

Social and Regional Factors in the 2006 Presidential Election: Some County-Level Aggregate Data Findings

Joseph L. Klesner
Kenyon College

August 8, 2006

Applying the model used in Klesner (2005) to the presidential and Chamber of Deputies electoral results posted on the IFE's website we find that the regional concentration of support for the PAN and the PRD has intensified, returning to the levels last witnessed in 1997. Table 1 reprints the multiple-regression analysis of county-level (*municipio*) data printed in Klesner (2005). Table 2 shows that model applied to the 2006 electoral results.¹ The unstandardized regression coefficients for the 2006 presidential election are remarkably similar to those of 1997. In the 2000 election, regional factors played a less significant role than in earlier election years owing to Vicente Fox's success at focusing the election on regime change and the related weakness of the PRD's candidate.

In brief, the model presented here considers three groups of factors as explanatory variables: modernization, region, and religion. The model uses three separate indicators of "modernization": urbanization, the percent of the workforce in the manufacturing and construction sectors (the secondary sector), and literacy. Experience has shown that these three variables can be used together in a multiple regression analysis because the inter-correlation among them is relatively low (among the several possible variables tapping modernization and the structure of society) so that multicollinearity among the explanatory variables is minimized. The percentage of the population in a *municipio* that is Catholic varies much more at the county level than at the district or state levels. The regional breakdown that I use here is the same as I've used in several earlier articles—it separates the Federal District and the state of México from other central states (Tlaxcala, Morelos, Hidalgo, and Puebla) on the grounds that the greater Mexico City area has distinct political characteristics. The remainder of the central states form the base case on which the model is created.

We see here that Felipe Calderón performed better in more urban *municipios* where the percentage of Catholics was higher, the population had a higher literacy rate, and a greater share of the workforce was employed in the secondary sector. This has been the standard PAN profile for a long time. López Obrador, in contrast, did better in *municipios* that are somewhat less urban, where the population is not concentrated in manufacturing and construction, and where there are relatively fewer self-professed Catholics. He,

¹ This analysis presents OLS estimates. Strictly speaking, the analysis should be estimated through seemingly-unrelated regression.

too, won higher vote shares where the population has a higher literacy rate. Finally, in keeping with the PRI's recent experience, Madrazo did better in more rural *municipios* with a relatively low share of self-professed Catholics where more people were unable to read. The PRI, too, does relatively well in *municipios* where more people are employed in the secondary sector.

Beyond these long-standing social and religious factors, Calderón did markedly better in the north and the center-west, receiving a vote share as much as 9 percent higher in the north and 10 percent higher in the west than the base case (center region), but fully 10 percent lower in the Federal District and Edomex, even after controlling for the variables discussed in the previous paragraph. This is the worst the PAN has ever done in greater Mexico City. On the other side of the spectrum, López Obrador received a vote share 15 percent lower in the north and almost 13 percent lower in the west than what he received in the center region (the comparison case), but his greater Mexico City result was 15 percent higher. The regional variables display less extreme estimates for Madrazo.

Another interesting question regards the remarkable dropoff in votes for Madrazo compared to the PRI's congressional candidates. Table 3 shows a regression analysis in which the dependent variable is the difference between the vote share for the PRI Chamber of Deputy candidate(s) in a *municipio* and the percentage that Madrazo won. For simplicity, I used the same explanatory factors, although this analysis deserves much more extensive exploration with additional independent variables. Most notable here is that where the literacy rate is higher and the Catholic percentage of the population is greater, the difference between the PRI congressional and presidential candidates is greatest. In other words, Madrazo dropped off most where the population is better educated and more Catholic. This tended to occur in urban areas, but was less marked in greater Mexico City (after other factors are controlled for in the multiple regression analysis). Clearly this phenomenon deserves greater consideration, but it suggests that those most able to discriminate and most able to engage in strategic voting apparently did so.

Last, some brief considerations about turnout. Using the same explanatory variables less the regional variables, we find that turnout was higher in urban areas with high concentrations of literate voters employed in the secondary sector of the economy. Areas with concentrations of Catholics had higher turnout rates than those with fewer Catholics. These variables are by no means the most important for explaining electoral participation in this context, but I offer them as some evidence about *social* bases of turnout.

Source:

Klesner, Joseph L. 2005. "Electoral Competition and the New Party System in Mexico," *Latin American Politics and Society*, 47, 2 (Summer): 103-142.

Table 1. Federal Deputy Elections, 1991–2003 (multiple regression analysis)

Variable	PAN					PRI					PRD				
	1991	1994	1997	2000	2003	1991	1994	1997	2000	2003	1991	1994	1997	2000	2003
Constant	-0.12	-0.24	-0.28	-0.32	-0.13	0.80	0.55	0.93	0.92	0.65	0.17	0.52	0.30	0.40	0.27
Population in towns > 20,000 (%)	0.13	0.11	0.12	0.16	0.10	-0.13	-0.12	-0.12	-0.13	-0.10	-0.02	-0.01	-0.02	-0.05	-0.04
Population employed in manufacturing (%)	0.18	0.17	0.26	0.31	0.16	-0.13	-0.01	0.04	0.01	0.17	-0.10	-0.15	-0.29	-0.30	-0.27
Catholic %	0.12	0.25	0.27	0.20	0.13	-0.04	0.09	-0.17	-0.13	-0.17	-0.02	-0.37	-0.16	-0.09	0.06
Literate %	0.08	0.33	0.15	0.42	0.23	-0.04	-0.10	-0.36	-0.41	-0.13	-0.06	-0.04	0.21	-0.04	-0.06
North	0.09	0.03	0.11	-0.02	0.03	0.02	0.05	0.03	0.08	0.05	-0.04	-0.07	-0.13	-0.04	-0.05
South	-0.01	-0.02	0.03	-0.01	0.01	0.03	-0.01	-0.01	-0.01	-0.02	-0.01	0.04	-0.01	0.03	-0.01
Mexico City area	-0.02	-0.07	-0.08	-0.08	-0.06	-0.11	-0.03	-0.09	-0.06	-0.16	0.05	0.07	0.14	0.12	0.22
Center-West	0.07	0.05	0.14	0.04	0.06	-0.03	-0.02	-0.05	-0.02	-0.04	0.02	-0.01	-0.08	-0.01	-0.02
R ²	0.45	0.60	0.48	0.54	0.27	0.49	0.41	0.62	0.63	0.50	0.15	0.34	0.40	0.32	0.40
N (number of <i>municipios</i>)	2,412	2,407	2,411	2,426	2,417	2,412	2,407	2,411	2,424	2,426	2,412	2,407	2,411	2,426	2,417

Notes: Unstandardized ordinary least squares estimates. Cases have been weighted by population. All coefficients are statistically significant at the .05 level.

Sources: Electoral data: IFE; demographic and socioeconomic data: INEGI. **This is Table 4 of Klesner (2005).**

Table 2

**Multiple regression analysis of direction of the presidential vote
Municipio-level data**

Explanatory Variables	Calderón				López Obrador				Madrazo			
	Unstandardized Coefficients		Beta	Sig.	Unstandardized Coefficients		Beta	Sig.	Unstandardized Coefficients		Beta	Sig.
	B	Std. Error			B	Std. Error			B	Std. Error		
(Constant)	-0.188	0.036		0.000	0.417	0.038		0.000	0.672	0.021		0.000
Urbanization > 20,000	0.096	0.008	0.263	0.000	-0.025	0.008	-0.064	0.003	-0.080	0.005	-0.332	0.000
Secondary Sector Employment 2000	0.183	0.023	0.134	0.000	-0.264	0.025	-0.180	0.000	0.063	0.014	0.069	0.000
percent Catholic in 2000	0.367	0.030	0.208	0.000	-0.119	0.032	-0.063	0.000	-0.262	0.018	-0.225	0.000
literacy rate 2000	0.143	0.037	0.087	0.000	0.170	0.039	0.097	0.000	-0.262	0.022	-0.242	0.000
North region	0.090	0.007	0.273	0.000	-0.149	0.007	-0.419	0.000	0.065	0.004	0.295	0.000
South region	-0.014	0.007	-0.041	0.054	-0.011	0.008	-0.030	0.159	0.044	0.004	0.188	0.000
Edomex and DF	-0.101	0.008	-0.257	0.000	0.148	0.008	0.352	0.000	-0.037	0.005	-0.142	0.000
Center-West region	0.103	0.007	0.281	0.000	-0.127	0.007	-0.323	0.000	0.034	0.004	0.141	0.000
N=2,426	R Square	Adjusted R Square	F	Sig.	R Square	Adjusted R Square	F	Sig.	R Square	Adjusted R Square	F	Sig.
	0.533	0.531	344.38	.000	0.544	0.543	360.62	.000	0.623	0.622	499.34	.000

OLS estimates. Cases weighted by size using lista nominal (2000).

Table 3**Multiple-regression analysis of drop off in PRI Vote
Municipio-level data**

Explanatory Variables	Unstandardized Coefficients		Beta	Sig.
	B	Std. Error		
(Constant)	-0.082	0.014		0.000
Urbanization > 20,000	0.026	0.003	0.235	0.000
Secondary Sector Employment 2000	-0.040	0.009	-0.095	0.000
percent Catholic in 2000	0.058	0.012	0.107	0.000
literacy rate 2000	0.111	0.014	0.222	0.000
North region	0.010	0.003	0.098	0.000
South region	-0.004	0.003	-0.041	0.121
Edomex and DF	-0.054	0.003	-0.447	0.000
Center-West region	-0.019	0.003	-0.170	0.000
N=2,426	R Square	0.269	Adjusted R Square	0.266

Dependent variable is % PRI in deputy elections minus % to Madrazo.
OLS estimates. Cases weighted by size using lista nominal (2000).

Table 4**Multiple Regression Analysis of Factors Explaining 2006 Turnout
Municipio-level Data**

Explanatory Variables	Unstandardized Coefficients		Beta	Sig.
	B	Std. Error		
(Constant)	0.243	0.020		0.000
Urbanization > 20,000	0.031	0.005	0.158	0.000
Secondary Sector Employment 2000	-0.190	0.014	-0.261	0.000
percent Catholic in 2000	0.214	0.018	0.228	0.000
literacy rate 2000	0.233	0.024	0.266	0.000

Turnout is defined as total votes in the presidential race as a share of the lista nominal. OLS estimates. Cases weighted by size using lista nominal (2000).