Presidential Coattails and Legislative Fragmentation*

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ABSTRACT

Considerable evidence suggests that legislative fragmentation can negatively affect the survival of democratic presidential regimes. While there is a vast literature examining the determinants of legislative fragmentation, one factor that has traditionally been overlooked is the impact of presidential elections. Do presidential elections increase or decrease legislative fragmentation? Does it matter if presidents are elected by plurality rule or by runoff? Using a new dataset that covers all democratic legislative and presidential elections between 1946 and 2000, I find that presidential coattails can reduce, increase, or have no effect on legislative fragmentation depending on the number of presidential candidates. I also find strong evidence that social heterogeneity increases the number of presidential candidates when runoff systems are employed. Taken together, these results suggest that the widespread adoption of runoffs by newly democratic presidential regimes will likely increase legislative fragmentation, thereby putting their democratic survival at increased risk.

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1 Introduction

Considerable evidence suggests that legislative fragmentation has a deleterious effect on the survival of presidential regimes (Mainwaring 1993, Stepan & Skach 1993).[1] As a result, it is important to determine the factors that influence the number of parties in these countries. While there is a vast literature examining the determinants of party system size around the world (Duverger [1954] 1963, Lipset & Rokkan 1967, Rae 1971, Sartori 1976, Riker 1982), one factor that has traditionally been overlooked is the impact of presidential elections. Do presidential elections increase or decrease legislative fragmentation? Does it matter if presidents are elected by plurality rule or by runoff? Answers to these questions are particularly important given the recent increase in the number of democratic presidential regimes in the world and the growing popularity of runoff systems to elect presidents. As of 2000, there were 35 democratic presidential regimes in the world compared to just eight in 1978. Presidential regimes now comprise almost one third of all the world's democracies. While runoffs were employed in only 30.3% of presidential elections in the 1950s, they were used in 69% of presidential elections in the 1990s. Do these dramatic changes matter for the fragmentation of party systems and, by implication, for the survival of presidential regimes? Would the current regime in Afghanistan have improved its chances of surviving if it had chosen to use plurality rule to elect its president rather than a runoff procedure?

While the impact of presidential elections on legislative fragmentation has traditionally been overlooked in comparative politics, this has recently begun to change.[2] Several studies in the last decade suggest that presidential elections can affect the size of the legislative party system through a coattails effect (Shugart & Carey 1992, Jones 1994, Cox 1997, Mainwaring & Shugart 1997, Filippov, Ordeshook & Shvetsova 1999, Mozaffar, Scarritt & Galaich 2003). However, the results thus far have been somewhat contradictory. Some research has found that presidential elections increase party system fragmentation (Filippov, Ordeshook & Shvetsova 1999), while other analyses suggest the opposite (Cox 1997, Shugart & Carey 1992, Mozaffar,

[1] Legislative fragmentation is also thought to have other negative consequences such as encouraging party system extremism (Cox 1990), political violence (Powell 1982), and cabinet instability (Laver & Schofield 1998).

[2] In contrast to the comparative politics literature, there have been numerous articles addressing the presence (or absence) of presidential coattails in the context of American politics. See, for example, the articles by Calvert and Ferejohn (1983, 1984).

Scarritt & Galaich 2003). Still others suggest that presidential elections may have no effect (Coppedge 2002, Samuels 2000). Much of the existing research focuses on particular regions of the world where there can be limited variation in the institutional rules for electing presidents. For example, all of the elections analyzed by Filippov, Ordeshook and Shvetsova (1999) come from East European countries that employ a runoff procedure for electing the president. As a result, it is hard to know whether their conclusion that presidential systems increase the number of electoral parties is a feature of presidential regimes in general or only those that employ runoff procedures.

Given the contradictory results that exist, it is worthwhile reexamining the influence of presidential elections on legislative fragmentation using data from around the world. This is precisely what I do in the next section using a new dataset comprising all democratic legislative and presidential elections in the world from 1946 or independence to 2000 (Golder 2005). I show that it is possible to resolve the conflicting results in the literature by recognizing that the effect of presidential elections depends on the number of presidential candidates. Specifically, presidential elections tend to reduce legislative fragmentation when there are few presidential candidates but may actually increase it if the number of presidential candidates is sufficiently high.

This result naturally raises the question as to what factors determine the variation in the number of presidential candidates. I address this question in the third section by examining the effect of social heterogeneity and electoral formula on the number of presidential candidates. Although there is a growing consensus that institutional and sociological factors interact to determine the fragmentation of party systems (Ordeshook & Shvetsova 1994, Jones 1994, Filippov, Ordeshook & Shvetsova 1999, Amorim Neto & Cox 1997, Mozaffar, Scarritt & Galaich 2003), relatively little is known about how these factors affect the number of presidential candidates.[3] In this section, I illustrate how Duverger's theory and its focus on the interaction of social forces and electoral rules can usefully be applied to investigate the number of presidential candidates (Clark & Golder 2006). As Duverger ([1954] 1963, 239) predicts, I find that social heterogeneity increases the number of presidential candidates when presidents are elected by runoff but not when they are elected by plurality rule. This result supports recent find-

[3]In fact, I know of only three studies that have systematically analyzed the determinants of the number of presidential candidates (Amorim Neto & Cox 1997, Jones 1999, Jones 2004).

ings from an experimental study of voter coordination in runoff and plurality rule elections (Morton & Rietz 2004).

Taken together, these results have important substantive implications given the recent increase in the number of democratic presidential regimes in the world and their apparent propensity to employ runoffs to elect their president and proportional representation to elect their representatives. The analyses presented here indicate that permissive electoral systems such as these are likely to promote legislative fragmentation, thereby putting their democratic survival at increased risk.

2 Presidential Coattails and Legislative Fragmentation

In this section, I outline the theoretical argument linking presidential elections and legislative fragmentation. Presidential elections are commonly thought to influence legislative fragmentation through a coattails effect where the fortunes of electoral parties are tied to the fate of their party's presidential candidate (Cox 1997, Samuels 2000, Mozaffar, Scarritt & Galaich 2003). It is the existence of economies of scale on the part of political elites and information short-cuts on the part of voters that explains why this coattails effect runs from the more important office of the presidency to the less important offices sought by legislative candidates (Samuels 2003). The presidency is nearly always the most important electoral prize in a presidential regime. As a result, presidential candidates become the focus for the vast majority of national media attention and campaign contributions. This aspect of presidential campaigns generates incentives for legislative candidates to organize their campaigns around their party's presidential candidate in the hope of benefiting from his or her organizational, financial, and media advantages (Samuels 2002). Voters also recognize the overwhelming importance of the presidency relative to other political offices in presidential regimes. As a consequence, they typically pay more attention to presidential campaigns and use the party of their presidential candidate as an information short-cut to help them decide how they should vote in legislative elections. Recognizing that voters concentrate their attention on the presidential campaign in this way, legislative candidates have even more of an incentive to coordinate their own campaigns with their party's presidential candidate. This theoretical

framework predicts that one should observe electoral parties being swept into the legislature on the coattails of their presidential candidate (Ferejohn & Calvert 1984). Put simply, the theory behind presidential coattails predicts that parties will be more successful the greater the electoral support going to their presidential candidate.

Although not explicitly recognized in the comparative politics literature, it is possible to discern two slightly different variants of this coattails story. These two variants differ in terms of what they have to say about the length of presidential coattails. The first variant argues that the impact of presidential coattails depends on the temporal proximity of presidential and legislative elections as well as the effective number of presidential candidates. Temporal proximity matters because presidential elections are believed to have their strongest effect when presidential and legislative elections are held concurrently. The further apart in time these elections are held, the less likely it is thought that presidential elections will significantly influence the behavior of voters and party elites in legislative elections. The actual direction of the coattails effect is expected to depend on the effective number of presidential candidates. Typically there is only a small number of viable presidential candidates. This is because elites and voters respond to the fact that only one or two candidates can realistically win by engaging in strategic entry and strategic voting. In situations like this, temporally-proximate presidential elections should have a reductive effect on the effective number of electoral parties since parties that are not viable at the presidential level will be electorally disadvantaged.[4] However, this reductive effect is likely to become weaker as the effective number of presidential candidates grows. In fact, presidential elections may actually increase legislative fragmentation if the effective number of presidential candidates is sufficiently large. Thus, one may observe temporally-proximate presidential elections decreasing, increasing, or having no effect on party system fragmentation depending on the number of presidential candidates. This variant of the coattails story

[4]Note that the theory behind presidential coattails refers specifically to the effective, and not the actual, number of parties and presidential candidates. For reasons already laid out, the existence of presidential coattails should mean that, no matter how many electoral parties compete in legislative elections, only those with electorally viable presidential candidates will enjoy significant support amongst the voters. As a result, an appropriate test of the presidential coattails theory requires us to capture not only the number of presidential candidates and parties but also the way in which electoral support is distributed among them. This is precisely what the concept of effective parties and presidential candidates does because they are calculated as $\frac{1}{\Sigma v_i^2}$, where v_i is the percentage of votes won by the i^{th} party or presidential candidate.

generates the following hypothesis:

> **Short Coattails Hypothesis:** Temporally-proximate presidential elections will reduce the effective number of electoral parties if and only if the effective number of presidential candidates is sufficiently low.

I call this the short coattails hypothesis because it refers specifically to temporally-proximate presidential elections. The implication is that presidential elections that do not occur close to legislative elections will not have a coattails effect on the effective number of electoral parties.

The second variant of the coattails story is very similar except that it argues that the effective number of electoral parties will be closely tied to the effective number of presidential candidates irrespective of whether presidential and legislative elections are temporally proximate. In other words, presidential coattails may be long as well as short. One interpretation of long presidential coattails is that they indicate a highly institutionalized party system where the benefits a party receives from being associated with a particular presidential candidate persist long after a presidential election has taken place. This variant of the coattails story generates the following hypothesis:

> **Long Coattails Hypothesis:** An increase in the effective number of presidential candidates will lead to a higher effective number of electoral parties even when presidential and legislative elections are completely non-concurrent.

Since presidential elections may have both a short and long term effect on legislative fragmentation, the two variants of the coattails story are not necessarily rival. However, they do generate distinct hypotheses that can be tested.

Presidential elections are obviously only one factor that influence the fragmentation of party systems. Indeed, there is considerable evidence to suggest that party system size is primarily shaped by the interaction of social heterogeneity and the permissiveness of the electoral system (Ordeshook & Shvetsova 1994, Amorim Neto & Cox 1997, Mozaffar, Scarritt & Galaich 2003). More specifically, social heterogeneity is expected to increase the effective number of parties when the electoral system is sufficiently permissive (Duverger [1954] 1963, Clark & Golder 2006). Although I am primarily

concerned here with the impact of presidential elections on legislative fragmentation, it is important to control for the effects of social heterogeneity and electoral institutions on party system size.

2.1 The Model and Data

The short and long coattails hypotheses can both be tested using the following model:

$$\begin{aligned} ElectoralParties = \beta_0 &+ \beta_1 Proximity + \beta_2 PresidentCandidates \\ &+ \beta_3 Proximity \times PresidentCandidates \\ &+ \beta_4 Ethnic + \beta_5 ln(Magnitude) \\ &+ \beta_6 Ethnic \times ln(Magnitude) + \epsilon \end{aligned} \quad (1)$$

The dependent variable measures the effective number of electoral parties.[5] This is typically calculated as $\frac{1}{\Sigma v_i^2}$, where v_i is the percentage of votes won by the i^{th} party. Measurement issues can sometimes cause problems, though, because official electoral statistics do not always provide information on all of the competing parties. For example, very small parties are often lumped together into a residual category known as "other". Although existing studies of presidential coattails do not address this issue, the way in which this residual category is treated can significantly influence the effective number of parties that is calculated. As a result, I omit 18 elections or about 2.9% of the sample where the residual category is so large (greater than 15% of the votes) that there is little hope of measuring the effective number of parties accurately. I should note that including these elections does not affect the inferences drawn from my analysis. For the remaining elections, I use the method of bounds to calculate a more accurate effective number of parties. Essentially, the method of bounds involves calculating the largest and smallest possible effective number of parties given the size of the "other" category and then taking the mean (Taagepera 1997).

Proximity is a continuous measure of the temporal proximity of presidential and legislative elections. It is calculated as $2 \times \left| \frac{L_t - P_{t-1}}{P_{t+1} - P_{t-1}} - 1/2 \right|$,

[5] Presidential coattails can only affect how individuals vote; they cannot affect how votes are counted and mechanically translated into seats by the aggregation rules of the electoral system. It is to avoid confounding the impact of presidential coattails on the party system and the mechanical effect of electoral institutions that I focus on electoral, rather than legislative, parties.

where L_t is the year of the legislative election, P_{t-1} is the year of the previous presidential election, and P_{t+1} is the year of the next presidential election (Amorim Neto & Cox 1997). *Proximity* equals one whenever presidential and legislative elections are held concurrently and zero whenever there are midterm legislative elections or no direct presidential elections. *PresidentCandidates* measures the effective number of presidential candidates. Unlike with electoral parties, measurement issues do not normally arise with this variable because official electoral statistics nearly always provide results for all competing presidential candidates.

Ethnic measures the effective number of ethnic groups and is my proxy for social heterogeneity. Obviously, ethnic diversity represents just one element of social heterogeneity. However, it is a proxy that has been used in all previous analyses and, therefore, provides the best means for comparing my results with existing findings. *Ethnic* is calculated as $\frac{1}{\Sigma g_i^2}$, where g_i is the percentage of the population comprised by the i^{th} ethnic group. Data for this variable come from Fearon (2003) and cover 822 ethnic groups in 160 countries that made up at least 1% of a country's population in the early 1990s. With the exception of Mozaffar *et al.* (2003), virtually all existing studies of party system fragmentation have employed data from the index of Ethno-Linguistic Fractionalization (ELF) to capture ethnic diversity. The problem is that this data is out of date and contains basic coding inaccuracies. In his recent discussion of the difficulties that arise when trying to capture a country's ethnic diversity in a single measure, Posner (2004, 853) notes that Fearon's measure of ethnic diversity "offer[s] important improvements over ELF."

Magnitude measures the average district magnitude in the lowest electoral tier in a country, something that has long been considered the decisive factor in determining the permissiveness of an electoral system (Cox 1997). It is logged here to capture the intuition that the marginal effect of a unit change in district magnitude is smaller as magnitude increases. Amorim Neto and Cox (1997) also include the percentage of seats allocated in upper tiers as a measure of electoral system permissiveness in their model of party system size. While subsequent research has corroborated their claims concerning the impact of district magnitude, the same is not true for upper tier seats. For example, Clark and Golder (2006) find that Amorim Neto and Cox's claims regarding upper tier seats have no support in the data once their statistical model is correctly specified and interpreted. As a result, the analyses that follow only use district magnitude as a mea-

sure of electoral system permissiveness. It should be noted that including upper tier seats does not change my inferences and simply confirms the result from previous research that these seats do not have any consistent effect on legislative fragmentation. Finally, the two interaction terms in Eq. (1) are required to test the hypotheses that the impact of temporally-proximate presidential elections and ethnic heterogeneity depends on the effective number of presidential candidates and the permissiveness of the electoral system respectively.

The marginal effect of temporally-proximate presidential elections is $\frac{\partial ElectoralParties}{\partial Proximity} = \beta_1 + \beta_3 PresidentCandidates$. The short coattails hypothesis indicates that temporally-proximate presidential elections will have a reductive effect on the number of electoral parties when there are few presidential candidates. Thus, β_1 should be negative. The same hypothesis also predicts that that this reductive effect should become weaker as the number of presidential candidates increases. This means that β_3 should be positive. This in turn suggests that if the effective number of presidential candidates is sufficiently high, then the marginal effect of presidential elections may stop being negative and become positive. The long coattails hypothesis predicts that an increase in the effective number of presidential candidates will lead to more electoral parties even when elections are completely non-concurrent. Therefore, β_2 should be positive. As for the control variables, β_4 should be indistinguishable from zero since ethnic heterogeneity is not expected to affect the number of electoral parties in non-permissive, single-member district plurality systems i.e. when $ln(Magnitude) = 0$. However, the marginal effect of ethnic heterogeneity should become positive and significant as district magnitude increases. As a result, β_6 should be positive.

The dataset covers all democratic legislative elections in the world from 1946 to 2000.[6] This amounts to 867 legislative elections. I omit several elections because they are unsuitable for testing the coattails hypotheses. I exclude elections in Kiribati, Kyrgzstan, Lebanon, the Marshall Islands, Micronesia, Nauru and Palau because it is impossible to identify formal political parties in these countries. I also drop the Colombian elections between 1958 and 1970 because there was a constitutional agreement during this period that the Conservative and Liberal Party would alternate in power and share the legislative seats irrespective of the electoral results. I also

[6] A regime is classified as a dictatorship if either (i) the chief executive is not elected, (ii) the legislature is not elected, (iii) there is no more than one party, or (iv) there has been no alternation in power. In other words, a regime is democratic if those who govern are selected through contested elections (Przeworski et al. 2000).

exclude elections from fused vote systems in which a citizen casts a single ballot for the presidency and the legislature. This is because these systems prohibit split-ticket voting and would bias the results in favor of my finding an effect of presidential elections on the effective number of electoral parties. As a result, I drop all elections in Bolivia and Uruguay, as well as Honduran elections up to 1993 and Guatemalan elections up to 1990. I also drop elections in the Dominican Republic for 1966, 1970, 1974 and 1986. This leaves a total of 603 legislative elections.

I test my hypotheses using both cross-sectional and pooled analyses. In the pooled analyses, the structure of my particular data complicates the estimation issues that typically arise when dealing with longitudinal data. The important thing to note is that while ordinary least squares (OLS) is consistent with longitudinal data, the standard errors may be incorrect. Feasible generalized least squares (FGLS) offers a potential solution to this problem. However, FGLS is inappropriate here because it would significantly underestimate the standard errors given that the number of time periods (or elections) is not very large compared to the number of countries (Beck & Katz 1995). An alternative solution might be to employ panel-corrected standard errors (PCSEs). However, one might reasonably question the usefulness of PCSEs in this particular setting given that the accuracy of PCSEs increases with the number of observations per country and many countries in the dataset have not had many elections. Given these concerns, I employ a third option and use OLS with robust standard errors clustered by country.

While it is common to include a lagged dependent variable with longitudinal data to take account of serial correlation, the structure of my particular data suggests that this might be inadvisable. First, the observations in the dataset do not always come in regular intervals either within countries or across countries. For example, Ireland had two elections in 1982 but then had to wait five years for its next election. In these circumstances, it is difficult to know how one would interpret the estimated coefficient on any lagged dependent variable were one to be included. Second, the panel nature of the dataset (small T, large N) means that the inclusion of a lagged dependent variable would significantly reduce the sample size and drop all countries that only ever experienced one election in any given democratic period. Third, I am disinclined to include a lagged dependent variable because the implicit assumption underlying its inclusion is that the explanatory variables affect the dependent variable at a geometrically declining rate over time. A

reasonable interpretation of the coattails story is that the effect of presidential coattails should only be felt in the immediate election. For example, it is hard to see why the electoral success of a presidential candidate in 1980 would continue to sweep his legislative counterparts into office, say, several elections later in 2000. Thus, for both theoretical and practical reasons, I present results from models where there is no lagged dependent variable. I should note at this point that none of my inferences would be affected if I had employed PCSEs with or without a lagged dependent variable rather than robust standard errors clustered by country.

2.2 Results

The results from six slightly different models are shown in Table 1. I first report results from a cross-sectional analysis of elections in the 1980s using data from Amorim Neto and Cox (1997).[7] I use their analysis of party system size as a benchmark against which to compare the additional information presented here. All remaining columns present results from analyses using my own more extensive dataset. The second and third columns present results from a cross-sectional analysis of elections in the 1980s and 1990s. To match the selection criteria applied by Amorim Neto and Cox, I chose the elections that occurred closest to 1985 and 1995. My results do not depend on this choice and, in fact, they would have been stronger if I had chosen the elections that occurred closest to either 1980, 1990, or 2000 instead. The fourth column provides results from a cross-section of elections in the 1990s that occurred in established democracies only. In effect, I exclude countries that transitioned to democracy after 1989. I make this distinction because previous research has found that party systems in established democracies may be different to those in new democracies (Clark & Golder 2006). These cross-sectional results can be compared to those from pooled models that differ in terms of whether they exclude countries that transitioned to democracy after 1989.

[7] Amorim Neto and Cox include legislative elections for all polities that scored a 1 or a 2 on Freedom House's score on political rights in the 1980s. They examine the legislative election that occurred closest to 1985 in each country.

Table 1: The Effect of Presidential Coattails on Legislative Fragmentation

Dependent Variable: The Effective Number of Electoral Parties

	Cross-Sectional Analyses				Pooled Analyses: 1946-2000	
Regressor	1980s Amorim Neto & Cox Data	1980s Whole Sample	1990s Whole Sample	1990s Established Democracies	Whole Sample	Established Democracies
Proximity	-5.87***	-2.80***	-4.42***	-5.10***	-3.53***	-3.44***
	(1.31)	(1.02)	(1.00)	(1.02)	(0.54)	(0.49)
PresidentCandidates	0.21	1.19***	0.20	0.07	0.33*	0.29*
	(0.27)	(0.31)	(0.25)	(0.14)	(0.17)	(0.17)
Proximity×	1.76**	-0.58	1.16***	1.47***	0.84***	0.82***
PresidentCandidates	(0.75)	(0.48)	(0.30)	(0.31)	(0.23)	(0.22)
Ethnic	-0.08	-0.05	0.03	-0.87	0.13	0.10
	(0.20)	(0.05)	(0.23)	(0.56)	(0.12)	(0.14)
ln(Magnitude)	-0.37	-0.34	0.63**	-0.78	0.44**	-0.04
	(0.35)	(0.33)	(0.25)	(0.58)	(0.19)	(0.24)
Ethnic×	0.61**	0.41*	-0.14	0.80**	0.002	0.35*
ln(Magnitude)	(0.27)	(0.22)	(0.08)	(0.39)	(0.10)	(0.18)
Constant	2.76***	3.32***	4.30***	5.23***	3.12***	3.01***
	(0.41)	(0.47)	(0.58)	(1.06)	(0.33)	(0.33)
Observations	51	40	72	42	603	528
R^2	0.68	0.51	0.25	0.44	0.25	0.33

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$ (two-tailed)

Robust standard errors are given in parentheses (clustered by country in pooled analyses).

First column uses data from Amorim Neto and Cox (1997). All other columns use my own data.

'Established Democracies' omits elections from countries that transitioned to democracy after 1989.

Before interpreting these results, let me briefly review the findings reported by Amorim Neto and Cox (1997) as a point of comparison. Although Amorim Neto and Cox include variables relating to presidential elections in their analysis of party system size, they do not actually discuss the effect of presidential elections on legislative fragmentation in their results section or conclusion. Moreover, they only present the marginal effect of temporally-proximate presidential elections on the effective number of electoral parties when there are no presidential candidates. They never calculate whether presidential elections have a statistically significant effect when there actually are some presidential candidates.

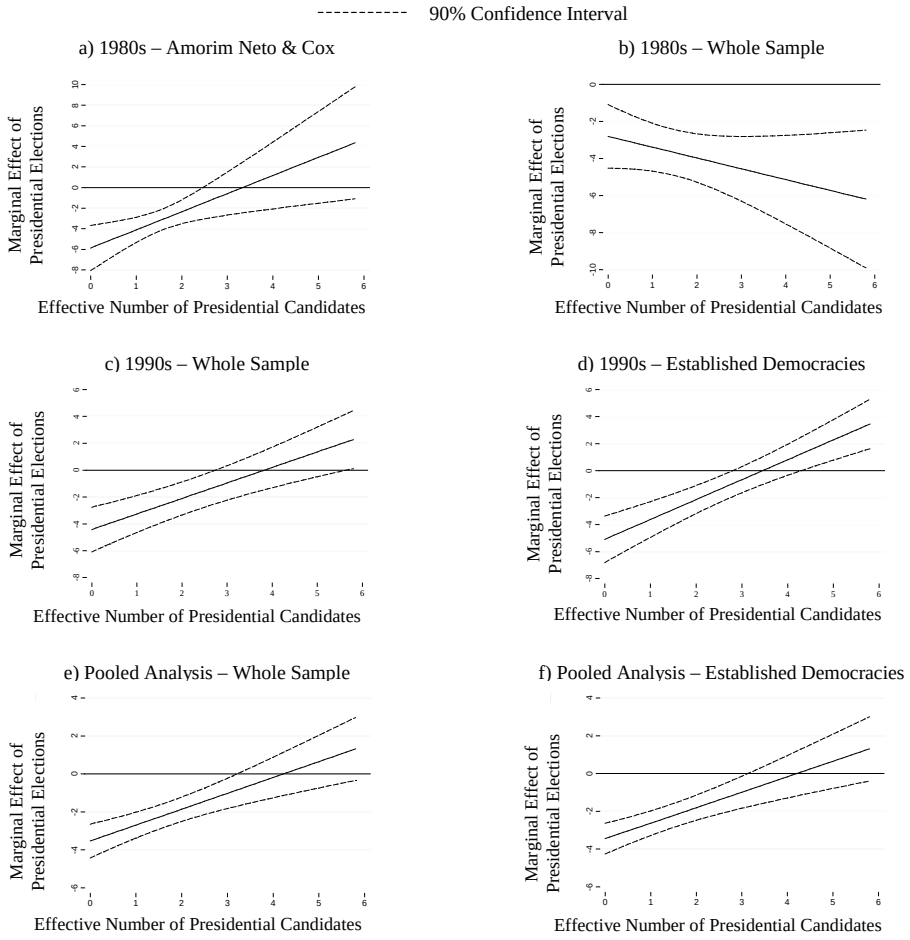
What do the results presented in Table 1 say about presidential coattails? First, the results provide considerable support for the short coattails hypothesis. As predicted, all of the model specifications indicate that temporally-proximate presidential elections have a significant reductive effect on the effective number of electoral parties when there are no presidential candidates i.e. β_1 is always negative and significant. Also as predicted, this reductive effect declines as the number of presidential candidates grows i.e. the coefficient on $Proximity \times PresidentCandidates$ is positive and significant in all but one model specification.[8] In contrast, the results in Table 1 do not provide such compelling evidence in favor of the long coattails hypothesis. Although the coefficient on $PresidentCandidates$ is positive in all six models as predicted, it is only statistically significant in half of them. Thus, there is only mixed evidence for the claim that an increase in the effective number of presidential candidates will lead to more electoral parties when legislative and presidential elections are completely non-concurrent. Taken together, these results indicate that presidential elections do influence legislative fragmentation and that they do so primarily through a short term coattails effect.

While the information provided in Table 1 is informative, it remains somewhat limited. After all, the results do not indicate whether presidential elections have a statistically significant impact on legislative fragmentation when the effective number of presidential candidates is greater than zero. As a result, I graphically illustrate the marginal effect of temporally-proximate presidential elections on the effective number of electoral parties across the

[8]The negative (although insignificant) sign of this coefficient for the 1980s cross-section using my own data is somewhat anomalous. However, the same coefficient is positive and significant in the 1980s cross-section using data from Amorim Neto and Cox. Moreover, this coefficient would have been positive and significant if I had chosen elections from my own dataset that occurred closest to either 1980 or 1990 rather than 1985.

observed range of presidential candidates for all six model specifications in Figure 1. The solid sloping line in each figure indicates how the marginal

Figure 1: The Marginal Effect of Temporally-Proximate Presidential Elections on the Effective Number of Electoral Parties



effect of temporally-proximate presidential elections changes as the effective number of presidential candidates increases. One can see whether this effect is significant by considering the two-tailed 90% confidence intervals that are drawn around it. The effect of temporally-proximate presidential elections is significant whenever the upper and lower bounds of the confidence interval are both above (or below) the zero line.

With the exception of the 1980s cross-section using my own data, all of the figures look remarkably similar. As predicted by the short coattails hypothesis, presidential elections have a strong reductive effect on legislative fragmentation when there are few effective presidential candidates. Moreover, this reductive effect declines as the number of presidential candidates increases. Presidential elections stop having a statistically significant reductive effect on the number of electoral parties once there are more than about 2.8 effective presidential candidates.[9] If one only examines those countries where presidential elections take place, roughly 60% of legislative elections between 1946 and 2000 have occurred when there are fewer presidential candidates than this. This indicates that an unconditional model specification that did not take account of the modifying impact of the number of presidential candidates would misleadingly suggest that presidential coattails always lead to a reduction in legislative fragmentation. The results presented here clearly indicate that presidential elections only have a reductive effect when the effective number of presidential candidates is low. It is interesting to note that presidential elections may actually increase legislative fragmentation if the number of presidential candidates is sufficiently high. For example, the marginal effect of presidential elections becomes positive in all six models when there are many presidential candidates and is significant for both of the 1990s cross-sections.

The information portrayed in Figure 1 is interesting because it offers a potential explanation for why some previous studies have found that presidential elections reduce legislative fragmentation (Shugart & Carey 1992, Mozaffar, Scarritt & Galaich 2003, Cox 1997), while others have found that they have little effect (Coppedge 2002, Samuels 2000) or actually increase it (Filippov, Ordeshook & Shvetsova 1999). My results (and theory) indicate that all of these findings are possible depending on the effective number of presidential candidates. This naturally raises the question as to what factors determine the variation in the number of presidential candidates. I address this question in the next section.

Before doing so, though, I briefly summarize the effect of the control variables on party system size. As predicted, ethnic heterogeneity fails to have any statistically significant impact on legislative fragmentation in non-permissive, single-member district plurality systems i.e. $\beta_4 = 0$. This

[9] The exact effective number of presidential candidates at which this occurs ranges from a low of 2.4 for the 1980s cross-section using data from Amorim Neto and Cox to a high of 3.2 for the pooled analysis on the whole sample.

is the case in all six specifications. Also as predicted, the coefficient on $Ethnic \times ln(Magnitude)$ is positive in all but one model and significant in four of the six specifications. This suggests that ethnic heterogeneity may increase the number of electoral parties once the electoral system becomes sufficiently permissive. These findings corroborate existing results in the party system literature regarding the interactive effect of ethnic heterogeneity and electoral institutions on legislative fragmentation (Ordeshook & Shvetsova 1994, Amorim Neto & Cox 1997, Clark & Golder 2006).

3 The Number of Presidential Candidates

The analysis in the previous section finds that the effective number of presidential candidates has an important modifying effect on how presidential elections influence legislative fragmentation. Thus, one might want to know the determinants of the number of presidential candidates. Unfortunately, while there has been a steady and substantial accumulation of empirical and theoretical knowledge concerning the determinants of party system size, relatively little is known about the factors that influence the number of presidential candidates. This is somewhat surprising given that there is no apparent reason why Duverger's widely-accepted theoretical framework highlighting the interactive effect of social heterogeneity and electoral system permissiveness on party system size should not apply equally well to the effective number of presidential candidates.

When applied to party systems, Duverger's theoretical framework suggests that social forces create more or less demand for the multiplication of parties while electoral institutions act as a filter or valve determining how accurately these pressures are translated into actual parties that win votes and seats (Clark & Golder 2006).[10] It seems logical that social heterogeneity should create demands for presidential candidates in the exact same way that it is thought to create demands for political parties. The extent to which these demands are actually translated into presidential candidates should also depend on the permissiveness of the electoral system. After

[10] As Duverger ([1954] 1963, 205) originally put it, '[t]he influence of ballot systems could be compared to that of a brake or an accelerator. The multiplication of parties, which arises as a result of other factors, is facilitated by one type of electoral system and hindered by another. Ballot procedure, however, has no real driving power. The most decisive influences in this respect are aspects of the life of the nation such as ideologies and particularly the socio-economic structure.'

all, non-permissive electoral rules in presidential elections create the same basic incentives for voters and political entrepreneurs to engage in strategic behavior (strategic voting and strategic entry) as they do in legislative elections.

This theoretical framework implies that there are two reasons why a country might have few presidential candidates. First, it could be the case that the demand for presidential candidates is low because there are few social cleavages. And second, it could be the case that the demand for presidential candidates is high but the electoral system is not permissive. Only a polity characterized by both a high degree of social heterogeneity and a highly permissive electoral system should produce a large number of presidential candidates. According to this line of reasoning, social heterogeneity will only increase the number of presidential candidates when electoral institutions are sufficiently permissive.

The primary determinant of electoral system permissiveness in presidential elections is the electoral formula. In this section, I examine how the electoral formula - plurality rule or runoff - modifies the extent to which social heterogeneity is translated into presidential candidates. The first thing to note is that plurality rule presidential elections are structurally equivalent to the highly disproportional single-member district plurality (SMDP) legislative elections. This is because they both employ the same electoral formula and only one candidate can win. As a result, presidential elections employing plurality rule are likely to be very non-permissive. This means that just as I found in the last section that social heterogeneity had no effect on the number of electoral parties in SMDP legislative elections, I should now find that it also has no impact on the effective number of presidential candidates in plurality rule presidential elections. This argument is simply the direct application of Duverger's law to presidential elections.

Runoff elections are typically thought to be more permissive than plurality rule elections. The perception that runoff elections will allow multiple candidates has a long history (Lowell 1896). Duverger ([1954] 1963, 240) goes so far as to claim that with a few reservations, "the tendency of the second ballot to give rise to multi-partism appears to admit of no doubt." One reason why there tends to be more candidates in runoff systems is that the incentives for strategic voting and strategic entry/withdrawal are likely to be weaker than in plurality rule elections (Sartori 1994).[11] Runoff elec-

[11] Cox (1997, 124-125) has credibly argued that runoff systems do create incentives

tions are also thought to encourage fragmentation because two (or more) candidates can "win" the first round (Wright & Riker 1989). This is important since runoffs hold out the possibility of increased media exposure and campaign contributions if only the candidate can make it to the second round. In contrast to plurality elections, it is also the case that candidates who know they have no realistic shot at winning the presidency may still have an incentive to stand in runoff elections. This is because they know that a good showing in the first round can leave them in a strong bargaining position to obtain concessions from candidates who need their endorsement in the second round. The claim that runoff elections are more permissive than plurality rule elections is also supported by the vast majority of the formal literature (Cox 1997, Osborne & Slivinski 1996, Greenberg & Shepsle 1987).[12] The argument that runoff systems are more permissive than those using plurality rule generates the following hypothesis:

> **Runoff Hypothesis:** Social heterogeneity only increases the effective number of presidential candidates in runoff systems. It has no effect in plurality rule elections.

The existing empirical evidence regarding plurality and runoff elections is somewhat mixed. Gerber and Morton (2003) show that primaries in US congressional districts with runoff procedures repress the number of candidates. In contrast, Wright and Riker (1989) find that runoffs increase the number of candidates in US gubernatorial elections. Other evidence suggests that runoffs may increase the effective number of presidential candidates in various countries around the world (Jones 1999, Shugart & Carey 1992). It is important to note that all of these studies have examined the effect of the electoral formula in an unconditional manner. I believe that this purely institutional approach is mistaken and that unconditional comparative static predictions about the effect of electoral laws on the number of candidates are necessarily indeterminate. The causal story that I present indicates that the effective number of presidential candidates is determined

for strategic voting. However, he notes that the informational requirements necessary for strategic voting to occur in runoff elections are much higher than in plurality rule elections. Thus, it is reasonable to think that the propensity for strategic voting should be lower in runoff, rather than plurality rule, systems.

[12] Callander (forthcoming) represents an exception. His formal model suggests that only two parties or candidates are viable in equilibrium in both plurality rule and runoff elections. However, he himself argues that runoff systems can maintain multiparty systems if they already exist whereas plurality rule systems cannot.

by the interaction of social forces and electoral rules. It follows from this that it is impossible to predict whether there will be many presidential candidates in permissive electoral systems such as those with runoff procedures without any knowledge concerning the social pressure for the multiplication of candidates. There may be many candidates or there may be few – it will all depend on the level of social heterogeneity. The failure to recognize this point and adequately control for the interactive relationship with social heterogeneity may explain the contradictory results regarding plurality and runoff elections in the existing literature.

3.1 The Model and Data

The runoff hypothesis can be tested using the following model:

$$\begin{aligned} PresidentCandidates = \beta_0 &+ \beta_1 Ethnic + \beta_2 Runoff \\ &+ \beta_3 Ethnic \times Runoff + \epsilon \end{aligned} \tag{2}$$

As before, *PresidentCandidates* and *Ethnic* measure the effective number of presidential candidates and ethnic groups respectively. $Runoff$ is a dummy variable equal to one if the presidential election involves a runoff of some kind and zero otherwise. Presidential elections are coded as employing a runoff procedure whether they use an absolute or qualified majority threshold.[13] Most commentators have incorrectly conflated the runoff system with the requirement for an absolute majority. It is important to recognize that a "distinct category of electoral systems can ... be identified that have a relatively high threshold of first-round success and necessitate a second round if this threshold is not reached" (Birch 2003, 321). The various arguments presented above for why elections employing runoff procedures are more permissive than plurality rule elections are all based on the fact that there are potentially two rounds for electing the president; none rely on whether the specific threshold required to make it to the second round is an absolute or qualified majority. It is for this reason that I have coded both absolute and qualified majority systems as employing a runoff procedure. The interaction term $Ethnic \times Runoff$ is included to test the conditional nature of the runoff hypothesis.

[13] An absolute majority threshold requires that a candidate win more than 50% of the vote to be elected in the first round. The threshold that must be met in qualified majority systems varies from a low of 33% in the Peruvian elections of 1956 and 1963 to a high of 55% in the 1996 Sierra Leone election.

The marginal effect of ethnic heterogeneity on the effective number of presidential candidates is $\frac{\partial PresidentCandidates}{\partial Ethnic} = \beta_1 + \beta_3 Runoff$. The claim that greater ethnic heterogeneity should increase the effective number of candidates in runoff systems simply indicates that this effect should be positive and statistically significant when $Runoff = 1$. Since the marginal effect of ethnic heterogeneity is expected to be increasing as electoral institutions become more permissive, β_3 should also be positive. Because ethnic heterogeneity is expected to have little or no effect in plurality systems i.e. when *Runoff*=0, β_1 should be indistinguishable from zero.

The dataset includes all 294 democratic presidential elections from 1946 to 2000. As such, it is considerably larger than all previous studies.[14] I omit several elections because they are unsuitable for testing the runoff hypothesis. For example, I exclude elections in which the president is always indirectly elected by an electoral college because these elections do not resemble the plurality or runoff elections for which my theory provides predictions.[15] This affects presidential elections in Finland between 1946 and 1982, all elections in the United States, and the 1946, 1958, 1963, 1983 and 1989 Argentinian elections. I also drop presidential elections in Sri Lanka and Ireland because they employ the single transferable vote (STV) rather than a plurality or runoff formula. The results that I report below would be unaffected if I had coded STV and electoral college elections as "non-runoff" systems; in fact, the results would have been even stronger. Finally, I omit presidential elections in Kiribati because the number of candidates permitted to run is artificially limited to a maximum of four. This leaves a total of 214 presidential elections in 53 countries. 79 elections employed plurality rule, while 135 involved a runoff procedure of some kind.

I test the runoff hypothesis using both cross-sectional and pooled models. In the pooled analyses, I again use OLS with robust standard errors clustered on each country. For the same reasons as presented earlier, I believe that this is the most appropriate estimation procedure given the particular

[14] Amorim Neto and Cox (1997) analyzed data on 16 presidential elections during the 1980s, Jones (1994) focused on 16 distinct Latin American electoral systems from the 1940s to the 1990s, and Filippov, Ordeshook and Shvetsova (1999) examined 34 elections in 16 East European countries in the 1990s. Jones (1999) also conducted a more comprehensive study using data from 147 presidential elections worldwide.

[15] The US presidential elections of 2000 illustrate that the recipient of the most votes (Gore) need not be elected president when an electoral college is employed. As a result, elections using an electoral college differ from those using plurality rule. The fact that there is no threshold of votes that would elect a president in the first round indicates that these elections also differ from those employing a runoff procedure.

structure of my data. I should note, though, that my inferences are robust to employing PCSEs and a lagged dependent variable.

3.2 Results

The results from six slightly different models are shown in Table 2. Again, I report the results from Amorim Neto and Cox (1997) in the first column as a means of contrasting my results with those already in the literature. Their results are based on a cross-sectional analysis of presidential elections in 16 different countries during the 1980s. All remaining columns present results from analyses using my own more extensive dataset. The second and third columns present results from cross-sectional analyses of elections in the 1980s and 1990s. To match my earlier analyses, the specific elections chosen are those that occurred closest to 1985 and 1995.[16] These results can be compared to various pooled analyses. While the first pooled analysis presents results from the whole sample, the second excludes countries that transitioned to democracy after 1989. The last pooled analysis focuses on the same established democracies in the previous model but excludes presidential elections from mixed and parliamentary regimes.[17] One would expect that my results should be stronger when I confine my investigation to established democracies or pure presidential regimes only. Indeed, the fact that the R^2 doubles in size when I compare the pooled analysis of the whole sample with that of pure presidential regimes suggests that this is the case.

[16] Again, my inferences do not depend on the specific elections chosen. Cross-sections based on elections that occurred closest to 1980, 1990, or 2000 produce similar or even stronger results.

[17] I employ the coding rules proposed by Przeworski *et al.* (2000) to distinguish between presidential, parliamentary, and mixed regimes. A presidential regime is one in which the government cannot be removed by the legislature, a parliamentary system is one in which the government serves so long as it maintains the confidence of the legislature, and a mixed system is one in which the government must respond both to the legislature and to an elected president.

Table 2: The Effect of Ethnic Heterogeneity on the Effective Number of Presidential Candidates

Dependent Variable: The Effective Number of Presidential Candidates

	Cross-Sectional Analyses			Pooled Analyses: 1946-2000		
Regressor	1980s Amorim Neto & Cox	1980s Whole Sample	1990s Whole Sample	Whole Sample	Established Democracies	Presidential Regimes
Ethnic	-0.98	0.11	-0.25**	-0.08	-0.06	-0.08
	(0.77)	(0.12)	(0.12)	(0.07)	(0.13)	(0.13)
Runoff	-2.49	0.32	-0.82	-0.46	-0.86*	-1.24**
	(1.56)	(0.81)	(0.57)	(0.29)	(0.48)	(0.47)
Ethnic*Runoff	2.01*	0.54	0.44***	0.42***	0.65***	0.77***
	(0.94)	(0.33)	(0.15)	(0.12)	(0.22)	(0.24)
Constant	4.30***	2.09***	3.63***	2.82***	2.79***	2.86***
	(1.23)	(0.41)	(0.48)	(0.17)	(0.25)	(0.25)
Observations	16	18	49	214	152	126
R^2	0.20	0.48	0.08	0.13	0.20	0.26

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$ (two-tailed)

Robust standard errors in parentheses (clustered by country in pooled analyses).

First column uses data from Amorim Neto and Cox (1997). All other columns use my own data.

"Established Democracies" omits elections from countries that transitioned to democracy after 1989.

"Presidential Regimes" also omits presidential elections in parliamentary and mixed regimes.

The results in Table 2 provide strong support for the runoff hypothesis. As predicted, none of the models provide any evidence that ethnic heterogeneity significantly increases the effective number of candidates when plurality rule is the electoral formula i.e. β_1 is never positive and significant. Also as predicted, the interaction term is always positive and is significant in five of the six models. While somewhat informative, these results do not allow us to determine whether ethnic heterogeneity significantly increases the number of presidential candidates when there are runoffs. As a result, one is unable to fully evaluate the runoff hypothesis. To resolve this problem, I explicitly calculate and contrast the marginal effect of ethnic heterogeneity in plurality and runoff elections in Table 3.

Table 3: The Marginal Effect of Ethnic Heterogeneity on the Effective Number of Presidential Candidates in Plurality and Runoff Systems

	Marginal Effect of Ethnic Heterogeneity	
Specification	Plurality	Runoff
	Cross-Sectional Analyses	
1980s Amorim Neto & Cox	-0.98	1.03
	(0.77)	(?)
1980s Whole Sample	0.11	0.65*
	(0.12)	(0.31)
1990s Whole Sample	-0.25**	0.19*
	(0.12)	(0.09)
	Pooled Analyses	
Whole Sample	-0.08	0.34***
	(0.07)	(0.11)
Established Democracies	-0.06	0.60***
	(0.13)	(0.20)
Presidential Regimes	-0.08	0.69***
	(0.13)	(0.21)

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$ (two-tailed)
Robust standard errors in parentheses (clustered by country in pooled analyses).

"Established Democracies" omits elections from countries that transitioned to democracy after 1989. "Presidential Regimes" also omits presidential elections from parliamentary and mixed regimes. (?) indicates that this standard error is unknown because Amorim Neto and Cox did not calculate this quantity.

As predicted, the marginal effect of ethnic heterogeneity on the number of presidential candidates is always positive when elections employ runoff provisions. It is not possible to know if the marginal effect of ethnic heterogeneity is statistically significant in the Amorim Neto and Cox analysis because they do not calculate this quantity.[18] However, it can be seen that ethnic heterogeneity does significantly increase the effective number of presidential candidates in all five models where it is possible to calculate the effect of ethnic heterogeneity in runoff systems. Taken together, the results in Table 3 provide considerable evidence in support of the claim that ethnic heterogeneity increases the number of presidential candidates in runoff systems but not in plurality ones.

Are there any reasons to question the validity of these results? One potential problem might lie with my treatment of the electoral formula as exogenously given. While this approach has a well-established tradition and is predominant in the party system literature, Coppedge (2002) has recently hypothesized that runoff provisions might be endogenous to legislative fragmentation and that evidence showing that runoffs increase party system size is potentially spurious. The claim is that fragmented party systems might choose to adopt runoffs to guarantee that presidential elections produce a clear winner. While this particular hypothesis does not cause problems for my analysis here, some analysts might wonder whether runoffs might also be endogenous to the effective number of presidential candidates. Although this would raise a potential endogeneity problem, there are several reasons for thinking that my results remain valid.

First, changes to the electoral formula are extremely rare. The increasing use of runoff provisions that I reported in the introduction is due almost entirely to their adoption by newly independent countries or by countries that have recently transitioned to democracy. Given that my dataset includes 294 presidential elections in 64 countries from 1946 to 2000, it is remarkable that there are only 5 examples of a country changing from (to) plurality rule to (from) a runoff system in any given democratic period.[19]

[18] I was unable to calculate this quantity with their data because the runoff variable is not included in their dataset. The results for Amorim Neto and Cox reported in Table 2 come directly from their article. The information contained in their table of results does not allow one to calculate whether ethnic heterogeneity significantly increases the effective number of presidential candidates in runoff systems.

[19] Colombia, the Dominican Republic and Uruguay switched from plurality rule to absolute majority rule in 1994, 1996, and 1999 respectively. Nicaragua switched from plurality rule to a qualified majority system in 1996. Zambia switched from absolute majority rule

The extreme historical stickiness of the presidential electoral formula is probably not lost on voters or political elites when they make their decisions. Since the political actors that are relevant to my theory probably treat the electoral formula as exogenously given (at least in the short run), it seems reasonable for me to treat the electoral institutions as exogenously given as well. Second, the four countries that switched from plurality rule to a runoff system while they were democracies provide evidence in support of the runoff hypothesis. If the runoff hypothesis is correct, one should observe that the effective number of presidential candidates under the new runoff system in these countries is higher on average than the effective number of candidates under the old plurality system. Indeed, this is exactly what one observes in all four countries. Although some caution is probably advisable here given the small number of observations, the results from these four countries do support the runoff hypothesis. Finally, there are no potential endogeneity problems if I restrict my sample to countries that have employed the same electoral formula since transitioning to democracy. Because there were no presidential candidates who competed in democratic elections prior to the choice of the electoral formula in these countries (the prior period being a dictatorship), it is logically impossible for the effective number of presidential candidates to have caused the adoption of the electoral formula and, therefore, there can be no endogeneity problem. My results and inferences are unaffected if I restrict my sample in this way. For all of these reasons, I believe that one can place considerable confidence in the results generated by my analysis even if one believes that electoral institutions might be endogenously determined.

I had noted that there has been little accumulated knowledge of the factors that determine the number of presidential candidates in the party system literature. This brief analysis begins to remedy this situation. I have focused solely on how electoral system permissiveness and ethnic heterogeneity interact to influence the effective number of presidential candidates. Clearly, more research is required to understand how other institutional features influence presidential elections. For now, it is worthwhile to briefly consider how my results stand in relation to those already in the literature. My analysis suggests that Jones (2004) is incorrect to conclude that there is no interaction effect between presidential runoffs and social heterogeneity. It also indicates that Jones' conclusion that "societal heterogeneity has no noteworthy effect on the number of relevant candidates in presidential elections" is only half correct. While this seems to be the case in plurality

to plurality rule in 1996.

systems, it is not true for those countries that employ runoff procedures. Finally, Jones' (1999, 2004) claim that runoffs increase the number of presidential candidates is consistent with the results presented here once one recognizes that the effect is dependent on the level of ethnic heterogeneity.

4 Conclusion

Strong evidence suggests that legislative fragmentation can negatively affect the survival of democratic presidential regimes (Mainwaring 1993, Stepan & Skach 1993). If this is correct, then the evidence presented here suggests that the institutional framework in which presidential elections are conducted can be an important factor in determining whether a democratic presidential regime survives or not. This is because I find that presidential elections have a significant coattails effect on legislative fragmentation. Specifically, I find that temporally-proximate presidential elections will reduce the size of the party system when there are few presidential candidates. However, this reductive effect declines as the number of presidential candidates increases. In fact, there is some evidence that presidential elections can actually increase legislative fragmentation if the effective number of presidential candidates is sufficiently high. Thus, whether presidential elections help regime survival by reducing legislative fragmentation will depend on the number of presidential candidates.

Building on Duverger's theory, I argued that social forces are the primary driving force behind the multiplication of presidential candidates and that the accuracy with which social cleavages are translated into presidential candidates should depend on the permissiveness of the electoral system. The evidence that I presented supports this theoretical framework. Ethnic heterogeneity increases the number of presidential candidates when a runoff procedure is employed but not when plurality rule is used. These results nicely mirror those found elsewhere in the literature that show how ethnic heterogeneity and electoral system permissiveness interact to determine legislative fragmentation (Ordeshook & Shvetsova 1994, Amorim Neto & Cox 1997, Mozaffar, Scarritt & Galaich 2003, Clark & Golder 2006). When combined with my findings on presidential coattails, these results also suggest that there should be greater legislative fragmentation in those countries using runoffs for presidential elections rather than plurality rule. In fact, some evidence for this already exists (Jones 1994). In the dataset

that I used, the average effective number of electoral parties in presidential regimes that employ runoffs is about 4.75 [4.19, 5.32]. 95% confidence intervals are shown in parentheses. In contrast, the average effective number of electoral parties in those countries employing plurality rule is only 3.15 [2.76, 3.53].

The analyses conducted here have important substantive implications given the large number of new democracies that have recently chosen presidential regimes and permissive electoral institutions. Historically, presidential regimes have always favored permissive electoral systems for their legislative elections - 76% of legislative elections in presidential regimes since 1946 have employed proportional representation in at least one electoral tier (Golder 2005). Considerable theoretical and empirical research has shown that these types of permissive electoral systems are likely to increase legislative fragmentation (at least when ethnic heterogeneity is sufficiently large). The results in Table 1 regarding ethnic heterogeneity and district magnitude provided further evidence in support of this research. What is new in the last decade or so is how many presidential regimes have decided to adopt the permissive runoff system for presidential elections rather than plurality rule.[20] In the 1950s, 48.5% of presidential elections used plurality rule and only 30.3% employed runoffs. However, by the 1990s, 69.3% of presidential elections employed runoffs and only 25.4% used plurality rule. This dramatic change is largely explained by the adoption of runoffs by many of the new democracies in Eastern Europe and Africa. The results presented in Table 3 indicate that this adoption of runoff provisions is only going to exacerbate any legislative fragmentation caused by the use of proportional representation in legislative elections.

Given the potential danger posed by legislative fragmentation to the survival of democratic presidential regimes, it is somewhat surprising that so many new presidential regimes have chosen permissive electoral systems for both legislative and presidential elections.[21] The analyses conducted here indicate that presidential regimes that wanted to have permissive systems for legislative elections could have reduced legislative fragmentation and their

[20] Although historically rare since the beginning of the 20^{th} century, the use of runoff procedures in legislative elections has also become more frequent since the early 1990s (Birch 2003).

[21] It may well have been the case that the choice of permissive electoral systems for legislative and presidential elections was the only one acceptable to all of the relevant groups in these new democracies. However, this does not change the fact that this choice may have negative consequences for their democratic survival.

chances of democratic failure by adopting plurality rule to elect their president. Consider the case of Afghanistan, which has decided to adopt a runoff procedure instead of plurality rule for electing its president. The results presented in Table 2 from the pooled analysis of established democracies indicate that a shift from plurality rule to a runoff system significantly increases the number of presidential candidates whenever the number of ethnic groups is larger than 1.9. Given that Afghanistan has 4.01 effective ethnic groups, the results suggest that there would be 1.77 [0.79, 2.75] fewer effective presidential candidates if it had adopted plurality rule rather than a runoff procedure. The results on presidential coattails presented in Table 1 from the equivalent model suggest that a reduction in the number of presidential candidates by this amount is expected to lead to 1.97 [1.59, 2.34] fewer electoral parties if legislative and presidential elections are held concurrently. Thus, Afghanistan could conceivably expect to have two fewer effective electoral parties if it employed plurality rule rather than a runoff procedure. If it is true that presidentialism and multipartism is indeed the "difficult combination" as Mainwaring (1993) suggests, then the decision to adopt a runoff procedure rather than plurality rule does not bode well for the survival of democracy in countries like Afghanistan.

References

Amorim Neto, Octavio & Gary Cox. 1997. "Electoral Institutions: Cleavage Structures, and the Number of Parties." *American Journal of Political Science* 41(1):149–174.

Beck, Nathaniel & Jonathan Katz. 1995. "What to do (and Not To Do) with Time-Series Cross-Section Data." *American Political Science Review* 89(3):634–647.

Birch, Sarah. 2003. "Two-Round Electoral Systems and Democracy." *Comparative Political Studies* 36(3):319–344.

Callander, Steven. forthcoming. "Duverger's Hypothesis, the Run-Off Rule, and Electoral Competition." *Political Analysis* .

Calvert, Randall & John Ferejohn. 1983. "Coat-Tail Voting in Recent Presidential Elections." *American Political Science Review* 77(2):407–419.

Clark, William & Matt Golder. 2006. "Rehabilitating Duverger's Theory: Testing the Mechanical and Strategic Modifying Effects of Electoral Laws." *Comparative Political Studies* 39.

Coppedge, Michael. 2002. "Presidential Runoffs Do Not Fragment Legislative Party Systems." Unpublished manuscript, Notre Dame University.

Cox, Gary. 1990. "Centripetal and Centrifugal Incentives in Electoral Systems." *American Journal of Political Science* 34(4):903–935.

Cox, Gary. 1997. *Making Votes Count: Strategic Coordination in the World's Electoral Systems*. New York: Cambridge University Press.

Duverger, Maurice. [1954] 1963. *Political Parties: Their Organization and Activity in the Modern State*. New York: John Wiley & Sons, Inc.

Fearon, James. 2003. "Ethnic and Cultural Diversity by Country." *Journal of Economic Growth* 8(2):195–222.

Ferejohn, John & Randall Calvert. 1984. "Presidential Coat-Tails in Historical Perspective." *American Journal of Political Science* 28(1):127–146.

Filippov, Mikhail, Peter Ordeshook & Olga Shvetsova. 1999. "Party Fragmentation and Presidential Elections in Post-Communist Democracies." *Constitutional Political Economy* 10:3–26.

Gerber, Elizabeth & Rebecca Morton. 2003. "Electoral Institutions and Party Competition: The Effects of Nomination Procedures on Electoral Coalition Formation." Unpublished manuscript, University of Michigan and New York University.

Golder, Matt. 2005. "Democratic Electoral Systems Around the World, 1946-2000." *Electoral Studies* 24(1):103–121.

Greenberg, Joseph & Kenneth Shepsle. 1987. "The Effect of Electoral Rewards in Multiparty Competition with Entry." *American Political Science Review* 81(2):525–538.

Jones, Mark. 1994. "Presidential Election Laws and Multipartism in Latin America." *Politic Research Quarterly* 47(1):41–57.

Jones, Mark. 1999. "Electoral Laws and the Effective Number of Candidates in Presidential Elections." *Journal of Politics* 61(1):171–184.

Jones, Mark. 2004. "Electoral Institutions, Social Cleavages, and Candidate Competition in Presidential Elections." *Electoral Studies* 23(1):73–106.

Laver, Michael & Norman Schofield. 1998. *Multiparty Government: The Politics of Coalition in Europe*. Ann Arbor: University of Michigan Press.

Lipset, Seymour & Stein Rokkan. 1967. Cleavage Structures, Party Systems and Voter Alignments: An Introduction. In *Party Systems and Voter Alignments: Cross-National Perspectives*, ed. Seymour Lipset & Stein Rokkan. New York: Free Press.

Lowell, A. Lawrence. 1896. *Government and Politics of Continental Europe*. Boston: Houghton Mifflin.

Mainwaring, Scott. 1993. "The Presidentialism, Multipartism, and Democracy: The Difficult Combination." *Comparative Political Studies* 26(2):198–228.

Mainwaring, Scott & Matthew Shugart. 1997. Conclusion: Presidentialism and the Party System. In *Presidentialism and Democracy in Latin America*, ed. Scott Mainwaring & Matthew Shugart. New York: Cambridge University Press.

Morton, Rebecca & Thomas Rietz. 2004. "Majority Requirements and Voter Coordination." Unpublished manuscript, New York University and the University of Iowa.

Mozaffar, Shaheen, James R. Scarritt & Glen Galaich. 2003. "Electoral Institutions, Ethnopolitical Cleavages and Party Systems in Africa's Emerging Democracies." *American Political Science Review* 97(3):379–390.

Ordeshook, Peter & Olga Shvetsova. 1994. "Ethnic Heterogeneity, District Magnitude, and the Number of Parties." *American Journal of Political Science* 38(1):100–23.

Osborne, Martin & Al Slivinski. 1996. "A Model of Political Competition with Citizen-Candidates." *Quarterly Journal of Economics* 111(1):65–96.

Posner, Daniel. 2004. "Measuring Ethnic Fractionalization in Africa." *American Journal of Political Science* 48(4):849–864.

Powell, G. Bingham. 1982. *Contemporary Democracies: Participation, Stability and Violence*. Cambridge: Harvard University Press.

Przeworski, Adam, Michael E. Alvarez, José Antonio Cheibub & Fernando Limongi. 2000. *Democracy and Development: Political Institutions and Material Well-Being in the World, 1950-1990*. New York: Cambridge University Press.

Rae, Douglas. 1971. *The Political Consequences of Electoral Laws*. New Haven: Yale University Press.

Riker, William. 1982. "The Two-Party System and Duverger's Law: An Essay on the History of Political Science." *American Political Science Review* 76(4):753–766.

Samuels, David. 2000. "The Gubernatorial Coattails Effect: Federalism and Congressional Elections in Brazil." *Journal of Politics* 62(1):240–253.

Samuels, David. 2002. "Presidentialized Parties: The Separation of Powers and Party Organization and Behavior." *Comparative Political Studies* 35(4):461–483.

Samuels, David. 2003. *Ambition, Federalism, and Legislative Politics in Brazil*. New York: Cambridge University Press.

Sartori, Giovanni. 1976. *Parties and Party Systems: A Framework of Analysis*. New York: Cambridge University Press.

Sartori, Giovanni. 1994. *Comparative Constitutional Engineering: An Inquiry into Structures, Incentives, and Outcomes*. London: Macmillan Press Ltd.

Shugart, Matthew & John Carey. 1992. *Presidents and Assemblies: Constitutional Design and Electoral Dynamics*. New York: Cambridge University Press.

Stepan, Alfred & Cindy Skach. 1993. "Constitutional Frameworks and Democratic Consolidation: Parliamentarism versus Presidentialism." *World Politics* 46(1):1–22.

Taagepera, Rein. 1997. "Effective Number of Parties for Incomplete Data." *Electoral Studies* 16(2):145–151.

Wright, Stephen & William Riker. 1989. "Plurality and Runoff Systems and Numbers of Candidates." *Public Choice* 60(2):155–175.