in both (columns 4 and 7). Once the control for federal elections is included, results change. In both groups the marginal effect of migration is somewhat reduced, but much more so in the set of municipalities which already had an opposition government. For the group of continuously PRI run places that effect drops to 0.55% after the inclusion of federal election results, and slightly increases again to 0.75% with the full set of controls. In both cases migration remains significant at the five percent level. For the other municipalities the marginal effect drops to 0.31% and 0.43%, but migration becomes statistically insignificant. The effect of an extra percentage point in the vote share of the principal opposition party is similar to the probit estimation discussed above.

(Table 5 about here)

These results strongly support the hypotheses stated in section (3.3). Higher levels of international migration increase the likelihood of an electoral victory by a party other than the PRI. This effect has two different components: First, migration has an effect on party preferences working against the PRI. This effect is apparent in all specifications, since once these preferences are controlled for, using federal election results as a proxy, the remaining effect of migration on the electoral outcome is reduced. But in addition, there exists a second effect which is only significant in the group of municipalities which have been continuously PRI ruled. That is, once party preferences are controlled for, migration still has a positive and significant effect on the probability that the formerly dominant state party loses power *for the first time*. Once this democratic transition takes place, migration becomes insignificant in predicting electoral outcomes if political preferences are controlled for. This strongly supports the idea that international migration improves the functioning of democratic institutions. It is also interesting to note that the estimated marginal effect of federal election results is consistently larger in the group of municipalities which already had an opposition government. This implies that political preferences are a better predictor for electoral outcomes, and thus confirms the assumption of better institutions in that group.

### 5.3 Robustness Checks

As a first robustness check, Table (6) shows results for a probit model on a dependent variable indicating whether a municipality has had an opposition government by 1994 and 1997. As seen before in Figure (1), democratization at the

municipal level proceeded in several different waves. The first dramatic increase occurred in the three year period right after the 1994 presidential elections. If migration does indeed have an impact on the quality of democratic institutions, it is to be expected that municipalities with traditionally high rates of migration were among the first to vote a party other than the PRI into office. Given the high increase between 1994 and 1997, it is natural to pick these two years to construct the dependent variable. Note the three year difference corresponds to exactly one electoral cycle. An obvious concern with this model, at least for the specification without instruments, is that reliable migration data is only available for the year 2000. Given that the instrumental variables employed are past determinants of current migration, the resulting fitted values should largely predict historically high levels of migration.

Table (6) shows that migration is indeed a very strong predictor of an early opposition victory. The only non-significant estimate can be found in column (1). This is likely to be an artefact of the measure of migration, which to a large extent captures movements between 1995 and 2000. So the farther one goes back in time, the noisier it is likely to be. In that sense, the instruments used can also be interpreted as correcting for measurement error. The IV results in columns (3)-(6) suggest that a one percentage point increase in the proportion of migrant households raises the probability that a municipality had an opposition government by 1994 by at least 1.7%, and that it had one by 1997 by more than 3.4%. All the results presented in Table (6) only include the basic controls, given that all the additional control variables were collected in early 2000.

Finally, I will present a series of additional specifications to lend further support to the results presented. Given that it is empirically not possible to disentangle the various channels through which migration might affect political institutions, the only possible way to shed more light on this issue is to test for some of those channels by controlling for them directly. I will do this here for two of them: Firstly, that migration is a form of people voting with their feet, which forces the government to reform politically in order not to lose all its constituents. Secondly, that migration enhances the flow of information and new ideas to formerly very isolated places, which could contribute to their political opening.

In order to control for the first possibility I construct a variable measur-

ing the magnitude of domestic migration to cities with more than 100,000 inhabitants. This variable was constructed using a massive 50% sample of the year 2000 census variable asking for the place of residence five years before. It should therefore be an excellent measure of the proportion of inhabitants which migrated internally over the five year period 1995-1999. Regarding the second alternative explanation, if flows of information and ideas played an important role, one would expect them to be further enhanced by return or circular migration. This is controlled for by calculating the ratio of the proportion of households with return migrants over the proportion of households which sent a migrant over the 1995-99 period. It has of course to be pointed out that the principal interest here is to examine whether the inclusion of these additional variables changes the previous results. Given that both variables are likely to be endogenous themselves, conclusions with regard to their own significance have to be treated with caution.

Table 7 shows the results for the two different groups of municipalities. The inclusion of the additional controls barely changes the estimated marginal effects, nor the significance levels in any significant way. In addition, both measures, for internal and return migration, are statistically insignificant. This suggests that neither channel plays any important role in explaining the previous results. In order to keep the number of tables to a manageable level, results are only presented for the instrumental variable estimation without the additional control. For comparability with the previous tables, results are shown for the group of continuously PRI run municipalities and also for those which already had an opposition government.

(Table 7 about here)

## 6 Conclusions

This paper presented evidence that high levels of international migration helped to improve the quality of democratic institutions at the local level in Mexico. It discussed two causal channels through which migration could have such an effect. The first one, in line with a substantial qualitative literature on the subject, consists of knowledge spillovers passed from the receiving to the sending country through migrants' social networks. In addition, I proposed a second mechanism in which migrant remittances help to undermine clientelistic relationship between the government and its constituents. The argument is that as remittances increase voters' disposable income, the necessary clientelistic transfers paid in exchange for political support would need to increase as well. To the extent that the government faces budget constraints, this patronage system will become unsustainable.

An instrumental variable probit model was estimated to determine the probability of an opposition victory at the municipal level. I found that the proportion of migrant households significantly increases the probability of an opposition victory. This result is robust to the inclusion of results from the federal elections as a control for political preferences, when restricting the sample to municipalities in which the PRI has been in power without interruptions since 1980. In such places a one percentage point increase in the proportion of migrant households at the mean is estimated to increase that probability by more than half a percent. In places that have already had an opposition party in power, migration is significant at first, but not after controlling for federal election results. Taken together this points to migration having some effect on party preferences and, more importantly, provides strong evidence for their role in the improvement of democratic institutions at the local level.

It has also been shown that high levels of migration are a strong determinant for an early opposition victory. A one percentage point increase in the proportion of migrant households raises the probability that a municipality has had a non-PRI government by 1994 or 1997 by at least 1.7% and more than 3.4%, respectively. While data restrictions do not allow to determine the precise causal mechanism through which migration has this effect, a series of robustness checks does not provide any evidence for knowledge spillovers to play a significant role. Nonetheless, the results presented here cast doubt on a number of papers which find that migration has a negative effect on political and

civic participation. In order to reconcile these apparently contradictory results, future research should focus on a more detailed identification of the different causal mechanisms at work. For reasons outlined in this paper, it will be difficult to empirically disentangle the effects of remittances from the other effects of migration. New, ingenious ways to identify causation will therefore have to be found.



# Appendices

Tables

Table 1: Average percentage of migrant households in municipalities electing PRI and opposition party in 2000-2002, conditional on the nature of the incumbent party at the time of elections.

	<b>PRI Win 2000-02</b>	<b>Opposition Win 2000-02</b>	<b>Difference</b>
<b>All Municipalities</b>	11.69%	13.37%	1.68%
<b>PRI Incumbent</b>	11.33%	13.58%	2.25%
<b>Opposition Incumbent</b>	12.90%	13.08%	0.18%

Table 2: Electoral history of municipalities by state

	<b>Continuous PRI</b>	<b>Had Opposition</b>	<b>No. Municipalities</b>
<b>Aguascalientes</b>	27.27%	72.73%	11
<b>Baja California</b>	0.00%	100.00%	5
<b>Baja California Sur</b>	0.00%	100.00%	5
<b>Campeche</b>	88.98%	11.11%	9
<b>Coahuila</b>	55.26%	44.74%	38
<b>Colima</b>	50.00%	50.00%	10
<b>Chiapas</b>	48.00%	52.00%	100
<b>Chihuahua</b>	50.75%	49.25%	67
<b>Durango</b>	41.03%	58.97%	39
<b>Guanajuato</b>	26.09%	73.91%	46
<b>Guerrero</b>	52.63%	47.37%	76
<b>Hidalgo</b>	65.48%	34.52%	84
<b>Jalisco</b>	26.61%	73.39%	124
<b>Mexico</b>	54.10%	45.90%	122
<b>Michoacan</b>	16.96%	83.04%	112
<b>Morelos</b>	46.88%	53.13%	32
<b>Nayarit</b>	65.00%	35.00%	20
<b>Nuevo Leon</b>	62.75%	37.25%	51
<b>Oaxaca</b>	46.67%	53.33%	150
<b>Puebla</b>	69.91%	30.09%	216
<b>Queretaro</b>	83.33%	16.67%	18
<b>Quintana Roo</b>	100.00%	0.00%	8
<b>San Luis Potosi</b>	53.45%	46.55%	58
<b>Sinaloa</b>	55.56%	44.44%	18
<b>Sonora</b>	54.17%	45.83%	72
<b>Tabasco</b>	70.59%	29.41%	17
<b>Tamaulipas</b>	67.44%	32.56%	43
<b>Tlaxcala</b>	57.63%	42.37%	59
<b>Veracruz</b>	35.71%	64.29%	210
<b>Yucatan</b>	70.75%	29.25%	106
<b>Zacatecas</b>	48.21%	51.79%	56

Table 3: Summary Statistics

	<b>Obs</b>	<b>Mean</b>	<b>Std Dev</b>	<b>Min</b>	<b>Max</b>
<b>Opposition</b>	1982	0.41	0.49	0.00	1.00
<b>Opposition since 1980</b>	1982	0.50	0.50	0.00	1.00
<b>Migration</b>	1982	0.12	0.12	0.00	0.63
<b>Federal Elections</b>	1982	0.36	0.11	0.03	0.73
<b>Distance Border</b>	1982	657.90	264.76	0.00	1357.53
<b>North</b>	1982	0.24	0.43	0.00	1.00
<b>Year 2001</b>	1982	0.50	0.50	0.00	1.00
<b>Year 2002</b>	1982	0.12	0.32	0.00	1.00
<b>Average Labor Income</b>	1982	2374.77	1759.85	86.96	26948.09
<b>Std Dev Labor Income</b>	1982	6687.24	11863.04	525.25	196657.80
<b>Unemployment</b>	1982	0.01	0.01	0.00	0.11
<b>Illiterate</b>	1982	0.17	0.11	0.01	0.72
<b>Indigenous</b>	1982	0.15	0.28	0.00	1.00
<b>Population</b>	1982	43864.20	117968.54	279.00	1646319.00
<b>Schooling</b>	1982	5.37	1.44	0.93	10.50
<b>Distance Juarez</b>	1982	1959.84	623.53	1.00	2917.00
<b>Historic Migration</b>	1982	0.0001	0.0002	0.0000	0.0007
<b>Opposition94</b>	1982	0.22	0.41	0	1
<b>Opposition97</b>	1982	0.43	0.50	0	1
<b>Internal Migration</b>	1982	0.03	0.05	0	2.00
<b>Return Migration</b>	1982	0.18	0.40	0	9

Table 4: Probit

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
	<b>ALL</b>	<b>ALL</b>	<b>ALL</b>	<b>Cont. PRI</b>	<b>Cont. PRI</b>	<b>Cont. PRI</b>	<b>Opposition</b>	<b>Opposition</b>	<b>Opposition</b>
<b>Migration</b>	0.0032 <i>0.000***</i>	0.0015 <i>0.114</i>	0.0024 <i>0.027**</i>	0.0022 <i>0.060*</i>	0.0018 <i>0.114</i>	0.0025 <i>0.055*</i>	0.0029 <i>0.031**</i>	0.0008 <i>0.569</i>	0.0013 <i>0.409</i>
<b>Federal Elections</b>		0.0167 <i>0.000***</i>	0.0155 <i>0.000***</i>		0.0133 <i>0.000***</i>	0.0127 <i>0.000***</i>		0.0162 <i>0.000***</i>	0.0149 <i>0.000***</i>
<b>All Controls</b>	NO	NO	YES	NO	NO	YES	NO	NO	YES
<b>Observations</b>	1982	1982	1982	996	996	996	986	986	986

Table 5: IV Probit

	1	2	3	4	5	6	7	8	9
	ALL	ALL	ALL	Cont. PRI	Cont. PRI	Cont. PRI	Opposition	Opposition	Opposition
<b>Migration</b>	0.0107 <i>0.000***</i>	0.0045 <i>0.011**</i>	0.0064 <i>0.004***</i>	0.0084 <i>0.001***</i>	0.0055 <i>0.035**</i>	0.0075 <i>0.018**</i>	0.0079 <i>0.000***</i>	0.0031 <i>0.169</i>	0.0043 <i>0.151</i>
<b>Federal Elections</b>		0.0162 <i>0.000***</i>	0.0145 <i>0.000***</i>		0.0130 <i>0.000***</i>	0.0119 <i>0.000***</i>		0.0157 <i>0.000***</i>	0.0141 <i>0.000***</i>
<b>First Stage:</b>									
<b>Distance Juarez</b>	-0.0066 <i>0.000***</i>	-0.0068 <i>0.000***</i>	-0.0061 <i>0.000***</i>	-0.0074 <i>0.000***</i>	-0.0075 <i>0.000***</i>	-0.0061 <i>0.000***</i>	-0.0060 <i>0.000***</i>	-0.0060 <i>0.000***</i>	-0.0059 <i>0.000***</i>
<b>Historic Migration</b>	37790 <i>0.000***</i>	38135 <i>0.000***</i>	31989 <i>0.000***</i>	36871 <i>0.000***</i>	37133 <i>0.000***</i>	32072 <i>0.000***</i>	39337 <i>0.000***</i>	39237 <i>0.000***</i>	31518 <i>0.000***</i>
<b>Endogeneity</b>	0.00	0.04	0.03	0.01	0.12	0.09	0.00	0.18	0.23
<b>OIR</b>	0.88	0.37	0.19	0.87	0.90	0.70	0.96	0.34	0.23
<b>F Statistic</b>	352.25	314.53	234.31	101.36	97.45	73.25	253.54	219.95	152.90
<b>Partial R-Squared</b>	0.30	0.28	0.23	0.21	0.21	0.17	0.38	0.36	0.29
<b>All Controls</b>	NO	NO	YES	NO	NO	YES	NO	NO	YES
<b>Observations</b>	1982	1982	1982	996	996	996	986	986	986

Table 6: Outcome: Had non-PRI government by 1994 and 1997

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
	<b>Probit</b> <b>94</b>	<b>Probit</b> <b>97</b>	<b>IV Probit</b> <b>94</b>	<b>IV Probit</b> <b>97</b>	<b>IV Probit</b> <b>94</b>	<b>IV Probit</b> <b>97</b>
<b>Migration</b>	0.07 <i>0.373</i>	0.30 <i>0.001***</i>	1.70 <i>0.016**</i>	3.48 <i>0.000***</i>	1.86 <i>0.000***</i>	3.42 <i>0.000***</i>
<b>First Stage:</b>						
<b>Distance Juarez</b>			-0.0001 <i>0.000***</i>	-0.0001 <i>0.000***</i>	-0.0001 <i>0.000***</i>	-0.0001 <i>0.000***</i>
<b>Historic Migration</b>					377.90 <i>0.000***</i>	377.90 <i>0.000***</i>
<b>Endogeneity</b>			0.03	0.00	0.00	0.00
<b>OIR</b>					0.56	0.98
<b>F Statistic</b>			260.33	260.33	352.25	352.25
<b>Partial R-Squared</b>			0.13	0.13	0.30	0.30
<b>All Controls</b>	NO	NO	NO	NO	NO	NO
<b>Observations</b>	1982	1982	1982	1982	1982	1982

Table 7: Robustness Checks

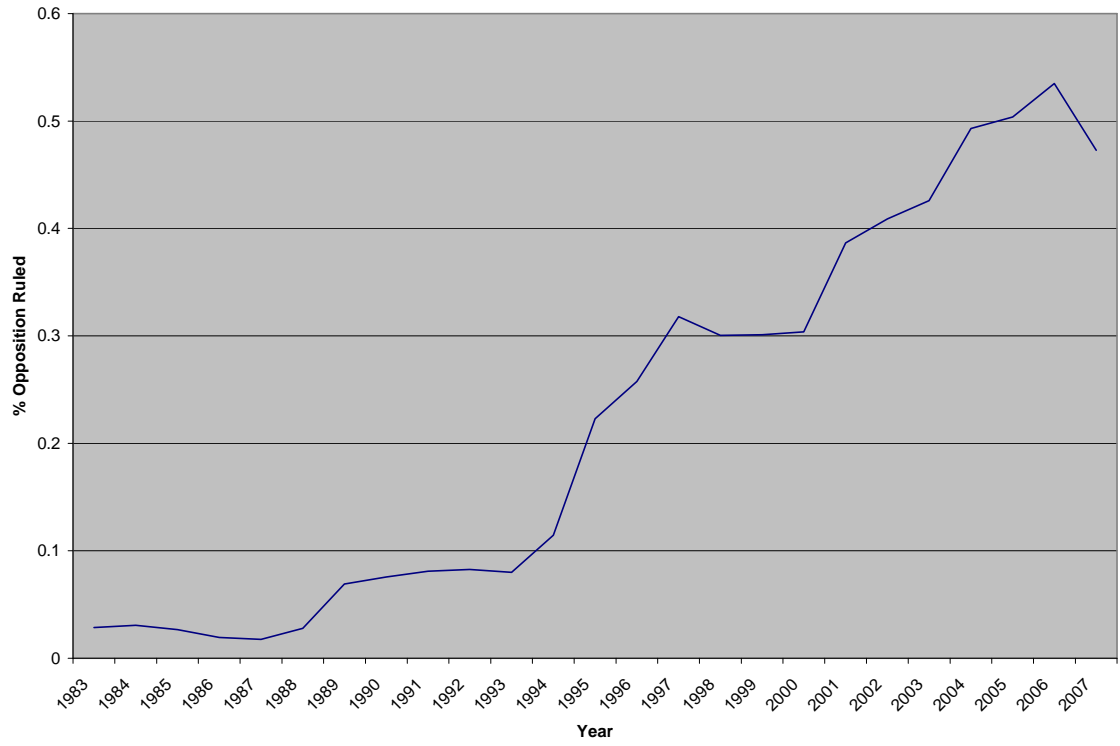
	1		2		3		4		5		6		7		8	
	Cont. PRI	Cont. PRI	Cont. PRI	Cont. PRI	Cont. PRI	Cont. PRI	Cont. PRI	Cont. PRI	Opposition	Opposition	Opposition	Opposition	Opposition	Opposition	Opposition	Opposition
<b>Migration</b>	0.0084 <i>0.001***</i>	0.0082 <i>0.001***</i>	0.0054 <i>0.037**</i>	0.0053 <i>0.040**</i>	0.0084 <i>0.000***</i>	0.0077 <i>0.000***</i>	0.0035 <i>0.135</i>	0.0031 <i>0.178</i>								
<b>Federal Elections</b>			0.0130 <i>0.000***</i>	0.0129 <i>0.000***</i>			0.0158 <i>0.000***</i>	0.0157 <i>0.000***</i>								
<b>Internal Migration</b>	-0.0013 <i>0.582</i>		-0.0017 <i>0.418</i>		0.0126 <i>0.182</i>		0.0120 <i>0.208</i>									
<b>Return Migration</b>		0.05 <i>0.154</i>		0.04 <i>0.149</i>		0.05 <i>0.347</i>		0.01 <i>0.8</i>								
<b>First Stage:</b>																
<b>Distance Juarez</b>	-0.0075 <i>0.000***</i>	-0.0074 <i>0.000***</i>	-0.0076 <i>0.000***</i>	-0.0075 <i>0.000***</i>	-0.0057 <i>0.000***</i>	-0.0063 <i>0.000***</i>	-0.0057 <i>0.000***</i>	-0.0062 <i>0.000***</i>								
<b>Historic Migration</b>	36619 <i>0.000***</i>	36866 <i>0.000***</i>	36881 <i>0.000***</i>	37134 <i>0.000***</i>	38314 <i>0.000***</i>	39198 <i>0.000***</i>	38257 <i>0.000***</i>	39081 <i>0.000***</i>								
<b>Endogeneity</b>	0.01	0.01	0.12	0.13	0.00	0.00	0.18	0.19								
<b>OIR</b>	0.87	0.94	0.91	0.85	0.93	0.88	0.35	0.31								
<b>F Statistic</b>	102.15	100.53	98.28	96.93	240.04	252.71	210.84	219.77								
<b>Partial R-Squared</b>	0.21	0.21	0.21	0.20	0.37	0.38	0.35	0.36								
<b>All Controls</b>	NO	NO	NO	NO	NO	NO	NO	NO								
<b>Observations</b>	996	996	996	996	986	986	986	986								



Figures



Figure 1: Proportion of municipalities with a non-Pri government since 1983



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