Remittances: The Migrant Worker’s Absentee Ballot

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The PRI’s stranglehold on the office of the presidency of the United States of Mexico was officially terminated by the results of an election held in June of 2000. After 71 years of residency in Los Pinos, the PRI was forced to cede control of the executive branch of government to the PAN candidate, Vicente Fox. This outcome was unanticipated and came as a shock to many. Some have gone so far as to call the 2000 election a “transition” to democracy (Tamayo, 2). While the word transition implies Mexico was something other than a democracy prior to the 2000 election, and serves to give an incorrect impression of the character of the pre-2000 regime, it is largely accepted that the election marked a turning point in the quality of democracy enjoyed by Mexican citizens. Rather than proposing to explain the “transition” to democracy evidenced by the election, I will attempt to explain the significant progress in the process of democratic consolidation evidenced by the outcome of the 2000 Mexican presidential election (Schmitter).

I am operating under the well-documented assumption that the PRI habitually engages in the practice of clientelism as a means of obtaining elected office, on both a local and national scale (“Rural Town”). In addition, I am operating under a second assumption: the efficacy of clientelism, as a means of obtaining votes, decreases as the average income of a given geographic compartment increases. In other words, in a municipality where parents can afford to buy books for their children, a new library would in all likelihood not be appreciated as much by the residents on election day, as in a locale where parents cannot afford to send their children to school. A third and final assumption I make, here, is that a large inflow of remittances into a given region, will contribute to an increase in the income of the inhabitants of that region, on average. The third assumption is the most tenuous, therefore, while literature on the subject is scarce, in order to establish the credibility of my hypothesis, I will review some of the literature evaluating the impact of migration and remittances on the Mexican political macro- and micro-economy.

Leigh Binford in her work on migration between Central Mexico and New York City, identifies the impact of the remittances migrant workers send back to Mexico as having a major economic impact on the remittance-receiving community. She notes that migrants send remittances to family members and friends, “...to purchase food, clothing and other basic items, to improve homes, and/or to fulfill migrant’s and others’ obligations to local public works...migrants, at least those from small rural communities, invest remittances productively, purchasing livestock or establishing small businesses” (1). The use of remittances for public projects and investment in local business contributes to an improvement in the economic situation of those living in the remittance-receiving community.

From a comparative perspective, but on an even grander scale, Elisabeth Wood writes about the impact of remittances in El Salvador, in her work *Forging Democracy from Below.*
Moving away from the local economy, to the national, she opines, “Elites [in El Salvador] formed a conservative oligarchy dependent on coercive agriculture before the war and emerged from the conflict with their core interests redirected toward the remittance-fed boom in commerce, financial services, construction, and real estate” (64). While the effect of remittances on the construction of democracy in El Salvador was very different from the process posited for Mexico, the fact that remittances were crucial to creating a domestic market for consumer goods in El Salvador implies that remittances were crucial to increasing the capital available for expenditure on consumer goods among the remittance-receiving communities.

Throughout the remainder of this text, I will discuss the testing and result of such testing of the following hypothesis: The PRI’s clientelist method of vote-getting is least effective in those areas of Mexico where the inflow of remittances is relatively high. Since the amount of remittances coming in to Mexico increases every year, if my hypothesis is shown to be correct then it would be possible to conclude that the increasing flow of remittances may have been a factor in the recent move towards a consolidation of democracy in Mexico (i.e., the defeat of the PRI’s presidential candidate for the first time in 71 years) (Binford, 5). A remittance will be defined, here, as the portion of the income of international migrants with temporary or permanent residence in the country where they work, and that is transferred from the country of destination to the country of origin (Lozano, 5). In addition, clientelism will be defined broadly, as the exchange of political support for tangible benefits (Cross).

I will run two parallel empirical tests in order to ascertain an estimate of the accuracy of my hypothesis. The first test will attempt to determine the effect of the flow of remittances into a given geographic region in Mexico on the percentage of that region’s total vote won by the PAN. The second test will attempt to determine the effect of the flow of remittances into a given geographic region in Mexico on the percentage of that region’s total vote won by the PRI. For the first test, my dependent variable is the vote for PAN and my independent variable is the volume of the inflow of remittances. For the second test, my dependent variable is the vote for PRI and my independent variable is, again, the volume of the inflow of remittances.

The data available on the inflow of remittances into a particular region is limited. For the task at hand, I have decided to use 1990 estimates of remittance inflows, estimated per state in 1990 U.S. millions of dollars. However, it is necessary to note the limitations of the data I have chosen. First, and perhaps most importantly, these estimates are only provided for sixteen of the thirty-two states which comprise the United States of Mexico. Fernando Lozano Ascencio, the author who compiled this data was interested in analyzing the economic weight that Mexican remittances have inside the country. He states, “…it is likely that the economic effect would be greater in certain states of Mexico, particularly in those where migration to the United States has traditionally been concentrated” (66). Because of the author’s bias in constructing his
sample, my study will fall victim in like manner. Those states omitted by Lozano differ from the sixteen included in at least one important respect: while the Banco de Mexico identifies the aforementioned sixteen states as remittance-receiving entities, after conducting a sampling of transfers, the national bank concluded that the remaining sixteen are not remittance-receiving entities (Lozano, 66). It must be noted that the results of my tests will not be representative of all thirty-two Mexican states; rather, they will attempt to be representative of only those states where remittances contribute to the economy (i.e., the sixteen states identified by Banco de Mexico in 1990).

The vote for PAN is measured here, by the percentage of the total vote of a particular state won by the presidential and senatorial PAN candidates, in the 1994 and 2000. The vote for PRI is measured by the percentage of the total vote of a particular state won by the presidential and senatorial PRI candidates, in the 1994 and 2000 elections. As I am only concerned with the previously defined set of sixteen states, I have only assessed the vote for the PRI and the PAN for those same sixteen states. In addition, I have created two dummy variables: (1) elec2000 and (2) pres. The first dummy variable allows me to control for a confounding effect caused by the year of the election and the second dummy variable allows me to control for any confounding effect caused by the type of election, whether or not the race was for national or local office (i.e., for the Presidency or for the Senate). For the variable elec2000, the percentage of the vote won by the PRI and PAN was assigned a value of one if it was the result of the 2000 election and zero if it was the result of the 1994 election. For the variable pres, the percentage of the vote won by the PRI and PAN was assigned a value of one if it represented the vote for the presidential candidate, either in 1994 or 2000, and a value of zero if it represented the vote for the senatorial candidates.

Since voting behavior is a very complex action that can be determined by an almost infinite number of variables, it is necessary to control for confounding factors (Luttbreg and Gant). For example, a positive correlation between the volume of the inflow of remittances into states and the vote for PAN may in fact be due to a confounding variable such as education level; perhaps those with greater levels of education happen to live in the very same states where there are high inflows of remittances. In the limited space I have at my disposal I will control for the following three factors, agreed upon by scholars of voting behavior as influential: (1) level of education, (2) rural/urban surroundings, and (3) level of income. This list is clearly incomplete, however, it will provide a partial sketch of possible confounding factors and in this case, a partial sketch is preferable to a blank page. Level of education will be measured by the percentage of the state population that is illiterate; the rural/urban surroundings will be measured by the population density of the state, in habitants per kilometer squared; and the level of income will be indicated by the percentage of the state population earning more than five times the state’s
minimum wage. The states examined will again, be limited to the aforementioned set of sixteen states.

All of the variables I am incorporating into my tests are quantitative continuous variables, in that the variables are measured by numbers and that the difference between the values can be arbitrarily small or large (FPP, 42-43). Since both of my dependent and all of my independent variables are continuous and quantitative, I will be looking at the results of correlation, regression and a t-test for the regression coefficient automatically performed by stata. If my hypothesis is correct, I would expect to see a moderate positive correlation between the variable measuring the inflow of remittances and the vote for PAN, on the other hand, I would expect to see a moderate negative correlation between the variable measuring the inflow of remittance and the vote for PRI. In addition, I would expect that such correlation would be proven statistically significant by means of regression and t-tests for the significance of the regression coefficient.

Table 1 summarizes all of the variables present in my data set. The average inflow of remittances of the sixteen states is 115.36 million dollars, however, it is important to note that the standard deviation is relatively large at 90.55 million dollars. The average percentage of the vote won by the PAN was 30.84 percent with a moderate standard deviation of 12.58 percent. The average percentage of the vote won by the PRI was 44.82 percent with a standard deviation of 9.82 percent. The average illiteracy rate was equal to 11.6 percent with a standard deviation of 5.83 percent. The average population density was 467.88 inhabitants per kilometer squared with a standard deviation of 1352.48 inhabitants per kilometer squared. This very large standard deviation represents the range of urbanization among the sixteen states examined here. The average percentage of the population earning more than five times its states minimum wage was equal to 10.09 percent with a moderate standard deviation of 3.43 percent.

Table 4 shows the vote for the PRI and the vote for the PAN, sorted by election year, using the dummy variable “elec2000”. The vote for the PRI in the 2000 election dropped from the 1994 level by approximately fourteen percentage points, while the vote for the PAN increased by approximately fourteen percentage points.

Table 6 shows the vote for the PRI and the vote for the PAN, sorted by type of election, using the dummy variable “pres”. The percentage of the vote garnered by the PRI remained the same when only the results of senatorial elections were considered. In contrast, the percentage of the vote garnered by the PAN decreased by approximately one percentage point when only the results of senatorial elections were considered. In terms of the presidential elections, the vote for the PRI remained relatively unchanged when only the results of presidential elections were considered. However, the vote for the PAN increased by one percentage point when only the results of presidential elections were considered. It is possible that the increase in the PAN vote
in national versus local elections reflects the fact that clientelist practices are more common and more effective on a local scale.

Table 10 shows the correlation between the dependent variable of vote for PAN and the independent variables of amount of remittances, illiteracy rate, population density and percentage of population receiving remuneration in excess of five times the state minimum wage. The essential figures shown in this table are the correlation coefficients. The correlation coefficient, when positive and close to +1 indicates a strong positive association between two variables. On the other hand, when the correlation coefficient is negative and close to -1, a strong negative association between two variables is indicated. The correlation coefficient can never exceed +1 (perfect positive association) or fall below -1 (perfect negative association) (FPP, 139).

Table 10 shows a correlation coefficient of -.0042, between the variables of vote for PAN and amount of remittance, a value that is not statistically distinguishable from zero (Hamilton, 134). This indicates that there is no association between the two variables.

Table 11 shows the correlation between the dependent variable of vote for PRI and the independent variables of amount of remittances, illiteracy rate, population density and percentage of population receiving remuneration in excess of five times the state minimum wage. The correlation coefficient measuring the association between the vote for PRI and the amount of remittances is equal to -.4140, indicating a moderate and negative association. This number lends support to my hypothesis, but it is necessary to run a regression and control for possible confounding factors before drawing any conclusions. In addition, it is imperative to remember that the correlation coefficient measures association and association does not necessarily show causation. It may only show that both variables are simultaneously influenced by a third variable (FPP, 156).

Table 16 shows the regression table for vote for PAN and the amount of remittances. Since the correlation yielded no association between the two variables, it is not surprising that the regression table shows no evidence of a relationship between them. This additional evidence indicating a lack of a relationship between these two variables does not support my hypothesis.

Table 17 shows the regression table for vote for PRI and the amount of remittances. There seems to be a very weak decrease in the dependent variable associated with a standard unit increase in the independent variable. However, it is encouraging that the results are statistically significant since the P-value is less than .05. This regression table yields the following prediction equation:

\[
predicted PRI = -.0449rem + 50.0000
\]
Seeing as how the evidence so far has stacked up against a relationship between vote for PAN and the amount of remittances and in the interest of brevity, from herein, the focus will be on testing the relationship between the vote for PRI and the amount of remittances.

In order to control for the effect of confounding factors, it is necessary to run multiple regressions. After running regressions between vote for PRI, amount of remittances and the possible confounding factors of illiteracy rate, population density and percentage of population receiving remuneration in excess of five times the state minimum wage respectively and then simultaneously, by monitoring any variation in the slope, I was able to conclude that the year of the election does not appear to be a confounding factor (see table 20), the type of election does not appear to be a confounding factor (see table 22), the illiteracy rate does not appear to be a confounding factor (see table 26), and the rate of remuneration does not appear to be a confounding factor (see table 28).

The only variable that appears to be a confounding factor is that of population density. Table 30 shows a change in the slope from the previously described prediction equation. The new prediction equation, controlling for the effect of population density would read as follows:

\[
\text{predicted } PRI = -.0349rem - .0014density + 49.5023
\]

While taking into account the population density did alter the slope of the regression equation, it did not weaken the decrease in the vote for PRI associated with a standard unit increase in the amount of remittances by a relatively significant amount. In addition, while the relationship between the amount of remittances and the vote for the PRI remained statistically significant, the relationship between the population density and the vote for the PRI did not pass the t-test for the regression coefficient with a P-value of .139.

Upon completing the statistical tests of correlation, regression and t-tests for significance of the regression coefficient, and weighing the statistical evidence before me, I cannot conclude that my hypothesis is correct. In fact, a portion of my hypothesis at this point appears to be incorrect. The first part of my hypothesis anticipated a positive moderate correlation between the percentage of the state vote garnered by the PAN and the inflow of remittances per state. This correlation was not observed.

The second part of my hypothesis, however, anticipated a negative moderate correlation between the percentage of the state vote garnered by the PRI and the inflow of remittances per state. I did observe a negative correlation between these two variables, in accordance with my hypothesis, however, when a superior statistical test was conducted, and the regression table was displayed, the relationship weakened substantially. In addition, it is possible that my test was the victim of ecological correlation. Ecological correlations are based on rates or averages. They
are often used in political science and sociology. And they tend to overstate the strength of an association (FPP, 149). It is possible, due to the fact that my correlations relied on averages for the relatively large and diversely made up entities of Mexican states, that any association observed was overstated. The use of data for municipalities as opposed to by the larger category of the state might help to provide more accurate results, and to avoid the distortion associated with ecological correlations.

While, I only ran tests for confounding variables with the vote for the PRI as my dependent variable, I did not find that any of the potential confounding variables had an effect on the slope of the regression line (i.e., the increase in the dependent variable associated with a standard unit increase in the independent variable).
Variable Key

state: refers to name of Mexican state (IFE).
rem: refers to estimate of remittance inflows in millions of 1990 U.S. dollars for the
year of 1990 (Lozano, 65).
PAN: refers to percentage of total state vote won by the PAN candidate for president
or senator in the 1994 and 2000 elections (IFE).
PRI: refers to percentage of total state vote won by the PRI candidate for president or
senator in the 1994 and 2000 elections (IFE).
elec2000: a dummy variable used to control for year of election. A value of one is
assigned to results of the 2000 election and a value of zero is assigned to results of the
1994 election (IFE).
pres: a dummy variable used to control for the type of election. A value of one is
assigned to results of the 1994 and 2000 presidential elections and a value of zero is
assigned to results of the 1994 and 2000 senatorial elections (IFE).
illit: refers to the percentage of the state population that is illiterate as of the year
2000 (INEGI).
density: refers to the population density of a state, measured by number of inhabitants
per kilometer squared as of the year 2000 (INEGI).
remun: refers to the percentage of the state population earning more than five times
the state’s minimum wage as of the year 2000 (INEGI).

State Abbreviations

Aguas: Aguascalientes
Dur: Durango
FD: Federal District or Distrito Federal
Guan: Guanajato
Guer: Guerrero
Hid: Hidalgo
Jal: Jalisco
Mex: State of Mexico or Estado de Mexico
Mich: Michoacan
Mor: Morelos
Nay: Nayarit
Oax: Oaxaca
Quer: Queretaro
San LP: San Luis Potosi
Sin: Sinaloa
Zac: Zacatecas
Works Cited


