

## **“Corruption at the State Level in Mexico under Fox: A Preliminary Look at Change”**

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### **Introduction**

Government-led campaigns in Mexico to battle corruption have been common. These campaigns feature a rhetorical chorus about the ill effects of corruption and the need and seriousness [this time around] of the government to confront corruption head on, the prosecution of a handful of corrupt officials [usually from the prior administration], and legal-institutional reforms designed to strengthen accountability, close gapping loopholes in the system, and promote good governance. For instance in the early 1980s, President Miguel de la Madrid rallied for the “Moral Renovation” of Mexican society. He jailed a few “big fish” like the former heads of PEMEX and the Mexico City police, and built a new ministerial agency, the Secretariat of the Comptroller General and Administrative Development (SECODAM), charged with coordinating the government’s new anti-corruption initiatives and administrative reforms. In hindsight, of course, the continued prevalence of corruption in the country, documented in more recent years by dozens of international and national polls, confirms the failure of these past efforts to effectively or permanently curb deep-seated corruption. Their success in other arenas, like reinvigorating faith in the “reformist” PRI-led government, strengthening or reaffirming presidential control, or deflecting and channeling dissent, is another matter entirely (Morris 1991, 1995).

The anti-corruption campaign unveiled by President Vicente Fox upon taking office in December 2000 departs from the historic pattern. Above all, the campaign takes place within a distinct national and international context. It is not only led by the first non-PRI president in seventy plus years, elected on a mandate for change, but President Fox also inherits a political system far more pluralistic, more decentralized, and more democratic than any of his predecessors. The Fox anti-corruption campaign, moreover, unfolds within a unique international context: one that stresses the consensual negative effects of political corruption and prioritizes and aids, through international organizations and programs, national efforts to combat it. The critical question, of course, is whether the anti-corruption initiatives under Fox will produce more tangible results or whether it will suffer a fate similar to those that came before. One poll in March 2004, for example, showed 68% of respondents endorsing the latter view, that like former governments, the Fox government would only punish a few officials and everything would return to normal (cited in Juarez 2004).

Empirical efforts in the subfield to understand changes in political corruption are strikingly few.<sup>1</sup> This study begins the complex process of addressing the impact of recent changes in Mexico on political corruption. It explores changes in the levels and perceptions of political corruption in Mexico's 32 federal entities (31 states and the Federal District) from 2001 to 2003 based on data from two large national polls. The study draws on the empirical literature to identify and then test possible economic, cultural and political determinants of the changes in corruption, with particular attention to the impact of increasing democratic competition and alternation in power at the state level. Such an exploration helps gauge the impact of recent changes on corruption and the conditions under which anti-corruption initiatives may take hold. Prior to the presentation and analysis of the data, discussion differentiates the current approach from recent studies.

### **The Current Approach and the Literature**

The current analysis of the changes in corruption across Mexican states departs from the literature in three ways. The first difference relates to the unit of analysis. In most empirical studies on corruption the nation-state serves as the unit of analysis. Such cross-national studies have rendered important insights into the causes and consequences of corruption. In this study, by contrast, the focus is on the sub-national unit of the state or federal entity: Mexico's 31 states and the Federal District. This approach helps maintain key national factors constant and facilitates a more detailed analysis of the causes and even consequences of corruption. The few empirical studies focusing on the sub-national unit all come from the United States. Alt and Lassen (2003), Hill (2003), Johnston (1983), Meier and Holbrook (1992), and Schlesinger and Meier (2002), for instance, all offer cross-sectional analyses to explain variations in the levels of corruption across U.S. states. These studies highlight a range of factors also seen as influential at the national level.

The current approach also differs from recent studies in its treatment of the dependent variable. Despite the boom in recent years in empirical research on the causes and consequences of corruption, there has been very little focus on changes in corruption. Just as in the not-too-distant past when few analysts tackled corruption empirically because of the absence of data, there remains a lack of reliable data measuring changes in corruption over time.<sup>2</sup> Though Transparency International (TI) compiles and publishes its widely-used Corruption Perceptions Index (CPI) annually, potentially allowing a means to track corruption over time, the TI data carries a methodological warning about using the index for such purposes. This shortcoming in the literature is particularly problematic because it hampers our ability to gauge the effectiveness of anti-corruption initiatives or the political, economic or cultural conditions that influence change. Cross-sectional studies hint at the impact of certain crucial variables that might influence changes in corruption, but drawing dynamic conclusions from cross-sectional analyses is always a second-best approach.

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<sup>1</sup> Spector, Johnston and Dininio (2005) offer an exception to this trend. This brief study examines a number of countries in an effort to determine what types of anti-corruption efforts seem to produce the best results.

<sup>2</sup> Juarez (2004) offers one example. In a short yet informative study, Juarez tracks public perceptions in Mexico over time, showing how spikes in the importance of corruption as a political issue occurs during periods when corruption scandals dominate the news.

In addition to the use of cross-sectional analysis, most empirical studies of corruption have used popular or expert perceptions of corruption to measure corruption. Such measures are usually taken from Transparency International's Corruption Perception Index as noted earlier. Among others, Seligson (2002) questions this approach, providing a convincing argument for the use of measures looking more at individual participation or experience in corruption as opposed to simple perceptions. As most authors acknowledge, popular or even elite perceptions of corruption, though perhaps related to one's involvement in it, is not the same as actual participation in corrupt acts and the two can behave quite independently (see Del Castillo 2003; Johnston 2000). While in a strict sense, scholarly attention to corruption really refers to a form of behavior such that participation in corruption becomes the most valid measure of the phenomenon, perceptions of corruption are nonetheless important in terms of their impact on regime legitimacy, trust in the political system and leaders, the potential to mobilize the citizenry to fight corruption, and perhaps even political participation. Clearly then both perceptions of corruption and participation in corruption rank as important in analyzing the nature of corruption, its impact, and changes in corruption, especially since changes in one dimension may not reflect changes in the other. Disaggregating the two is therefore important in clarifying the causes, the consequences and the dynamics of corruption.

## Data and Analysis

Measures of perceptions of corruption and participation in corrupt exchanges for this study are taken from the massive 2001 and 2003 *Encuestas Nacional de Corrupción y Buen Gobierno* conducted by *Transparencia Mexicana*. The 2001 survey of households was conducted during June and July, approximately seven months after Fox was sworn-in and thus on the heels of the unveiling of his anti-corruption program. It is based on a probabilistic sample and includes 13,790 interviews nationwide with between 388 to 506 interviews per national entity (Transparencia Mexicana 2001). The *Encuesta Nacional de Corrupción y Buen Gobierno 2003* was also based on a probabilistic sample of 14,019 households with 388 to 514 interviews per national entity and was conducted in June and July mid-way through the Fox *sexenio* and well following the implementation of the Fox anti-corruption campaign in early 2001 and the passage of critical legislation like the Access to Information law in 2002 (Transparencia Mexicana 2003).

Both polls calculate an Index of Corruption and Good Government (ICBG) for each national entity based on respondents' experiences with corruption. This index gauges participation based on a composite measure of the number of occasions within a specified time period that each individual paid a bribe (*mordida*) to obtain 38 different types of public services from the three levels of government. Changes in this index from 2001 to 2003 were recorded for each state. Popular perceptions of corruption for 2001 and 2003 and hence change in perceptions are based on the percentage of respondents within the state agreeing with the statement "politicians are corrupt." A second measure of change in perceptions of corruption comes from a 2003 survey question asking respondents whether corruption has increased, decreased or remained the same during the previous twelve months. Since interest

in this paper centers on decreases in corruption, I use the percentage of respondents stating that corruption had decreased over the prior year as a measure of change. Though like the earlier measure this too records change in the public's perception of corruption, it reflects tendencies over a shorter period of time. Care should be taken when interpreting the results presented below since this last variable moves in the opposite direction of the other two (the higher number means a greater reduction in corruption).

Table 1 lays out the static and dynamic measures of participation and perceptions of corruption for 2001 and 2003 by federal entity. A brief comparison of the 2001 and 2003 data shows that nationally the levels of corruption fell slightly during the period. Participation rates fell in 22 states, led by the Federal District and Michoacán, and increased in 10 states with Puebla and San Luis Potosi registering the greatest increases. Perceptions of corrupt politicians also fell slightly in 19 states, while climbing in 12 states with the largest declines in Coahuila and, interestingly, Puebla, and the sharpest increases in Chiapas and Hidalgo. Finally, in 2003, 19% of respondents nationwide felt that corruption had declined over the prior year, led by the states of Guanajuato and Colima. By contrast, 34% of respondents said that corruption had actually increased during the prior year, while 47% claimed that it had remained the same. In all three areas, the data show a relatively high degree of variation among the states. Data for participation levels (ICBG) for both years are heavily skewed (2.237 for 2001 and 1.367 for 2003) so logs of both measures were calculated (thereby reducing the skewness to less < 1 [.713 and .303 for the two years respectively]) for the subsequent analysis.

[Table 1]

Table 2 presents the simple correlation matrix for these dependent variables. It reveals, first, a strong correlation across the two time periods for participation rates (.71\*\*\*) and perceptions (.59\*\*\*). Partially demonstrating the reliability of these measures, entities with higher levels of corruption in 2001 continued to suffer higher levels in 2003 and vice versa along both dimensions. Second, the matrix shows that the initial levels along both dimensions strongly influenced the changes from 2001 to 2003. States with higher levels of corruption (either participation or perceptions) in 2001, in other words, tended to enjoy the sharpest reductions in corruption over the next two years (-.43\*\*\* for participation, -.50\*\*\* for perceptions). This was also true with respect to perceptions of change in the year prior to 2003 with more respondents sensing a decline in corruption in those entities with initially higher perceived levels of corruption. After all, states with initially high levels of corruption have further to go so like taking off weight, the first steps in the struggle against corruption may be the easiest. Third, as suggested by the mix of states on the two extremes of the most pronounced changes noted earlier, the linkage between participation and perceptions is rather weak. While data show a mildly significant relationship linking the two measures focusing on perceptions of corruption (perceptions of corruption and perceptions of change one year prior to 2003), the relationship between measures of participation and measures of perceptions is weak. The relationship is in the expected direction – with entities measuring high in terms of participation also measuring high in terms of perceptions of corruption – but the correlations are barely significant. Moreover, changes in these two measures -- participation and perceptions over the period -- are clearly unrelated. This suggests that

contrary to expectation participation in corruption has at best only a minimal influence on perceptions of corruption. The one exception that leaps from table 2, of course, actually reverses the causal direction of that expectation. Consistent with the findings of Guerrero and del Castillo (2003) it shows a high positive correlation linking perceptions of corruption in 2001 with subsequent participation in 2003 (.46\*\*\*), suggesting that high perceptions of corruption may indeed feed expectations and thereby influence subsequent participation in corruption.<sup>3</sup>

[Table 2]

### **Determinants of Change**

Though prior studies rely on cross-sectional analysis among countries, the findings are nonetheless suggestive of a series of factors that might impact on changes in corruption. The low N (=32) here prevents the testing of more than a few independent variables at a time so discussion and analysis proceed simultaneously. Three general areas are examined: economic determinants, demographic and cultural determinants, and finally political determinants.

#### Economic Determinants

One of the more robust findings in the empirical literature ties corruption inversely to level of development (Ades and DiTella 1997; Goldsmith 1999; Johnston 1999; Mauro 1995, 1997; Monitolla and Jackman 2000; Xin and Rudel 2004). This suggests that more developed economies have been more successful at reducing corruption than less developed ones. The mechanisms underlying this relationship have been spelled out in numerous writings. Economic development produces a) a more informed and educated citizenry able to hold its government accountable; b) higher levels of pluralism and social capital feeding the formation of autonomous organizations that monitor the use of power by state officials; c) more societal resources available to devote to the creation of an efficient, rational and transparent administration; and d) even more resources to dedicate to oversight, auditing and detecting corruption. For our purposes, of course, this suggests that the Mexican entities with higher levels of development should not only have lower levels of corruption, but may be more effective at reducing corruption. A more dynamic view of this relationships would suggest that economic growth (which over time leads to higher levels of development) provides the wherewithal and the opportunity to reduce corruption. This suggests the hypothesis that the Mexican entities enjoying greater levels of growth during the period should register a greater reduction in the levels of corruption. Yet, this linkage is less straightforward. According to Rose-Ackerman (1999) wealth creation can make reform seem unimportant, while economic crisis, like any other type of crisis such as a scandal, can serve

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<sup>3</sup> To explore briefly the participation/ perception nexus further, I turned to the original individual-based data as opposed to the state-level data. Working with significantly more cases but for each year separately, data confirm a low but statistically significant correlation. For 2001 and 2003, respondents who had participated in corruption were slightly more likely to deem politicians corrupt (.044\*\*) and to see corruption increasing during the prior year (.032\*\*). Strikingly the results were the same for both time periods.

as a stimulus to corruption reforms. Economic crisis can go along way in heightening popular concern and sensitivity to political corruption: a factor arguably shaping popular perceptions of corruption. Looking specifically at the impact of economic growth as opposed to economic development on cross-national levels of corruption, Alli and Isse (2003) fail to uncover any clear relationship linking the two.

A second key economic variable identified in the literature centers on the competitiveness and openness of the economy. Cross-sectional studies by Ades and Di Tella (1997, 1999), Goldsmith (1999), Leite and Weidemann (1999), Paldam (2002), Sachs and Warner (1995), and Triesman (2000) show that countries with more competition and economic freedoms tend to exhibit lower levels of corruption. The basic argument holds that economic competition reduces the opportunities for rent-seeking within society. With businesses facing greater market-based competition, governments become less able to demand bribes. Meanwhile, with limited profit margins owing to competition, businesses are similarly unable to use surpluses to bribe government officials.

Table 3 explores these economic determinants in the case of Mexico. It shows a regression of the three measures of changes in corruption (participation, perception and change in prior year) along an index of human development for 2000, average annual economic growth for 2000 to 2003, and a log of average foreign direct investment per capita from 2001 to 2003 as a measure of the level of economic openness within the state. This latter measure was used because of an absence of data for a number of states for exports: the traditional measure of economic openness. The analysis also controls for the impact of the initial levels of participation and perceptions of corruption given its impact on changes over the period.

[Table 3]

As expected, states with higher levels of human development tend to register a greater reduction in participation rates. Controlling for the impact of the other variables, however, economic growth had no impact on participation in corrupt exchanges. Economic openness had the opposite affect than anticipated. Rather than corruption falling more in states with higher levels of economic openness, participation rates fell less in these entities. Regressed along changes in perceptions of corruption, none of the economic variables were found to be significant. This suggests that while subjective evaluations of the economy may influence perceptions of corruption as demonstrated by recent studies on individual perceptions (Canache and Allison 2005; Davis, et. al 2004), real measures of economic growth are unrelated to changing perceptions of corruption at the state level. Overall, this economic model explains less than a third of the variation of changes in participation and perceptions.

### Demographic and Cultural Determinants

Few analysts incorporate demographic variables into the analysis of corruption. Xin and Rudel (2004), however, uncover a positive relationship linking population size and corruption. This linkage might be explained based on the impact population has on the

demand for public services and hence the possibility of rent-seeking behavior. Earlier analysis on Mexico using the 2001 data also found states with higher populations to have higher levels of corruption. In fact, population exerted the strongest impact on variation in the ICBG in 2001. For this reason, it is hypothesized here that states with larger populations will exhibit slower reductions in corruption than smaller states. Population figures for the year 2000 are taken from INEGI.

The cross-national literature highlights the influence of a number of cultural variables on corruption. Two key factors are interpersonal trust and ethnolinguistic factionalism. Grounded in social capital theory (Putnam 2000), studies by Seligson (2002), La Porta, et al (1997), Davis, et al (2004), and Moreno (2002) all show interpersonal trust to lower the levels of corruption across nations. Trust translates into a propensity for citizens to work together to resolve social problems and to hold government accountable. It can therefore be hypothesized that interpersonal trust helps entities reduce the levels of corruption. The current model incorporates a measure of interpersonal trust from the 2001 survey as well as the change in trust from 2001 to 2003. Interpersonal trust is measured in both surveys using the question: "Generally speaking, would you say that you can or cannot trust most people?" A second cultural factor relates to the broader pattern of the culture. Studies by Ali and Isse (1999), Easterly and Levine (1997), Mauro (1995), and Tanzi (1998) all find corruption to be lower in countries with lower levels of ethnolinguistic factionalitation. To explore this factors, I use the percentage of indigenous population in the state according to the 2000 census. It is hypothesized that states with higher levels of ethnolinguistic factionalism will be less effective at reducing corruption.

[Table4]

As shown in Table 4, these demographic and cultural variables have virtually no impact on changes in participation or perceptions corruption. Controlling for other factors, population exerted no influence on the changes in corruption despite its linkage to initial levels of corruption. Interpersonal trust influenced changes in corruption in the expected direction -- with states with higher levels of trust exhibiting greater reductions in participation and perceptions of corruption -- but the impact is rather small and not statistically significant. Ethnolinguistic divisions measured by the percentage of the indigenous population, by contrast, showed a varied impact on the dependent variables. States with larger indigenous populations enjoyed greater reductions in participation rates, but lower reductions in the perceptions of corruption, though neither measure is statistically significant. Overall, as shown, the model explains very little of the variation in participation and perceptions.

### Political Determinants

The literature highlights a range of political determinants of corruption. One general area centers on liberty, democracy, and political competitiveness. Many studies suggest that in the long-run at least democracy contributes to lower levels of corruption. Electoral competition sets in motion demands for more efficient administration, greater checks on

power, accountability, and transparency, all resulting in lower levels of corruption. According to Rose-Ackerman (1999) democracy diminishes corruption because elections constrain the greed of politicians and promote civil liberties which pry open and make government more transparent. Many cross-national, cross-sectional studies looking at the impact of democracy on corruption lend support to this view (Ades and DiTella 1997; Bohara et al. 2004; Brunetti and Weder 2003; Monitolla and Jackman 2002). According to these studies, countries with higher levels of corruption tend to have lower levels of political and civil freedoms. Though not focusing on corruption, a study by Caroline Beer (2003) on Mexico similarly shows how democratic opening at the state level promotes greater institutional effectiveness and responsiveness, including increasing rule of law, greater accountability and the recruitment of more responsible political leaders.

Despite these findings, however, many contend that democracy and elections do not always succeed in preventing or reducing corruption, particularly during a political transition, and especially in the absence of effective democratic institutions (see O'Donnell 2004). Whitehead (2002), for instance, argues against a direct link between democracy and lower levels of corruption. At least during a transition period, the time horizons of many actors are foreshortened by uncertainties that can actually facilitate corruption and malfeasance rather than discourage it. He points specifically to the rise in electoral corruption that tends to accompany democratization. Weyland (1998), Manzetti and Blake (1996) as well as Whitehead (2002) all note an apparent increase in corruption throughout Latin America during the recent transitions to democracy. Constraints on the capacity of elections to promote greater accountability range from the economic conditions of late dependent industrialization and ineffective institutions of representation to weak social capital (Putnam 1993, 2000). Barbara Geddes (1994) employs game theory to illustrate the institutional conditions that forge the dilemma helping to foment a form of political corruption in Brazil (see also Geddes and Neto 1992). Though the whole society may benefit from an end to patronage, as she shows, no individual politician or political party has an incentive to unilaterally institute a merit system since it would mean losing votes. Looking at Mexico, Guerrero (2004) differentiates the democratizing nature of contesting power from the rule of law means of exercising it. And in contrast to the findings of Beer, he shows how the rise of electoral competition, opposition victories and pluralism has not led to greater levels of rule of law and checks and balances, but creates an environment in which the opposite has occurred. Empirical studies by Ali and Isse (1999), Goldsmith (1999), Paldam (2002) and Xin and Rudel (2004) fail to confirm the positive linkage between democracy and freedoms and corruption found by others.

A number of approaches can be taken to test the impact of competition and electoral democracy in Mexico on changes in corruption. Given the nature of the Mexican political system and the historic dominance of the PRI, the first approach focuses on the electoral sphere looking at votes for the PRI and control of the state executive. If, as hypothesized, greater electoral competitiveness and alternation in power leads to a reduction in corruption, then we would expect states with opposition governors and lower votes for the PRI to exhibit greater reductions in their levels of corruption. One difficulty in using gubernatorial seats relates to the fact that the six year terms of governors in Mexico varies widely so while the 2001 measure may be during the first year for some, it may represent the third or fourth year

of another governor's term. All states, however, vote at the same time during national elections, so I use the vote for the PRI during the 2000 elections for the Chamber of Deputies to measure support for the traditional ruling party.

Table 5 presents a comparison of means based on the party controlling the state executive. During the period, the PRI ruled in 17 states, the PAN governed in 9 and the PRD in 6. The results are not uniform, but they do provide some support for the hypothesis. In terms of changes in participation levels, PRD-controlled states clearly outperformed the PAN and PRI states, though the high standard deviations and low N make the mean differences statistically insignificant. This reduction in participation recorded by the PRD, however, did not translate into changes in perceptions of corruption. Instead, the PAN enjoyed the largest reductions in the perceptions of corruption, including the perception that corruption had declined the year prior to 2003. Even so, the mean figures do show that states controlled by the PRI recorded the smallest reductions in corrupt participation, though the PRD registered the lowest levels of changes in perceptions.

[Table 5]

[Table 6]

The OLS regression in Table 6 looks more specifically at the vote of the PRI and uses a dummy variable of PRI versus non-PRI control of the state executive while controlling for the initial levels of corruption. Overall, the model accounts for little of the variation in changes in participation and perceptions of corruption. Nonetheless, both the 2000 vote for the PRI and PRI control of the state did have the expected impact on corruption. States where the PRI remained strong in 2000 showed lower reductions in participation rates and perceptions of corruption than states where the PRI fared worse. Controlling for the impact of the initial perceptions of corruption, for instance, PRI's control of the state decreased the percentage of respondents who claimed that corruption had decreased the prior year by just over 1 percentage point. Adding additional variables, such as a measure of electoral competitiveness, gubernatorial incumbency, and divided state legislatures, did not increase the model's robustness.

As many analysts point out, elections alone may not reduce corruption, particularly in the absence of effective institutions. A second political approach to exploring the determinants of the changes in corruption thus incorporates indicators of state institutions related to rule of law and bureaucratic efficiency. Three measures are used. The first is an index of honesty and efficiency in public infrastructure constructed by Del Castillo, et al (2005). This index measures state leakage by comparing the amount spent on infrastructure to the stock of infrastructure in the state over a period of time. The second measure is the index of state budgetary information presented by Pardinias (2004). This is a measure of the laws and availability of information regarding the use of state's resources. This is an important variable given the emphasis in the current anti-corruption campaign on transparency. A final indicator focuses on the efficiency of the state judicial system. To measure this, I use the average rate of indictments by state in the year 2000 as presented in Zepeda (2004).

[Table 7]

Table 7 provides some evidence linking the efficiency of state institutions and reductions in corruption. As expected, states with higher measures of honesty and efficiency and a more efficient judiciary reduced participation in corruption more than less efficient entities. The direction of these relations remained relatively constant with regards to perceptions of corruption though the impact was minimal. Interestingly, the direction of the impact of budgetary information is not in the expected direction. Governmental transparency, a major ingredient in current anti-corruption initiatives, particularly in Mexico with the adoption in 2002 of the federal law on access to information and the subsequent adoption of similar state laws, may, as suggested here, increase levels of corruption and perceptions of corruption rather than lowering them, at least in the short term.

## Conclusion

Table 8 presents a summary model incorporating variables from the previous sections. As shown, it explains little of the state-level variation in changes in corruption from 2001 to 2003. Besides initial levels of corruption as a predictor of subsequent changes, only the efficiency of the judiciary as measured by percentage of indictments acquires any degree of statistical significance. Interestingly, the impact of other factors varied among the three measures of the dependent variable. Human development, for instance, weakened the fight against corrupt participation and the perception of change during the prior year, but assisted in improving perceptions regarding corrupt politicians. The vote of the PRI is somewhat more consistent. As expected, the first and third models show that support for the PRI in 2000 weakened the fight against corruption. In PRI-held states, for instance, respondents were less likely to endorse the notion that corruption had decreased during the prior year.

[Table 8]

Two broad points can be offered by way of conclusion. First, the current study attests to the difficulties in applying the results from cross-national, cross-sectional studies to understand changes in corruption at the sub-national level. Though the current analysis finds some support showing the impact of democratic competition and efficient state institutions on battling corruption, the models developed here explained little of the variation among Mexican states of changes in corruption during this period of intense national attention to the problem. Key determinants of corruption spotlighted in the empirical literature, such as level of development, economic openness, economic growth, interpersonal trust and even transparency, were all shown here to be largely unrelated to changes in both participation and perceptions of corruption. Even factors shown by some studies to influence individual perceptions of corruption, like evaluations of the economy, failed to show any significant impact on perceptions of change in corruption at the state level. Such findings, of course, point specifically to the need for detailed analysis of the dynamics of corruption at the state level in Mexico. Qualitative analyses of the nature and effectiveness of anti-corruption reforms at the state level are clearly needed. More broadly, however, the results highlight the lack of understanding and attention to the factors shaping changes in corruption. Polling data from different time periods such as those provided by *Transparencia Mexicana* lend

themselves to time series analysis and can be useful in determining what factors might influence changes over time in individual participation rates and perceptions of corruption, but the approach remains limited in understanding the impact of broader contextual factors. Both approaches – qualitative state level analysis and time series analysis of polling data--nonetheless constitute important parts of the broader research agenda.

Second, the current study demonstrates the need to disaggregate corruption and to separate the analysis of participation from perceptions. Clearly both remain important and the nature of the interacting influence warrants greater attention, but as shown here, the two often respond differently and independently to different variables. Most noticeably, for instance, whereas the PRD-led states exhibited progress in fighting corruption, they performed rather poorly at translating those gains into the arena of perceptions of corruption. The PAN, by contrast, seemed to enjoy the opposite results. Above all this means that analysts should be clear when using perceptions of corruption as a measure of corruption of the limitations of interpreting the results. Indeed, the robustness of the models differed widely. More of the variation in participation rates could be accounted for than changes in perceptions. In fact, the regression models developed here looking at state-level responses to the direct question regarding changes in corruption during the prior year explained strikingly little of the variation. This of course leaves us with the initial question of what factors not only influence the level of corruption in society, but the perceptions of corruption and change, and how these may in turn shape participation in corruption and the nature and effectiveness of anti-corruption reforms.

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**Table 1. Changes in Participation and Perceptions of Corruption, 2001-2003.**

	<u>Participation Index<sup>1</sup></u>			<u>Perceptions<sup>2</sup></u>			<u>Decrease<sup>3</sup></u>
	<u>2001</u>	<u>2003</u>	<u>Chg.</u>	<u>2001</u>	<u>2003</u>	<u>Chg.</u>	<u>past year 2003</u>
Aguascalientes	4.5	3.9	-0.6	75.8	80.2	+4.4	16.4
Baja California	5.7	6.0	+0.3	76.6	73.5	-3.1	18.3
Baja California Sur	3.9	2.3	- 1.6	70.9	63.0	-7.9	12.4
Campeche	7.3	5.7	-1.6	80.2	74.3	-5.9	21.6
Chiapas	6.8	4.0	-2.8	61.4	70.1	+8.7	15.5
Chihuahua	5.5	5.7	+0.2	78.7	81.6	+2.9	15.9
Coahuila	5.0	4.4	-0.6	93.4	80.0	-13.4	23.9
Colima	3.0	3.8	+0.8	75.9	73.9	-2.0	25.8
Distrito Federal	22.6	13.2	-9.4	85.9	79.5	-6.4	20.9
Durango	8.9	12.6	+3.7	83.8	87.1	+3.3	11.7
Guanajuato	6.0	8.9	+2.9	84.7	81.4	-3.3	30.5
Guerrero	13.4	12.0	-1.4	81.4	77.3	-4.1	24.8
Hidalgo	6.7	3.9	-2.8	79.0	87.6	+8.6	16.4
Jalisco	11.6	6.5	-5.1	75.8	75.5	-0.3	16.2
México	17.0	12.7	-4.3	82.1	85.3	+3.2	20.7
Michoacán	10.3	4.8	-5.5	80.4	81.1	+0.7	17.2
Morelos	7.7	8.3	+0.6	83.2	80.4	-2.8	20.5
Nayarit	6.4	5.8	-0.6	77.4	75.5	-1.9	21.7
Nuevo León	7.1	9.9	+2.8	82.0	75.1	-6.9	13.6
Oaxaca	7.4	6.8	-0.6	77.6	76.2	-1.4	10.4
Puebla	12.1	18.0	+5.9	83.2	75.2	-8.0	20.8
Querétaro	8.1	6.3	-1.8	74.9	68.1	-6.8	21.1
Quintana Roo	6.1	3.7	-2.4	78.9	81.7	+2.8	18.7
San Luis Potosí	5.7	10.2	+4.5	76.9	73.3	-3.6	20.6
Sinaloa	7.8	5.5	-2.3	78.7	79.6	+0.9	17.7
Sonora	5.5	4.5	-1.0	77.5	77.4	-0.1	19.4
Tabasco	8.5	6.9	-1.6	86.9	84.3	-2.6	15.2
Tamaulipas	6.3	5.1	-1.2	80.2	78.2	-2.0	19.9
Tlaxcala	6.6	7.8	+1.2	83.3	83.5	+0.2	23.9
Veracruz	7.9	6.4	-1.5	73.0	76.2	+3.2	17.1
Yucatán	6.8	4.8	-2.0	78.2	78.5	+0.3	22.1
Zacatecas	6.2	5.6	-0.6	73.6	78.1	+4.5	16.8
<b>NATIONAL</b>	<b>10.51</b>	<b>8.54</b>	<b>-1.97</b>	<b>78.9</b>	<b>77.8</b>	<b>-1.1</b>	<b>19.0</b>

1. Index is based on respondents having paid a bribe to obtain 38 public services.

2. Percentage of respondents agreeing with the statement “los políticos son corruptos.”

3. Percentage of respondents answering “less” when asked “En comparación a hace un año, ¿actualmente la corrupción en nuestro país es mayor, igual o menor?”

**Table 2. Correlation Matrix of Measures of Participation and Perceptions of Corruption and Change 2001 and 2003.**

	Participation 2001 (log)	Participation 2003 (log)	Change in Participation 01-03	Perception 2001	Perception 2003	Change in Perception 01-03
Participation (log) 2003	.71***					
Change Participation 2001-03	-.43***	.27*				
Perception 2001	.30**	.46***	.11			
Perception 2003	.28*	.28*	-.06	.59***		
Change Perception 2001-03	-.03	-.23	-.19	-.50***	.40**	
Decrease prior year 2003	-.01	.18	.10	.34**	.06	-.32**

One-tailed significance. \*\*\* = < .01, \*\* = < .05, \* = < .10.

**Table 3. Economic Determinants.**

<b>Independent variables</b>	<b><u>Dependent variables</u></b>		
	<b>Change in Participation</b>	<b>Change in Perception</b>	<b>Decrease prior year</b>
Constant	50.299*** (15.978)	28.946 (26.848)	2.278 (18.475)
Development Index	-61.400*** (21.056)	1.716 (35.569)	--6.313 (22.236)
Economic growth 2000-2003	.354 (.273)	-.188 (.449)	-.198 (.474)
FDI per capita (log)	2.657** (1.013)	-1.940 (1.698)	
Participation 2001 (log)	-7.874*** (2.699)		
Perception 2001		-.360** (.144)	.278* (.147)
N	32	32	32
(adj.) R <sup>2</sup>	.30	.30	-.00
F score	4.370***	3.713**	.990

Model is OLS. Coefficients are unstandardized. Standard error in parenthesis. \*\*\* = < .01, \*\* = < .05, \* = < .10.

**Table 4. Demographic/Cultural Determinants**

<b>Independent variables</b>	<b>Dependent variables</b>		
	<b>Change in Participation</b>	<b>Change in Perception</b>	<b>Decrease prior year</b>
Constant	8.590* (4.956)	35.496** (13.918)	3.905 (13.414)
Population (2000)	.000 (.000)	.000 (.000)	.000 (.000)
Interpersonal trust (2001)	-.125 (.114)	-.116 (.178)	-.081 (.172)
Change in trust	-.077 (.098)	-.068 (.151)	.048 (.146)
Indigenous population	-2.994 (5.332)	3.714 (8.721)	-4.132 (8.405)
Participation 2001 (log)	-6.224 (4.343)		
Perception 2001		-.437*** (.155)	.221 (.150)
N	32	32	32
(adj.) R <sup>2</sup>	.08	.16	-.01
F score	1.548	2.155*	.912

Model is OLS. Coefficients are unstandardized. Standard error in parenthesis. \*\*\* = < .01, \*\* = < .05, \* = < .10.

Table 5. Comparison of means based on gubernatorial seats by party.

Governor in power	Change in Participation	Change in Perception	Decrease prior year
PAN (n=9)	<b>-0.389</b> (2.48)	<b>-2.227</b> (3.52)	<b>20.04</b> (4.88)
PRI (n=17)	<b>-0.365</b> (2.70)	<b>-1.071</b> (5.17)	<b>18.86</b> (4.21)
PRD (n=6)	<b>-3.117</b> (3.81)	<b>-0.033</b> (6.32)	<b>17.78</b> (4.07)

Table 6. Political Determinants. Electoral factors.

Independent variables	Dependent variables		
	Change in Participation	Change in Perception	Decrease prior year
Constant	1.940 (4.843)	34.826** (14.452)	-4.087 (13.938)
PRI vote 2000	8.005 (8.367)	4.268 (13.347)	-.647 (12.873)
Governor in power (dummy) (0=PRI; 1=opposition)	-.643 (1.086)	-1.377 (1.882)	1.060 (1.766)
Participation 2001 (log)	-6.591** (2.887)		
Perception 2001		-.469*** (.150)	.289* (.145)
N	32	32	32
(adj.) R <sup>2</sup>	.16	.20	.04
F score	2.999**	3.633**	1.426

Model is OLS. Coefficients are unstandardized. Standard error in parenthesis. \*\*\* = < .01, \*\* = < .05, \* = < .10.

**Table 7. Political Determinants: Institutional Factors.**

<b>Independent variables</b>	<b><u>Dependent variables</u></b>		
	<b>Change in Participation</b>	<b>Change in Perception</b>	<b>Decrease prior year</b>
Constant	6.685** (2.903)	27.475** (11.889)	-7.913 (11.183)
Honesty/Efficiency 4.268	-1.031** (.484)	-.774 (.776)	.075 (.729)
Budgetary Information	.020 (.026)	.068 (.040)	.002 (.038)
Indictments 2000	-.107* (.056)	.014 (.092)	.178** (.087)
Participation 2001 (log)	-6.928** (2.903)		
Perception 2001		-.4001*** (.145)	.303** (.137)
N	32	32	32
(adj.) R <sup>2</sup>	.29	.23	.12
F score	4.180***	3.383**	2.090

Model is OLS. Coefficients are unstandardized. Standard error in parenthesis. \*\*\* = < .01, \*\* = < .05, \* = < .10.

**Table 8. General Model of Changes in Corruption.**

<b>Independent variables</b>	<b><u>Dependent variables</u></b>		
	<b>Change in Participation</b>	<b>Change in Perception</b>	<b>Decrease prior year</b>
Constant	2.035 (14.187)	47.425** (21.256)	3.525 (19.384)
Development	1.291 (15.240)	-21.898 (25.485)	-7.868 (23.241)
Economic openness	-.001 (.003)	-.004 (.006)	-.003 (.005)
PRI vote 2000	9.771 (8.029)	-.677 (14.100)	-16.499 (12.859)
Honesty/Efficiency	-.671 (.689)	.550 (1.183)	.332 (1.078)
Indictments	-.127** (.059)	-.017 (.100)	.198** (.091)
Participation 2001 (log)	-5.882* (3.402)		
Perception 2001		-.389** (.150)	.318** (.145)
N	32	32	32
(adj.) R <sup>2</sup>	.28	.18	.12
F score	3.013**	2.133*	1.680

Model is OLS. Coefficients are unstandardized. Standard error in parenthesis. \*\*\* = < .01, \*\* = < .05, \* = < .10.