

Candidate Nomination Procedures and Quality of Government

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Abstract

This paper explores empirically the relation between candidate nomination procedures and quality of government. Using a panel data of Latin American countries, I find robust evidence that the quality of government is higher during the mandate of primary-nominated presidents. I also document higher levels of popular trust in the president and different composition of government spending associated to the use of primaries. There is, however, no significant differences in other fiscal and monetary policies. The empirical strategy exploits within country variation and controls for relevant covariates at country and party level. Using an instrumental variable approach with measures of party electoral advantage as instruments produces similar results. The findings are consistent with primaries increasing pre-electoral incentives among candidates to improve policy design, and suggest that party institutions matter for governance.

Keywords: quality of government, primaries, political parties, nomination procedures.

JEL classification: D72, H39

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1 Introduction

There is a widespread belief that political parties are important for governance. After all, they are key political actors that connect politicians to voters, select candidates to run in elections, and provide the organizational support needed to participate in political life (DUverger, 1965; White, 2006). Despite their perceived importance, however, there is little empirical evidence about the role of party institutions on governance and economic policy.

This paper contributes to this debate by exploring the role of a specific party institution -namely the procedures to nominate candidates- on quality of government. In practice, parties use nomination procedures with different degrees of internal democracy (Bille, 2001; Hazan and Rahat, 2006). The procedures range from nomination by party leaders to more democratic procedures such as primaries. These institutional differences have the potential to shape candidates' incentives and political selection, and through those channels to affect governance and economic policies.

I explore the relation between nomination procedures and quality of government using the case of Latin American presidents. For each president, I obtain information of the nomination procedure used by her party. The available data distinguish two broad nomination procedures: primaries (open and close) and non-primaries. As a measure of quality of government, I use an index of government anti-diversion policies, similar to the one used by Hall and Jones (1999). I complement this index with a measure of popular trust on the president, and indicators of fiscal and monetary policy. The resulting panel dataset cover 18 Latin American countries from early 1980s to 2008.

The main empirical challenge is the presence of omitted variables. In that case, differences in quality of government between primary and non-primary nominated presidents may just reflect unobserved heterogeneity, not the effect of primaries. To address this concern, I exploit within-country variation and use a rich set of control variables at country and party level. I complement this strategy with an instrumental variable approach. As instruments, I use measures of a party electoral advantage such as seat share in previous elections, or status as incumbent party. As I discuss below, the first stage is also informative of the mechanism linking primaries to quality of government.

I find robust evidence of a positive relation between primaries and quality of government.

The most conservative estimates suggest that the quality of government is 0.16 standard deviations higher during the mandate of primary-nominated presidents. This relation seems to be driven by the nomination procedure of the president itself, not of other politicians. There is, for example, no significant difference in quality of government associated to the use of primaries by the main opposition party.

I also find that primary-nominated presidents enjoy higher rates of popular trust, and that during their mandate public spending in subsidies and other transfers is smaller. There are, however, no differences in other indicators of economic policy such as government spending, revenue, inflation or devaluation.

A relevant question is why primaries would affect quality of government. Theory suggest at least to main mechanisms: improvements in quality of candidates (selection effect), or increase in candidate's incentives e.g. to invest in policy design (incentive effect).¹

To distinguish which effect is more important, however, we need to better understand why parties use primaries in the first place. In a companion paper (Aragón, 2011), I show that a party electoral advantage (e.g. the relative size of partisan support) is a determinant of primary adoption. Moreover, the relation between primaries and electoral advantage is informative of which of these two effect is more important: negative if selection is the main benefit, or positive if parties want to increase incentives.²

Based on this insight, I explore the determinants of primary adoption in the sample of president's parties. I find a positive and significant relation between electoral advantage -measured as previous seat share and incumbency status- and likelihood of primary adoption. I interpret this finding as evidence that primaries may improve quality of government by increasing pre-electoral incentives among candidates.

¹I discuss these arguments in more detail in Section 2.2.

²Intuitively, parties with large partisan support have little to win from improving the quality of their candidates. Thus they would be less likely to use primaries if the main reason is to improve selection. In contrast, larger electoral advantage decreases competition face by party candidates, and hence their incentives to invest in the electoral campaign. In that case the party may improve its electoral performance by increasing intra-party competition e.g. adopting primaries.

1.1 Related literature

2 Background

2.1 Presidential primaries in Latin America

The empirical analysis focuses on the nomination procedures to select presidential candidates in Latin American democracies. These countries have presidential regimes where the executive holds significant power and presidency is the most important public office. In this context, selecting the presidential candidate is an important party decision.

Latin American parties use different procedures to nominate presidential candidates. For example, between early 1980s and 2008, around 21 percent of Latin American presidents were nominated in a primary and a third of elections involved at least one primary-nominated candidate.

The data I use distinguishes nomination procedures in two broad categories: primaries and non-primaries. Primaries include both open and closed primaries. In a primary, either voters or affiliated party members vote to select the candidate. In contrast, non-primaries include less democratic procedures such as nomination in party conventions or by party leaders. While this measure may be quite coarse, it captures a key distinction in nomination procedures: the degree of intra-party competition.³

In most countries there is not a legal requirement to use primaries (Alcántara Sáez, 2002; Freidenberg, 2003). Only since mid 1990s some countries -such as Uruguay, Paraguay and Panama- have included mandatory primaries in their electoral codes. This situation raises relevant identification concerns given that the use of primaries is a party decision and may be influenced by other factors also related to the subsequent government performance.

2.2 Why would nomination procedures matter?

Theory suggests several reasons why the candidate nomination procedure would affect quality of government. A first channel is through its effect on political representation. Democratic nomination procedures -such as primaries- may change the electorate and, hence, the identity of the median voter. In turn, this may affect the policies chosen by competing candidates

³The political science literature refers to this feature of selection methods as internal democracy or inclusiveness (Hazan and Rahat, 2006).

or the set of candidates willing to run in internal elections.⁴ To the extent that primaries increase representation of groups who prefer better government, they would be associated to an improvement in quality of government. This is the explanation put forward by Gerber and Morton (1998) and Besley and Case (2003) to understand differences in U.S. state policies associated to open primaries.

A second channel is through the effect of nomination procedures on political competition. Primaries may increase the degree of (intra-party) political competition faced by candidates. In turn, this may shape candidates' incentives. For example, Caillaud and Tirole (2002) and Castanheira et al. (2010) develop models where candidates can exert some pre-electoral effort to improve policy design, and their electoral performance. In these models, parties use primaries to regulate political competition and elicit the optimal level of effort from candidates. The increase in intra-party competition may also improve political selection. In this view, primaries act as screening devices giving parties an early opportunity to observe the quality of politicians and to pick the best candidate. This argument is formally developed by Adams and Merrill (2008) and Serra (2011).

The previous discussion argue that the use of primaries may increase quality of government. There are, however, several reasons why nomination procedures may not matter. First, the change in political representation may not be relevant for governance if non-economic issues are more relevant. Second, there may be constraints in the ability of the president to affect policy. Third, other democratic checks and balances may attenuate the effect of nomination process. For example, electoral competition between parties may be more important in shaping candidates' incentives and selection. Finally, even if nomination procedures matter, their effect may be small and not translate into significant changes on the measures of quality of government.

⁴This would depend of whether we use a standard Downsian electoral competition model or a citizen-candidate approach.

3 Data and empirical strategy

3.1 Data

I use a panel data of 18 Latin American countries that covers the period since early 1980s to 2008.⁵ The measure of nomination procedures is a dummy indicating whether a president was nominated as party candidate using a primary (open or close) or not (*primary*). I also obtain information about the nomination procedures used by other presidential candidates (*primary opposition*). The source of this data is Carey and Polga-Hecimovich (2007). This indicator varies at president-level, while other measures -such as quality of government- have an annual frequency. To link both variables, I identify the years of a president's mandate and assign annual data to each year. In case there are two presidents in power (e.g. transition years) I assign the year to the president that ruled most of the time.

As a measure of quality of government, I construct an index of government anti-diversion policies using annual data from the International Country Risk Guide (ICRG). The index is composed of three indicators of political risk: quality of bureaucracy, corruption in government, and rule of law. I normalize these indicators using a minimax approach, so their values range between 0 and 1, and aggregate them using a simple average. I interpret larger values of the index of government anti-diversion policies as an indicator of better quality of government. This index is similar to the one used by Hall and Jones (1999) as a measure of the quality of "the institutions and government policies that determine the economic environment" (Hall and Jones, 1999, p. 97).⁶ The components of this index have also been used in the political economics literature as measures of government efficiency (Knack and Keefer, 1995; La Porta et al., 1999).

In addition, I use a measure of the popular perception of the president's performance from the Latinobarómetro. In particular, I use the proportion of the population, in a given year, that reports having a lot or some trust in the president.⁷ This variable is highly correlated to

⁵This period corresponds to the re-introduction of democratic elections in many countries, after failed military dictatorships in the 1960s and 1970s.

⁶Hall and Jones (1999) use the average of these three indicators plus risk of expropriation and an index of government repudiation of contracts. Data on these indices, however, is available until 1997 only. This reduces sample size by half. Nonetheless, including this information for the period when it is available produces similar results.

⁷The survey question is: How much trust do you have in the President? . There are four possible answers: a lot, some, a little, or none.

the president's approval (correlation=0.91) and has the advantage of having been collected for a longer period.⁸

I complement the data on quality of government with measures of fiscal and monetary policy. As measures of fiscal policy, I use size of government revenue and expenditure relative to GDP. I also consider the share spent in subsidies and other transfers as a proxy of targeted spending. As measures of monetary policy, I use annual inflation and devaluation rates. This data comes from the World Development Indicators (WDI) and the International Financial Statistics (IFS).

Finally, I also collect data on variables that may be correlated both with the use of primaries and quality of government to include as control variables. These variables include country characteristics -such as degree of democracy, government fractionalization, and legal requirement to use primaries- as well as party features like ideology, age, seat share, and president's experience in public office.

Table 1 presents summary statistics of the main variables. Descriptions of all variables and data sources are available in Appendix A.

3.2 Empirical strategy

The aim of the empirical analysis is to estimate the relation between the use of primaries and quality of government. More precisely, it involves assessing whether there is a difference in the quality of government during the mandate of primary and non-primary nominated presidents. Figure 1 gives a flavor of this relation. It depicts the average quality of government plot against the proportion of primary-nominated presidents for each country. The correlation is positive which suggests that the use of primaries is associated to better governance.

This simple cross-country correlation, however, may not be informative of the effect of candidate nomination procedures. The main identification concern is the presence of omitted variables. There are other factors that may affect both the party institutional choice and quality of government such as a party ideology, political environment or a country's democratic traditions. In that case, we would not know whether a positive correlation, as the one depicted in Figure 1, reflects the the use of primaries or the influence of these other factors.

I address this concern twofold. First, I include a rich set of control variables at country and party level. Second, I exploit within country variation and include country fixed effects in the

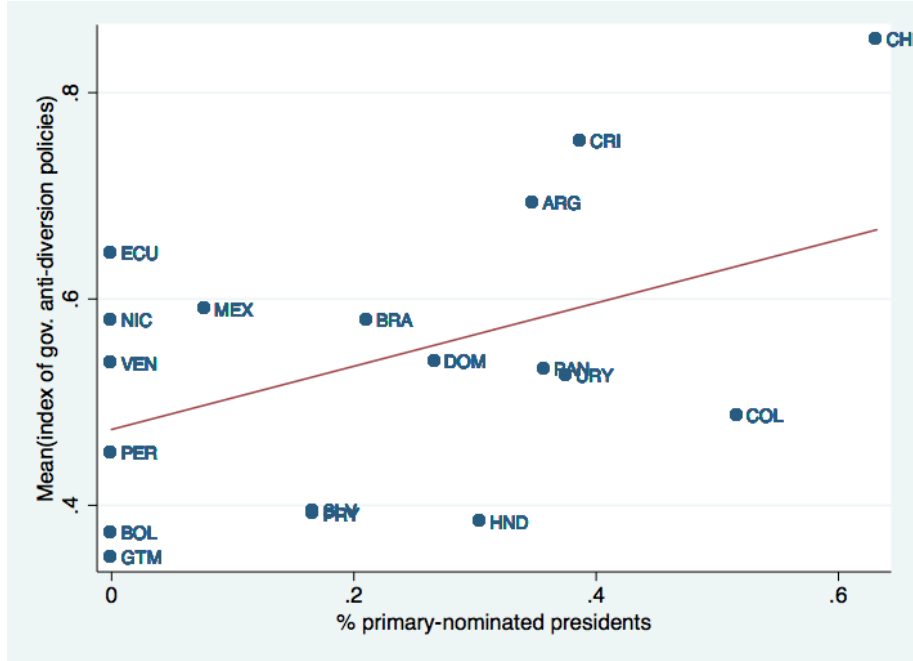
⁸Trust in president has been collected since 1997, while president's approval only since 2002.

Table 1: Summary statistics

Variable	Mean	St. Dev.
<i>I. Nomination procedures</i>		
Primary	0.215	0.411
Primary (opposition)	0.186	0.390
<i>II. Quality of government</i>		
Quality of bureaucracy	0.576	0.265
Corruption in government	0.562	0.184
Rule of law	0.466	0.271
Index of gov. antidiv. policies	0.535	0.180
Trust in president	39.2	15.7
<i>III. Fiscal and monetary policies</i>		
Revenue	18.9	5.1
Expenditure	19.1	6.2
Subsidies	36.9	15.8
Inflation	108.8	634.9
Devaluation	92.5	532.3
<i>IV. Other variables</i>		
Democracy index	7.5	1.9
Gov. fractionalization	0.200	0.274
Compulsory primaries	0.162	0.369
Centrist party	0.124	0.330
Party's seat share	0.451	0.129
Previous seat share	0.262	0.215
Incumbent party	0.363	0.481
Party age	46.6	42.7
Coalition party	0.164	0.371
Pre-electoral coalition	0.106	0.309
Previous public office	0.644	0.479

Note: See Appendix A for definition of variables and data sources.

Figure 1: Quality of government and presidential primaries



main regression. This approach reduces the scope of omitted variables. It may not, however, fully address relevant identification concerns. For instance, there might still be time-variant unobserved heterogeneity driving the results. In section 5 I improve upon this identification strategy by exploring why parties use primaries and using the suggested determinants as instrumental variables.

The baseline regression I estimate is:

$$y_{it} = \eta_i + \delta_t + \beta primary_{it} + \gamma \mathbf{X}_{it} + \epsilon_{it}, \quad (1)$$

where y_{it} is the measure of quality of government (or other outcomes) in country i in year t , and $primary_{it}$ is the candidate nomination procedure used to select the president ruling the country in that year. η_i and δ_t are country and year fixed effects, while \mathbf{X}_{it} is a vector of control variables. In the full specification \mathbf{X}_{it} includes country characteristics such as an index of democracy, government fractionalization and an indicator of compulsory primaries, as well as party features such as ideology, age, whether the party is a coalition, seat share and previous experience of the president in public office.

I cluster the standard errors at country level. The reasons for doing this are twofold. First,

it accounts for possible serial correlation in the measure of quality of government and use of primaries. Second, it takes into account that the variation in nomination procedures is at president's level while the data has annual frequency. Hence, annual observations during the mandate of a president are not necessarily independent.

4 Main results

Table 2 presents the estimates of the baseline regression. Column 1 is a benchmark without any control variable. Column 2 adds country fixed effects, while columns 3 and 4 include covariates of country and party characteristics. In all cases, there is a positive and significant correlation between primaries and quality of government. The most conservative estimates suggest that the quality of government is 6 percent higher (relative to its mean) during the mandate of primary-nominated presidents. This is equivalent to an increase of 0.16 standard deviations. To the extent that the covariates and country fixed effects control for unobserved heterogeneity, this result could be interpreted as evidence of a positive effect of primaries on quality of government. Note that the estimates of β using country fixed effects are smaller than the benchmark regression (0.032 vs. 0.097). This is consistent with the presence of relevant country-specific omitted variables and motivate the use of country fixed effects.

Columns 5 and 6 perform a placebo test. In both regressions, I replace *primary* by the nomination procedure of the candidate from the main opposition party (*primary opposition*). If the positive relation between primaries and quality of government is driven by election-specific factors, then we should expect to find a similar relation with *primary opposition*. For example, it could be that there is an increase in electoral competition that induces major parties to adopt primaries and also has a positive effect on quality of government. The estimates using *primary opposition*, however, are not significantly different than zero.⁹ This finding suggests that what matters is the nomination procedure of the winning candidate, not of other presidential candidates.

All the regressions cluster errors at country level. Since there are only 18 countries, a possible concern is that there may be a small sample bias in the estimation of the standard errors. I explore this issue in two ways. First, I cluster the errors by president instead of by country. This

⁹The results are similar when including both *primary* and *primary opposition* in the same regression.

increases the number of clusters to 80, though at the cost of assuming independence of errors between presidents. Second, I aggregate the data at president level and estimate the regression using weighted OLS. As weights, I use the number of annual observations in the mandate of each president.¹⁰ In both cases, however, the results are similar to the baseline regression using clusters at country level (see Table 7 in the appendix).

Table 2: Primaries and quality of government

	(1)	(2)	(3)	(4)	(5)	(6)
	Index of government antidiversion policies					
Primary	0.097** (0.040)	0.032* (0.016)	0.032** (0.013)	0.037** (0.016)		
Primary (opposition)					0.015 (0.036)	0.018 (0.027)
Country controls	No	No	Yes	Yes	No	Yes
Party controls	No	No	No	Yes	No	Yes
Country F.E.	No	Yes	Yes	Yes	Yes	Yes
Observations	388	388	383	322	388	322
R-squared	0.145	0.213	0.306	0.386	0.206	0.375
Nr. of countries	18	18	18	18	18	18

Notes: Robust standard errors in parenthesis. Standard errors are adjusted for clustering at country level. * denotes significant at 10%, ** significant at 5% and *** significant at 1%. All regressions include year fixed effects. Country controls include: democracy index, government fractionalization and compulsory primaries. Party controls include: centrist party, party's seat share, ln(party age), coalition party and previous public office. See Appendix A for definition of variables.

Table 3 explores in more detail the relation between primaries and quality of government. Recall that the measure of quality is composed by three indicators: quality of bureaucracy, corruption in government, and rule of law. Columns 1 to 3 estimate the baseline regression, with the full set of controls, using these three indicators as outcome variables. There is a positive correlation only between primaries and quality of bureaucracy and corruption in government.¹¹ These two measures have been used as proxies of government efficiency in previous work (Knack and Keefer, 1995; La Porta et al., 1999). In contrast, the lack of relation with rule of law may be due to this indicator reflecting more stable institutions, which are less likely to be affected by the president's actions.

The main limitation of the previous measures of quality is that they capture the overall

¹⁰This procedure to deal with few clusters has been suggested by Angrist and Pischke (2008, Ch. 8.2.3).

¹¹Note that higher values of the indicator of corruption in government represent a perception of *less* corruption.

performance of the government, not necessarily the performance of president. To address this limitation, I use a measure of the popular perception of the president’s performance (*trust in president*). This variable measures the proportion of the population that reports having a lot or some trust in the president, and it is highly correlated to a president’s approval rate. Column 4 estimates the baseline regression using this outcome variable. Consistent with the previous results, I find that primary-nominated presidents also enjoy higher popular trust. The increase in popular trust is significant: around 6 percentage points or 0.4 standard deviations.

Table 3: Alternative measures of quality

	(1)	(2)	(3)	(4)
	Quality of bureaucracy	Corruption in government	Rule of law	Trust on President
Mean	0.576	0.562	0.466	39.2
St. Dev.	0.265	0.184	0.271	15.7
Primary	0.070** (0.026)	0.064*** (0.022)	-0.023 (0.029)	6.291** (2.406)
Country controls	Yes	Yes	Yes	Yes
Party controls	Yes	Yes	Yes	Yes
Country F.E.	Yes	Yes	Yes	Yes
Observations	322	322	322	120
R-squared	0.441	0.448	0.379	0.434
Nr. of countries	18	18	18	16

Notes: Robust standard errors in parenthesis. Standard errors are adjusted for clustering at country level. * denotes significant at 10%, ** significant at 5% and *** significant at 1%. All regressions include year fixed effects. See Notes of Table 2 for details on country and party controls.

Finally, I explore the relation between primaries and economic policies. Changes in policies would not necessarily reflect differences in quality of government. Exploring this relation, however, is important to relate the findings of this paper to previous work on the effect of nomination procedures. For example, using the case of U.S. states, Besley and Case (2003) find that the use of open primaries is associated to different fiscal policies: lower taxes and spending, increase in transfers to families and reduction to workers’ compensation. Similarly, Gerber and Morton (1998) find that open primaries are associated to state policies closer to the median voter’s preferred ones.

I focus on measures of fiscal and monetary policies. As measures of fiscal policy I use the government total revenue and expenditure. I also use the share of spending on subsidies and

other transfers as a proxy of targeted spending. As measures of monetary policy, I use inflation and devaluation rates.

Table 4 presents the results using the full specification of the baseline regression and the measures of economic policies as outcome variables. Overall, there are not significant differences in economic policy between primary and non-primary nominated presidents. The only difference is on the composition of government spending: during the mandate of primary-nominated presidents the relative size of subsidies is smaller. While subsidies are not a priori bad for the median citizen, the Latin American experience with subsidies has been rather negative. Subsidies, especially export subsidies, have been associated to inefficient policies such as industrial protectionism, import substitution and patronage (Nogués, 1990). In that sense, this result is consistent with the previous findings linking primaries to improvements in government's efficiency.

Table 4: Fiscal and monetary policies

	(1)	(2)	(3)	(4)	(5)
	Revenue (as % GDP)	Expenditure (as % GDP)	Subsidies (as % exp.)	Inflation	Devaluation
Mean	18.9	19.1	36.9	108.8	92.5
St. Dev.	5.1	6.2	15.8	634.9	532.3
Primary	-1.707 (1.295)	1.297 (2.585)	-4.946* (2.359)	44.891 (102.922)	-0.193 (99.817)
Country controls	Yes	Yes	Yes	Yes	Yes
Party controls	Yes	Yes	Yes	Yes	Yes
Country F.E.	Yes	Yes	Yes	Yes	Yes
Observations	152	152	129	325	326
R-squared	0.269	0.162	0.523	0.219	0.192
Nr. of countries	15	15	13	18	18

Notes: Robust standard errors in parenthesis. Standard errors are adjusted for clustering at country level. * denotes significant at 10%, ** significant at 5% and *** significant at 1%. All regressions include year fixed effects. See Notes of Table 2 for details on country and party controls.

5 Exploring the mechanism

The results in the previous section suggest a positive relation between primary-nominated candidates and quality of government. A crucial question, however, is why democratic nomination

procedures -such as primaries- would affect the performance of elected politicians. To address this question we need to better understand why parties choose primaries in the first place. This can help us identify the mechanisms through which primaries affect governance. Moreover, it may also give us guidelines on how to improve the identification strategy.

The literature on primary determinants suggest at least two main benefits from using primaries: increase in candidates' incentives (incentive effect) and improvement in political selection (selection effect). The incentive effect comes from the increase in political competition associated to primaries. In this view, parties use primaries to increase competition. In turn, this creates incentives among candidates to exert effort during the electoral campaign e.g. investing in policy design (Caillaud and Tirole, 2002; Castanheira et al., 2010). Too much competition, or too little, would deter candidates to invest in policy design. A complementary story focuses on political selection. In this view, primaries act as screening devices helping parties to select the best candidate (Adams and Merrill, 2008; Serra, 2011). In these models quality of candidate can be interpret in a broad sense as valence, charisma or ideological preference. Either effect (incentive or selection) would improve a party electoral performance.

In a companion paper (Aragón, 2011), I develop a model of endogenous primaries linking these two effects to a party electoral advantage. I define electoral advantage as the proportion of partisan supporters: citizens who vote for the party regardless of the quality of its candidate or economic policies. This variable can be interpret as an inverse measure of inter-party political competition: parties with greater electoral advantage face lower competition.

The main insight of the model is that the relation between electoral advantage and primary adoption depends of which effect is more relevant. When the incentive effect is stronger the relation is *positive*: parties with more electoral advantage, and hence facing little competition, benefit more from using primaries. They will be more likely to use primaries since it allows them to increase competition among candidates, and elicit more effort in policy design.

In contrast, when the selection effect is more important the relation would be *negative*: parties with greater electoral advantage have less to win from improving the type of their candidate since they already have a large partisan support. Hence, everything else constant, they will be less likely to adopt primaries. This insight provides a way to assess which effect is more important, and hence some indication of why primaries would affect quality of government.

To explore whether incentives or selection are more relevant, I analyze the determinants of primary adoption among Latin American presidents. The regression I estimate is:

$$primary_{pi} = \phi advantage_{pi} + \psi \mathbf{W}_{ci} + \nu_{pi}, \quad (2)$$

where $primary_{pi}$ is the nomination procedure used to select president p in country i , and $advantage_{pi}$ is a measure of the electoral advantage of the president's party during the candidate selection process. As measures of electoral advantage I use the average party's seat share in the previous two legislative elections (*previous seat share*), and a dummy equal to 1 if the party was the incumbent during the presidential elections (*incumbent party*). \mathbf{W}_{ci} is a vector of other possible primary determinants such as use of primaries by the opposition party, status of party as pre-electoral coalition, and party ideology. Similarly to the baseline regression (1), I cluster the standard errors at country level.

Table 5 presents the results estimated using a linear probability model with and without country fixed effects. In all cases, there is a positive correlation between the measure of electoral advantage and the probability of using a primary.¹² I interpret this result as suggestive evidence that the positive relation between primaries and quality of government is driven by the increase in pre-electoral incentives among candidates e.g. to invest in policy design.

The previous findings suggest using measures of party electoral advantage as instruments for primaries in the baseline regression (1). These instruments would be valid to the extent that, conditional on the control variables, they affect quality of government only through its effect on the party choice of nomination procedure.

Table 6 estimates the baseline regression using *previous seat share* and *incumbent party* as instruments. Columns 1 and 2 estimate a parsimonious model with only year and country fixed effects. Columns 3 and 4 run the full specification with country and party characteristics. Note that this specification controls for several features of the president's party such as: seat share (a proxy for size), age, ideology and status as a coalition party.

In all cases, the relation between primaries and quality of government remains positive and significant. The estimates are even larger than in the uninstrumented regressions. A

¹²The results echo previous findings by Kemahlioglu et al. (2009) and Aragón (2011). Using a richer dataset and exploiting within party variation, Aragón (2011) finds a similar positive relation. Kemahlioglu et al. (2009) use a simpler identification strategy and documents the positive relation between party size, coalition and primaries.

Table 5: Primary determinants

	(1)	(2)	(3)	(4)
	Primary			
Previous seat share	0.518* (0.289)	0.551* (0.280)		
Incumbent party			0.217* (0.122)	0.266* (0.151)
Primary (opposition)	0.250 (0.159)	0.329 (0.200)	0.276* (0.143)	0.348* (0.171)
Pre-electoral coalition	0.495*** (0.163)	0.678** (0.239)	0.464** (0.179)	0.690** (0.280)
Centrist party	-0.238** (0.101)	-0.297 (0.211)	-0.315** (0.109)	-0.351* (0.194)
Country F.E.	No	Yes	No	Yes
Observations	89	89	89	89
R-squared	0.318	0.393	0.318	0.417
Nr. of countries	18	18	18	18

Notes: Robust standard errors in parenthesis. Standard errors are adjusted for clustering at country level. * denotes significant at 10%, ** significant at 5% and *** significant at 1%. All regressions include quinquennium fixed effects.

possible explanation is that the instrumental variable estimates the local average treatment effect (LATE). Hence, it reflects the effect of primaries in cases when the president's party adopt them with the purpose of increasing incentives. The magnitude of the effect in this case is likely to be larger than for the average party.

Table 6: Primaries and quality of government: IV approach

	(1)	(2)	(3)	(4)
	Index of government antidiversion policies			
Primary	0.170*** (0.065)	0.158** (0.063)	0.323*** (0.108)	0.223*** (0.069)
Country controls	No	No	Yes	Yes
Party controls	No	No	Yes	Yes
Country F.E.	Yes	Yes	Yes	Yes
Observations	388	388	322	322
R-squared	0.060	0.086	-0.342	0.078
Nr. of countries	18	18	18	18
<u>First stage: Dependent variable = Primary</u>				
Previous seat share	0.610*** (0.114)	0.567*** (0.139)	0.572*** (0.163)	0.443*** (0.177)
Incumbent party		0.043 (0.060)		0.162*** (0.079)
F-statistic	28.80	15.83	12.31	8.582

Notes: Robust standard errors in parenthesis. * denotes significant at 10%, ** significant at 5% and *** significant at 1%. All regressions include year fixed effects. See Notes of Table 2 for details on country and party controls. All regressions estimated using 2SLS.

6 Conclusion

References

- Adams, James and Samuel Merrill**, “Candidate and Party Strategies in Two-Stage Elections Beginning with a Primary,” *American Journal of Political Science*, 2008, 52 (2), 344–359.
- Angrist, Joshua D. and Jörn-Steffen Pischke**, *Mostly Harmless Econometrics: An Empiricist’s Companion*, Princeton University Press, December 2008.
- Aragón, Fernando M.**, “The Benefit of Primaries: Political Selection or Candidate Incentives?,” mimeo 2011.
- Besley, Timothy and Anne Case**, “Political Institutions and Policy Choices: Evidence from the United States,” *Journal of Economic Literature*, 2003, 41 (1), pp. 7–73.
- Bille, Lars**, “Democratizing a Democratic Procedure: Myth or Reality?. Candidate Selection in Western European Parties, 1960-1990,” *Party Politics*, 2001, 7 (3), 363–380.
- Caillaud, Bernard and Jean Tirole**, “Parties as Political Intermediaries,” *The Quarterly Journal of Economics*, November 2002, 117 (4), 1453–1489.
- Carey, John M. and John Polga-Hecimovich**, “Replication data for: Primary Elections in Latin America Project,” <http://hdl.handle.net/1902.1/10472>, 2007.
- Castanheira, Micael, Benoît Crutzen, and Nicolas Sahuguet**, “Party organization and electoral competition,” *The Journal of Law, Economics and Organization*, 2010, 26 (2), 212–242.
- Center on Democratic Performance**, “Election Results Archive,” <http://cdp.binghamton.edu/era/index.html>, website accessed on January 2008.
- CIDOB**, “Biografías de Líderes Políticos,” http://www.cidob.org/es/documentacion/biografias_lideres_politicos, website accessed on December 2007.
- Duverger, Maurice**, *Political parties: their organization and activity in the modern state*, 2nd edition ed., New York: Wiley, 1965.

- Freidenberg, Flavia**, *Selección de Candidatos y Democracia Interna en los Partidos de América Latina* Biblioteca de la Reforma Política, Lima: Asociación Civil Transparencia, September 2003.
- Gerber, Elisabeth R. and Rebecca B. Morton**, “Primary Election Systems and Representation,” *Journal of Law, Economics, and Organization*, 1998, 14 (2), 304–324.
- Hall, Robert E. and Charles I. Jones**, “Why Do Some Countries Produce so Much More Output Per Worker Than Others?,” *The Quarterly Journal of Economics*, 1999, 114 (1), 83–116.
- Hazan, Reuven Y. and Gideon Rahat**, “Candidate Selection: Methods and Consequences,” in Richard S. Katz and William Crotty, eds., *Handbook of Party Politics*, London: SAGE, 2006, chapter 10, pp. 109–121.
- Kemahlioglu, Ozge, Rebecca Weitz-Shapiro, and Shigeo Hirano**, “Why Primaries in Latin American Presidential Elections?,” *The Journal of Politics*, 2009, 71, 339–352.
- Knack, Stephen and Philip Keefer**, “Institutions And Economic Performance: Cross-Country Tests Using Alternative Institutional Measures,” *Economics and Politics*, November 1995, 7 (3), 207–227.
- La Porta, Rafael, Florencio López de Silanes, Andrei Shleifer, and Robert Vishny**, “The Quality of Government,” *Journal of Law, Economics and Organization*, 1999, 15 (1), 222–279.
- Nogués, Julio**, “The experience of Latin America with export subsidies,” *Review of World Economics*, 1990, 126, 97–115. 10.1007/BF02706314.
- Political Database of the Americas**, “Electoral Systems and Data,” <http://pdba.georgetown.edu/Elecdata/elecdata.html>, website accessed on November 2007.
- Sáez, Manuel Alcántara**, “Experimentos de Democracia Interna : Las Primarias de Partidos en América Latina,” Kellogg Institute Working Paper 293, Helen Kellogg Institute for International Studies April 2002.

Serra, Gilles, “Why primaries? The party’s tradeoff between policy and valence,” *Journal of Theoretical Politics*, 2011, 23 (1), 21–51.

White, John Kenneth, “What is a Political Party?,” in Richard S. Katz and William Crotty, eds., *Handbook of Party Politics*, London: SAGE, 2006, chapter 1, pp. 5–15.

A Variables and data sources

I. Nomination procedures

Variable	Description	Source
Primary	1 if president was nominated in a primary	Carey and Polga-Hecimovich (2007)
Primary (opposition)	1 if candidate of main opposition party was nominated in a primary	Carey and Polga-Hecimovich (2007). Definition of main opposition party comes from Database of Political Institutions 2010.

II. Quality of government

Variable	Description	Source
Quality of bureaucracy	Assessment of the institutional strength and quality of the bureaucracy. Value normalized to 0-1. Higher values reflect better bureaucracy.	International Country Risk Guide (ICRG)
Corruption in government	Assessment of corruption within political system. Value normalized to 0-1. Higher values reflect lower corruption.	International Country Risk Guide (ICRG)
Rule of law	Assessment of the strength and impartiality of the legal system and popular observance of the law. Original name in ICRG is "Law and Order". Value normalized to 0-1.	International Country Risk Guide (ICRG)
Index of government anti-diversion policies	Average of previous 3 variables.	
Trust in president	Percentage of population that has a lot or some trust in president. Omitted categories are: little or no trust in president.	Latinobarómetro

III. Fiscal and monetary policies

Variable	Description	Source
Revenue	Government revenue, excluding grants (as % of GDP)	World Development Indicators (WDI)
Expenditure	Government expenditure (as % of GDP)	World Development Indicators (WDI)
Subsidies	Subsidies and other transfers (as % of gov. expenditure)	World Development Indicators (WDI)
Inflation	Annual inflation rate	International Financial Statistics (IFS)
Devaluation	Annual devaluation rate	International Financial Statistics (IFS)

IV. Other variables

Variable	Description	Source
Democracy index	Index of institutionalized democracy. Score 0-10.	Polity IV
Gov. fractionalization	Probability that two deputies picked randomly among the government parties will be of different parties.	Database of Political Institutions 2010
Compulsory primaries	1 if country's electoral legislation required use of primaries.	Alcántara Sáez (2002), Freidenberg (2003) and Carey and Polga-Hecimovich (2007)
Centrist party	1 if president's party is centrist (e.g. party advocates strengthening private enterprise in a social-liberal context)	Database of Political Institutions 2010
Party's seat share	Proportion of (lower house) seats obtained by the president's party in the legislative election held simultaneously or immediately before the presidential election.	Center on Democratic Performance and Political Database of the Americas
Previous seat share	Average seat share obtained by the president's party in two legislative elections before the presidential election.	Center on Democratic Performance and Political Database of the Americas
Incumbent party	1 if president's party was incumbent party during presidential elections.	Carey and Polga-Hecimovich (2007)
Party age	Age of president's party in the year of presidential election (years)	Political Database of the Americas
Coalition party	1 if president endorsed by more than one political party before or after the selection process.	Carey and Polga-Hecimovich (2007)
Pre-electoral coalition	1 if president was endorsed by more than one political party before the selection process.	Carey and Polga-Hecimovich (2007) and Kemahlioglu et al. (2009).
Previous public office	1 if president held an elected position before (e.g. senator, governor, mayor)	Biography of Political Leaders, CIDOB

B Additional checks

Table 7: Alternative clustering of standard errors

	(1)	(2)	(3)	(4)
	Index of government antidiversion policies			
Primary	0.103*** (0.037)	0.037* (0.022)	0.108** (0.046)	0.034 (0.029)
Country controls	Yes	Yes	Yes	Yes
Party controls	Yes	Yes	Yes	Yes
Country F.E.	No	Yes	No	Yes
S.E. clustered by president	Yes	Yes	No	No
Observations	322	322	80	80
R-squared	0.361	0.762	0.401	0.814
Nr. of countries	18	18	18	18

Notes: Robust standard errors in parenthesis. * denotes significant at 10%, ** significant at 5% and *** significant at 1%. Columns 1 and 2 cluster errors by president's mandate (80 clusters). Columns 3 and 4 aggregate the annual data by president's mandate and are estimated using weighted OLS regressions. The weights are the number of years in each president's mandate. Columns 1 and 2 include year fixed effects, while columns 3 and 4 include quinquennium fixed effects. See Notes of Table 2 for details on country and party controls.