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The Role of International Factors in Electoral Volatility in Latin America: An Examination of Structural Adjustment

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Abstract

Does structural adjustment increase party system instability in Latin America? We employ the Latin American Presidential and Legislative Elections (LAPALE) database (<http://www.lapaledata.com>) and our own original data set for structural adjustment to assess the effects of structural adjustment and other economic, social, and political variables on legislative volatility in 18 Latin American countries during the period of 1982 to 2016. The results of our study indicate that structural adjustment results in higher levels of within-system electoral volatility and support a broad version of economic voting theory. Extra-system electoral volatility is driven primarily by institutional and demographic factors. Our findings also highlight the importance of disaggregating electoral volatility as within-system volatility and extra-system volatility appear to be largely driven by different factors, or in different ways by the same factors.

Keywords

Latin America, electoral volatility, structural adjustment, political party systems

Introduction

Electoral volatility is thought to reflect the level of a party system's stability and is, therefore, a prominent topic in the comparative politics literature. Significant discord and gaps, however, remain in the literature. For example, the study of the relationship between economic factors and electoral volatility in Latin America extends back decades, and yet no consensus has emerged on the economic factors that drive electoral volatility or whether economic factors play any role at all (compare Remmer (1991), Roberts and Wibbels (1999), and Cohen et al. (2018)). Perhaps more important, there has been little attention given to the role of economic adjustment. Recent scholarship has pointed to the importance of studying economic factors that gain salience in particular contexts, including structural adjustment policies associated with lending by the international creditors during periods of economic distress (Frieden & Walter, 2017; Kuenzi et al., 2019). In Latin America, International Monetary Fund (IMF) structural adjustment policies that followed severe debt or currency crises have been highly salient (and controversial), and studies have linked them to citizens' political behavior in the region (Ortiz & Béjar, 2013). Nevertheless, to date, no study has provided a quantitative analysis of the effects of structural adjustment on electoral volatility in Latin America.

An additional limitation of the prior literature concerns the measure of volatility employed in most analyses. Many

analysts tend to focus on overall volatility. This has been captured with “Pedersen’s index of electoral volatility, which measures the net change in the seat (or vote) shares of all parties from one election to the next” (Mainwaring & Scully, 1995, p. 6). To be sure, a few scholars have disaggregated electoral volatility into two types (e.g., Mainwaring et al., 2017; Powell & Tucker, 2014; Weghorst & Bernhard, 2014). Extra-system volatility (or Type-A volatility) is created by “the entry and exit of parties from the political system” while within-system volatility (or Type-B volatility) “occurs when voters switch their votes between existing parties” (Powell & Tucker, 2014, p. 124). (Some scholars, such as Powell and Tucker (2014) and Weghorst and Bernhard (2014), use the terms “Type-A volatility” and “Type-B volatility.” We have adopted Mainwaring et al.’s (2017) phraseology of “within-system volatility” and “extra-system volatility.”) Still, the few studies that have disaggregated electoral volatility have neglected the possible role of structural adjustment, while their analyses of economic influences has been limited in

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certain respects. With regard to Latin America, only the study by Cohen et al. (2018) has disaggregated electoral volatility and attempted to identify the economic factors associated with within-system volatility and extra-system volatility in the region. However, as Cohen et al.'s (2018) purpose was to introduce their new volatility data set (Latin American Presidential and Legislative Elections [LAPALE]), their study was limited to an examination of only inflation, growth, and nominal exchange rates; importantly, they did not study the role of structural adjustment or model other standard institutional or demographic influences. They suggest that future scholars using the LAPALE data set will need to provide a comprehensive analysis of the various economic, institutional, and demographic factors associated with different types of volatility.

As one step in filling these gaps in the literature, this study examines the effects of structural adjustment on electoral volatility in Latin America, while controlling for other standard economic, institutional, and sociodemographic influences. We also seek to improve our understanding of the topic by examining within-system, extra-system, and total volatility. Drawing upon the LAPALE database (<http://www.lapaledata.com>) and our own original data set for structural adjustment, we focus on legislative volatility in 18 Latin American countries during the period of 1982 to 2016. (See Table A2 in the Appendix for the countries in the sample and the number of observed elections per country.)

This study finds support for a broad version of economic voting theory. Consistent with theoretical expectations, we find that structural adjustment heightens within-system volatility, which suggests that voters who bear the short-term costs of reform switch to other established opposition parties, thereby punishing governing parties who consent to IMF conditionality. After accounting for the role of adjustment, our results indicate that economic growth does not exhibit a significant influence on legislative volatility in the Latin American countries examined in this study. Beyond adjustment, extra-system volatility appears to be driven primarily by institutional arrangements and social demography.

This study addresses a topic of great scholarly and real-world importance. Despite the prevalence of structural adjustment and the depth of adjustment's effects, the political implications of structural adjustment are still not fully understood. A quick search in Google Scholar reveals that thousands of scholarly works have been written on structural adjustment in Latin America. To our knowledge, none of these works has offered a quantitative examination of the relationship between structural adjustment and electoral volatility, a key indicator of party system institutionalization. According to the scholarly literature, party system institutionalization is integrally linked to regime stability, sound policymaking, and the quality of democracy, all of which in turn help determine people's quality of life (e.g., see Mainwaring & Scully, 1995; Mainwaring & Zoco, 2007; Robbins, 2010; Rose & Mishler, 2010, p. 802).

Moreover, this is the only study that, to date, examines the effects of social demography and political institutions on the different types of volatility in Latin America. As we can see in the results of our study, disaggregating volatility into extra-system volatility and within-system volatility is important, as they appear to be driven by different variables or in opposite ways by the same variables. As Kuenzi et al. (2019) note in their study of Africa, extra-system volatility has been on the rise, while Andrews and Bairett (2014) find that extra-system volatility constitutes more of total volatility in Central and Eastern Europe than does within-system volatility. (In contrast, Weghorst and Bernhard (2014) and Powell and Tucker (2014) find that this type of volatility is declining in Africa and post-Communist Europe, respectively.) In Latin America, Cohen et al. (2018, Figure 1) also provide evidence that extra-system volatility accounts for a larger share of overall volatility than within-system volatility. These trends pose profound challenges for democratic governance. Although scholars have tended to view within-system volatility as playing a wholesome role in democratic systems, Powell and Tucker (2014, p. 124) note that party system instability is most strongly linked to extra-system volatility, a type of volatility that creates some unique difficulties for democracy and macroeconomic stability. For these reasons, there remains an ongoing need to study the forces that give rise to electoral volatility.

Literature Review and Theory

Economic Performance

Many studies have examined the potential influence of economic factors on electoral volatility. The notion that economic factors influence electoral volatility rests on the idea that citizens' voting behavior is shaped by the performance of the economy. According to economic voting theory, voters will reward incumbents with their votes for positive economic performance, while punishing them for negative performance by redirecting their electoral support to another party or candidate. Economic voting theory, which has been the subject of hundreds of studies, has found strong empirical support (Lewis-Beck & Stegmaier, 2000).

Some scholars have contended, however, that the support for the notion that economic performance influences electoral volatility is mixed (e.g., Bernhard & Karakoc, 2011; Cohen et al., 2018; Nadeau et al., 2017, p. 99). In the context of Latin America, Cohen et al. (2018) note that their results for the period from 1980 to 1990 support those of Remmer (1991) and Roberts and Wibbels (1999) who find that economic variables influence electoral volatility in Latin American countries. According to Cohen et al. (2018), however, these results are not stable across time and one sees no such relationships between legislative volatility and these economic variables in the period from 1978 to 2016. Hernández and Kriesi (2016) find that the "Great Recession"

had relatively weak effects on party stability in Central and Eastern Europe “where political rather than economic failures appeared to be more relevant” (203). In contrast, they find that this recession played a significant role in undermining the stability of party systems in Western Europe (203). Ferree (2010) concludes that economic factors do not play a role in electoral volatility in African countries.

Perhaps these disparate claims emanate from the fact that most of the studies of economic voting focus on the advanced industrialized democracies, particularly the United States. The studies of emerging democracies are much less numerous. Although Lewis-Beck and Stegmaier (2008, p. 320) conclude that, overall, economic voting theory is supported by the studies of transitional democracies, they note that many questions on this topic are still unanswered. For example, the economic variables likely to be at play are not clear. Scholars such as Bernhard and Karakoc (2011) have also raised the point that traditional indicators of economic performance such as gross domestic product (GDP) growth may not have the same effects on voting behavior in different contexts. Indeed, Bernhard and Karakoc (2011) find that inequality, which is a post-authoritarian phenomenon in the post-Communist countries, influences electoral volatility while economic growth does not. Like Bernhard and Karakoc (2011), Kuenzi et al. (2019) identify indicators outside of those most commonly used to examine the relationship between economic factors and volatility in Africa. Kuenzi et al. (2019) test the effects of two international political economy variables, donor aid and IMF structural adjustment programs, which have been salient in African countries but have not otherwise been tested in the literature. They find that aid and structural adjustment do indeed have significant effects on electoral volatility in Africa. Aid tends to lessen volatility while adjustment tends to boost it.

Structural Adjustment

Some of the dynamics surrounding structural adjustment in Africa are shared by Latin American countries. In particular, structural adjustment has been unpopular with the publics of most African and Latin American countries. As required by the IMF, structural adjustment agreements generally obligate governments to privatize state-owned industries, reduce the number of public sector employees, cut social spending, deregulate, and eliminate subsidies and price controls (Tuman, 2000). Adjustment policies impose costs on citizens in the short to medium term, but they are intended to lead to a more sustainable economic environment in the future. To be sure, adjustment has been both extremely salient and unpopular in Latin America (Almeida, 2007), and the similarities in the public’s reaction to structural adjustment in Latin American countries and African countries are striking. As noted, although many other economic variables have been examined previously, no one has empirically tested the

effects of structural adjustment on electoral volatility in the Latin American context.

The effects of structural adjustment operate through two key mechanisms. First, as noted by Ortiz and Béjar (2013), structural adjustment increases contentious collective action in Latin America partly because people doubt the legitimacy of a government that cedes control over economic policy to an international organization (492). Similarly, Bratton and van de Walle (1997), who link structural adjustment to political protest in Africa, attribute the unpopularity of structural adjustment in Africa to the loss of legitimacy incurred by governments who compromise national sovereignty and enter into adjustment agreements with the IMF, an international organization that is perceived to be dominated by the United States (i.e., the “Washington Consensus”). Kuenzi et al. (2019) argue that it is governments’ appearance of weakness and loss of legitimacy under adjustment that explains the positive effect of structural adjustment on electoral volatility. Given the effects of structural adjustment on protest in Latin America, it would seem likely to affect other types of political behavior such as voting. Thus, we would expect structural adjustment to have a similar effect on electoral volatility in Latin America. Previous government supporters are likely to abandon the ruling party at the polls after the government agrees to structural adjustment and give their vote to another party which will give rise to electoral volatility. If established opposition parties have a track record of resisting IMF loans, then they may reap the benefits of voters’ dissatisfaction with governing parties over adjustment.

The second mechanism concerns the effects of adjustment on resources that are key to political patronage. Our logic is similar to that spelled out by Kuenzi et al. (2019). The economic reforms prescribed by the IMF may weaken the state’s control over employment, subsidies, and spending which is likely to lead to a loss of support for the ruling party. Greene (2010) argues that it is the control of state resources that allows dominant parties to stay in power because these resources can be used in a multitude of ways to bolster the position of the ruling party, such as for patronage or election campaigns (Greene, 2010, pp. 811–812). Therefore, these economic reforms make it more difficult for the ruling party to reward their clients and diminish the advantage it previously had in campaigning. We would therefore expect these reforms to encourage voters to switch their support from the incumbent party to another party.

We argue that the context influences whether voters unhappy with the ruling party for acquiescing to structural adjustment will turn to new parties or established opposition parties. More specifically, we argue that in contrast to other regions, such as Africa, Latin America comprises numerous countries that have had established opposition parties that could represent the antistructural adjustment stances of their citizens. We argue that the supply of parties in a country influences whether voters punish ruling parties for poor performance by transferring their support to established

opposition parties or new parties. This argument is consistent to those of other authors such as Benton (2005) who contends that how citizens dissatisfied with the incumbent party reallocate their votes depends on whether small or new parties have been able to enter the political system. Although Kuenzi et al. (2019) find that structural adjustment increases legislative volatility primarily through extra-system volatility in African countries, we hypothesize that structural adjustment will increase legislative volatility primarily through within-system volatility in the context of Latin America. Although surveys have shown varying levels of confidence in political parties, established opposition parties in Latin America have provided a more viable alternative for those angry about their government entering into structural adjustment agreements with the IMF than have established opposition parties in Africa. In contrast to the situation in African countries, existing opposition parties had established themselves as being anti-adjustment in a number of Latin American countries. For example, existing prominent leftist parties were able to represent citizens' anti-adjustment sentiments in countries such as Brazil, Chile, the Dominican Republic, El Salvador, and Uruguay (Roberts, 2013, p. 1436). Even though adjustment fostered notable instability in Argentina's party system, it was one faction of the Peronist party that ultimately took up the anti-reform mantle (Roberts, 2013, p. 1440). In Latin America, import substitution industrialization (ISI) gave rise to a strong organized labor sector that helped structure the party system (Roberts, 2013). Even if new political parties had to emerge to channel antieconomic reform sentiment in Latin American countries, the new party that emerged to fill the gap could potentially count on the support of a large voting bloc in the future. Indeed, although Roberts (2013, p. 1447) notes the inchoate nature of political party competition in Venezuela, Ecuador, and Bolivia, countries that saw their party systems completely destabilized by economic reform, he acknowledges the potential for these systems to stabilize in the future. In his words:

... the new, anti-neoliberal leftist alternatives in countries such as Venezuela, Ecuador, and Bolivia have revived programmatic contestation in national political systems. As such, they may eventually provide a foundation for the reconfiguration of party systems around a central ideological and programmatic cleavage.

In Africa, existing opposition parties have generally not provided a credible vehicle for those upset with structural adjustment to channel their sentiments. Overall, political parties in Africa are much younger and less institutionalized than those in Latin America (Kuenzi & Lambright, 2001), and the opposition in most countries is weak (Bleck & van de Walle, 2019; Rakner & van de Walle, 2009). Organized labor is weak in Africa (Bratton & van de Walle, 1997) and therefore has not helped structure the party system. Thus, fewer parties have established consistent reputations for policy stances. In

fact, position taking is rare among parties in African countries (Bleck & van de Walle, 2019), where political support is largely obtained and sustained through clientelism and the distribution of state resources (Bratton & van de Walle, 1997; Englebert & Dunn, 2019). Also, as Resnick (2014, p. 59) notes, Africa has more electoral coalitions than one would expect, given the prevalence of presidential executive systems in the region. In the case of coalitions involving the incumbent parties, opposition parties that have participated in governments that agree to adjustment would be tainted with the decisions of the governing parties. In countries such as these, the opposition parties would not be credible vehicles for expressing opposition to structural adjustment. As most political parties in Africa are not programmatic, a new party able to capture the support of those upset with the ruling party for entering structural adjustment agreements would have a harder time maintaining a stable constituency to support it into the future. Therefore, extra-system volatility is more likely to occur in the future elections in the political systems of Africa than those of Latin America. In short, we have reason to expect that structural adjustment will be associated with within-system in Latin America, notwithstanding the findings of Kuenzi et al. (2019) concerning adjustment's positive effect on extra-system volatility in Africa.

The Role of Other Factors

Institutions. Institutional arrangements are also thought to play a role in legislative volatility. The electoral system could influence the level of legislative volatility and therefore we examine the effects of using a plurality electoral system to elect at least some legislators on volatility. Based on Duverger's propositions and the work of many others, a plurality single-member district (SMD) system tends to create significant barriers to the entry of new parties into the electoral arena and militate against the existence of small parties. As Andrews and Bairett (2014, pp. 310–311) note, Cox (1997) theorizes that such conditions encourage political elites to coordinate. We would therefore generally expect countries that use plurality SMD systems to elect even some of the legislators in the upper house or lower house to have lower levels of electoral volatility, on average. Since extra-system volatility is created by the entry of new parties into the political arena, we would expect this effect to be strongest on extra-system volatility. Some research fails to find, however, that the electoral system influences electoral volatility in post-Communist countries (Powell & Tucker, 2014) and Africa (Bogaards, 2008; Ferree, 2010; Mozaffar & Scarritt, 2005). Moreover, Kuenzi et al. (2019) and Weghorst and Bernhard (2014) report a significant negative relationship between district magnitude and volatility in African countries. Weghorst and Bernhard (2014, p. 1724) invoke Tavits' (2005) explanation for this relationship as she also finds a negative relationship between district magnitude

and volatility. According to Tavits (2005, p. 292), in the context of new democracies where voter loyalty may be low and political party platforms may not be easily distinguishable, voters are able to select among numerous parties in more permissive political party systems. Therefore, when voters are unhappy with the party they supported previously, a large group of such voters is less likely to redirect its support to a new party.

If the situation in Latin America matches Tavits' (2005) description, we would expect a negative relationship between party fractionalization and electoral volatility. It is worth noting, however, that the conventional wisdom has been that the level of party fragmentation is positively associated with electoral volatility. The logic behind this hypothesized relationship is straightforward. Drawing on Pedersen's (1983) description of the relationship between party fragmentation and electoral volatility, Mainwaring and Zoco (2007) explain that, as more and more political parties enter the political arena, parties tend to be closer in terms of ideology and programmatic commitments than they do when there are only a few parties. Under these conditions, voters are more likely to be able to choose among several parties that represent their preferences and therefore have a greater propensity to change their vote choices from election to election (161–2).

Whether presidential and legislative elections are held concurrently may also influence electoral volatility in Latin America. Andrews and Bairett (2014, p. 311) expand on Cox's (1997) logic that as more elections are held simultaneously, party leaders will have a greater incentive to coordinate their activities. This coordination ultimately results in fewer parties. Andrews and Bairett (2014, p. 311) hypothesize that the coordination that is likely to accompany concurrently held legislative and presidential elections will also result in less electoral volatility. The results of their study of Central and European democracies support this hypothesis. We also test the effects of concurrent elections on volatility; to our knowledge, this has not been done in the context of Latin America.

In addition, we would expect the quality of democracy to be related to electoral volatility. Based on the literature, in a healthy democracy, we would expect to see shifts in support among existing parties based on how citizens evaluate the performance of these parties when they are in office. On the contrary, high extra-system volatility may indicate that political parties are not effectively representing and building relationships with the people leading to frequent party entry into and party exit from the political arena. We would therefore expect there to be a positive relationship between democracy and within-system volatility while we expect there to be a negative relationship between democracy and extra-system volatility.

Social Demography. Beyond institutional factors, we might also expect the social demography of a country to affect electoral volatility. Based on the experience of Western Europe,

Birnir (2007) contends that ethnic voting could potentially stabilize party systems in new democracies. On the contrary, given the shifts that can occur in the ethnic alliances encompassed in parties, we might expect that more ethnic diversity would lead to more volatility. Some studies of post-Communist Europe fail to find a relationship between ethnic divisions and volatility (Bernhard & Karakoc, 2011; Powell & Tucker, 2014; Tavits, 2005), but other studies find that the ethnic composition of the population influences volatility in Africa (Ferree, 2010; Kuenzi et al., 2019; Weghorst & Bernhard, 2014), and it would appear that the tendency of multiethnic coalitions to fall apart over time boosts volatility (Ferree, 2010). In addition, Madrid (2005) finds a positive relationship between the relative size of the indigenous population and electoral volatility in Latin American countries. He attributes this relationship to the new parties that emerged to represent the interests of indigenous groups, which had previously been neglected by the established parties. Given these findings, we hypothesize that higher levels of ethnic diversity will be associated with higher levels of electoral volatility in Latin America. On a related note, countries with large populations are less likely to be cohesive. We would therefore expect a positive relationship between the size of a country's population and electoral volatility.

Data and Methods

Our analysis focuses on the lower chamber legislative elections in 18 Latin American countries for the period of 1982 to 2016. During the study period, Latin America went through a tumultuous period including the 1982 debt crisis, economic reforms, and regime changes (Smith, 2013; Tuman et al., 2001). In addition, during this period, the IMF made agreements with numerous Latin American countries which required governments to adhere to policy prescriptions and conditionalities established by the Fund (Pop-Eleches, 2009). This coincided with a great increase in electoral volatility in the region between the 1980s and 1990s (Cohen et al., 2018). As such, the time-series for the study is appropriate to test our hypotheses.

As there is a variation in how frequently countries in the region hold elections, the panels are unbalanced (i.e., the number of year observations for each panel are not uniform). For example, Argentina holds parliamentary elections every other year, while in Chile, they are held every 4 years. Furthermore, some countries appear more often in the data set due to their earlier transition to democracy. On average, each country in the study held 8.16 elections. (Table A2 in the Appendix displays the countries of study and the number of observed elections per country.)

The dependent variables measuring electoral volatility are gathered from the LAPALE data set. The LAPALE data set (Cohen et al., 2018) has been subjected to peer review and published in a highly selective outlet, the *Journal of Politics*. The data set provides transparent coding rules for cases, and,

to the best of our knowledge, there are no published critiques of the accuracy of the data. An advantage of using the LAPALE data set is that it provides information for extra-system volatility, within-system volatility, and total volatility between consecutive elections measured in terms of vote share. Theoretically, the measurement for each type of volatility can range from no change between elections (0) to full-scale change (100). There are considerable variations among countries in Latin America when it comes to electoral volatility. In countries such as Chile and Honduras, the average total volatility is less than 20% compared to Guatemala and Peru where it is more than 50%. Similarly, there are differences among countries with regard to whether extra-system volatility or within-system volatility are more prevalent which illustrates the importance of testing for the influences of the covariates on the different types of volatility.

We evaluate the influences of countries under IMF adjustment programs by constructing a binary variable in which countries were coded as “1” if they had received an adjustment disbursement from the Fund in that particular year, and “0” otherwise. The covariate was constructed using information from the website of the International Monetary Fund (various years), and it was lagged by 1 year. We expect that the effects of IMF programs on voters’ judgments will be lagged, as the influence of conditionality gradually becomes evident (see Kuenzi et al., 2019). Furthermore, the 1-year lag structure in the IMF measure reduces possible endogeneity between IMF disbursement and electoral outcomes.

In addition, we include standard measures that test for the potential impact of economic factors on electoral volatility, including the log of GDP per capita and the percent change in GDP per capita. The information for the economic indicators is gathered from the World Bank (various years), transformed into 2010 constant dollars and lagged by 1 year. (Table A3 in the Appendix shows the countries and years that are coded as having an IMF disbursement.)

Two dichotomous institutional covariates are included to indicate whether a country uses a plurality system or not to elect at least some of the legislators and if it holds concurrent presidential and legislative elections. Polity IV scores, lagged by 1 year, are used to control for a country’s level of democracy. In addition, we include a variable to account for how long a country has had multiparty elections. Our measure of experience with multiparty elections, which is named age of democracy, is based on Cohen et al.’s (2018) data. We also performed the analysis including a measure of age of democracy that included the election prior to the first election listed in Cohen et al.’s (2018) data set and the results were essentially the same. A variable measuring the fractionalization of the party system lagged from the previous election is also included (data are from the LAPALE data set). Furthermore, we control for countries’ level of ethnic diversity (data are from Alesina & et al., 2003) and population size. The log of population, lagged by 1 year, was obtained from the World Bank (various years). The descriptive statistics for the

variables are provided in Table 1, and more details on the measures and sources for each independent variable are provided in the Appendix in Table A1.

As noted, the data set includes observations for 18 countries for the study period (36 years). Thus, the data set may be described as time-series cross-section. Initial tests suggested that heteroscedasticity in the errors is present in the data (Breusch-Pagan and Cook-Weisberg test for heteroskedasticity, $p < .001$ for all models). To adjust for heteroscedasticity, we estimate the models with pooled ordinary least squares (OLS) regression with panel-corrected standard errors (Beck & Katz, 1995). The ratio of year-to-country observations is more than adequate for panel correction of the standard errors. However, we also estimated all models with pooled OLS and Driscoll–Kraay standard errors to address concerns about finite sample issues (see Hoechle, 2007, p. 5). The results of these trials were completely consistent with the estimates with pooled OLS with panel-corrected standard errors.

The data on elections and volatility have gaps across years, and, as such, one might expect that the degree of autocorrelation in the errors might be lower. Additional analysis indicated that the pooled autocorrelation parameter, ρ , was .09 or smaller for within-system, extra-system, or total volatility, suggesting that serial correlation of the errors is low and not compromising our results. For this reason, the specifications do not include any corrections for autocorrelation.

Alternative trials with a fixed-effects estimation (with dummy variables for all years and countries) proved to be unviable due to excessively high levels of multicollinearity between some substantive covariates and country dummy variables. Indeed, in the fixed-effects trial, the variance inflation factor (VIF) scores for the log of population and log of GDP per capita were 997 and 122, respectively, while nine country variables exhibited VIF scores ranging from more than 300 to 600 (with a mean VIF score of 125 for all equations). This suggests that the level of collinearity for fixed-effects regression is well beyond tolerance. However, it should be noted that for our models, which are estimated with pooled OLS, the level of collinearity was within tolerance (maximum VIF score of 1.92 for the log of population, while all other covariates were lower; and a mean VIF of 1.36 or lower for all equations).

In addition, the pattern of the residual variance ratios for each country was compact and exhibited a fairly uniform pattern indicating that a fixed-effects regression model would be mis-specified (see Stimson, 1985). The summed residuals and residual variance ratios for each country (unit) were not large (less than two times the mean of the dependent variable), which suggests that the model results are not driven by a subset of countries in the data set. Still, to address concerns raised by one reviewer, we omitted Mexico as a potentially influential unit and re-estimated the equations for Models 1 to 3. In these trials, the results for the IMF adjustment covariate were completely consistent with the

Table 1. Descriptive Statistics.

Variable	Obs.	Mean	SD	Minimum	Maximum
Total volatility	147	.378	.24	.042	1
Type A	147	.237	.234	0	1
Type B	147	.143	.078	0	.391
IMF disbursement, lag	147	.265	.443	0	1
Party fractionalization, lag	147	.265	.119	.064	.597
Plurality system	147	.476	.501	0	1
Concurrent elections	147	.721	.445	0	1
Democracy, lag	147	7.24	2.68	-8	10
Ethnic diversity	147	.429	.186	.169	.74
Population, log	147	2.71	1.14	.862	5.31
GDP per capita (log, t-1)	147	8.46	.652	7.02	9.55
GDP growth, lag	147	3.55	3.90	-13.38	18.29
Age of democracy	147	14.7	9.28	0	34

original models, and results for other covariates did not change.

Results

Does structural adjustment stimulate electoral volatility in Latin America? Table 2 presents the results for models of within-system volatility, extra-system volatility, and total volatility. As can be seen in Model 1, Table 2, our hypothesis that structural adjustment increases within-system volatility is borne out in the results for within-system volatility. The coefficient for structural adjustment is positive and significant ($p < .01$) in the model for within-system volatility (Model 1), indicating that vote shares among existing parties are likely to be less stable in countries undergoing structural adjustment. The coefficient for structural adjustment fails to gain significance in the models for extra-system and total volatility (Models 2 to 3). These findings are consistent with our expectations. Structural adjustment is a highly visible issue in the context of Latin America and Africa and has been found to motivate protesting in both regions. As noted, in the case of African countries, Kuenzi et al. (2019) also find that structural adjustment boosts electoral volatility, yet their findings suggest that it does so primarily by increasing extra-system volatility. We argue that the divergent pattern in Latin America is due to the supply of established opposition parties, on average, that have been able to articulate voters' discontent with reforms. By contrast, voters may be more open to appeals from new parties that promise to undo IMF-backed programs in Africa, where opposition parties are generally weak (Rakner & van de Walle, 2009) and nonprogrammatic. Moreover, although there is a great deal of variation in the level of party system institutionalization across countries in both Africa and Latin America, as noted, the party systems of Latin America tend to be older and more institutionalized than those of Africa (Kuenzi & Lambricht, 2001, pp. 462–463). Taken together, these results suggest that incumbent parties will be punished at the polls for

entering into structural adjustment agreements. Our results support the contention that whether disillusioned voters decide to put their support behind a new party or one that already exists depends on the conditions in the regional context. More specifically, when existing opposition parties provide a credible vehicle for channeling the sentiments of voters dissatisfied with the government, as opposition parties have in numerous Latin American countries, those dissatisfied voters will transfer their support to an established opposition party, giving rise to within-system volatility.

Of course, another international factor—foreign aid flows—might also have an effect in reducing different types of electoral volatility in Latin America. In separate trials, we estimated Models 1 to 3 with the log of bilateral aid per capita (in constant 2010 dollars, and lagged 1 year) to each country from all donors in the Organization for Economic Co-operation and Development (OECD) Development Assistance Committee. The coefficient for lagged aid was insignificant, while results for the models were consistent. Although bilateral aid has been shown to reduce volatility in Africa (Kuenzi et al., 2019), it has less effect in Latin America because it comprises a much smaller share of government budgets and spending, on average, in the region. For this reason, bilateral aid flows have less influence on the electoral fortunes of ruling parties in Latin America and the Caribbean.

The coefficient for economic growth, a standard indicator of economic performance, is not significant. Economic growth therefore does not appear to affect legislative volatility. This finding together with the finding that structural adjustment tends to elevate within-system volatility highlight the importance of identifying the economic issues likely to be prominent in the context of study. Wealthy countries appear to have less extra-system volatility and total volatility than their less-wealthy counterparts. This result is not surprising because GDP per capita has been used in some studies as an indicator of government capacity (e.g., see Fearon & Laitin, 2003), a concept closely linked to institutionalization.

Table 2. Determinants of Electoral Volatility in Latin America.

Variables	Model 1—within-system volatility	Model 2—extra-system volatility	Model 3—total volatility
IMF program _(t-1)	0.0365** (0.0136)	-0.000854 (0.0381)	0.0356 (0.0413)
Party fractionalization _(t-1)	-0.155* (0.0643)	-0.207 (0.186)	-0.361* (0.176)
Plurality system	-0.0121 (0.0141)	-0.127*** (0.0283)	-0.139*** (0.0300)
Concurrent elections	-0.0257+ (0.0146)	0.0803* (0.0361)	0.0547 (0.0404)
Democracy _(t-1)	-0.00329 (0.00257)	-0.0159* (0.00759)	-0.0192** (0.00746)
Ethnic diversity	0.0469 (0.0390)	0.289** (0.118)	0.336** (0.114)
Population (ln)	-0.00857 (0.00598)	0.0259+ (0.0144)	0.0173 (0.0156)
GDP per capita _(ln, t-1)	0.0143 (0.0117)	-0.103*** (0.0282)	-0.0886*** (0.0271)
GDP per capita change _(t-1)	-0.000855 (0.00167)	-0.000180 (0.00530)	-0.00104 (0.00479)
Age of democracy	-0.000169 (0.000658)	0.00355+ (0.00196)	0.00338+ (0.00193)
Constant	0.110 (0.106)	1.034*** (0.279)	1.144*** (0.269)
Observations	147	147	147

Top entries are unstandardized OLS regression coefficients; panel-corrected standard errors in parentheses. GDP, gross domestic product.

* $p \leq .10$. ** $p \leq .05$. *** $p \leq .01$. **** $p \leq .001$.

Beyond economic influences, what do the models suggest about institutional and sociodemographic factors? The results displayed in Table 2 suggest that party fractionalization generally depresses within-system volatility and overall electoral volatility. This finding is consistent with Tavits' (2005) logic that a larger number of parties from which citizens can select may reduce large-scale shifts in citizen support from one party to another. The coefficient for party fractionalization is, however, negative but not significant in the model of extra-system volatility. The fragmentation of the political party system would therefore not seem to have any effect on whether new parties successfully enter the electoral arena.

As one can see in Table 2, consistent with expectations, the coefficient for plurality systems is negative and significant in the model of extra-system volatility (Model 2). This type of electoral system erects significant barriers to entering the political arena. Therefore, using this electoral system to elect even some of the legislators tends to depress extra-system volatility. The coefficient for plurality is also negative and significant in the model for total volatility. Although the coefficient for plurality is negative for within-system volatility, it is not significant. This finding has implications for potential ways to address extra-system volatility. Allocating some of the legislative seats through the plurality formula would appear to encourage coordination among political actors and depress extra-system volatility.

The concurrency of presidential and legislative elections would appear to influence both within-system volatility and extra-system volatility, but in opposite ways. As theorized in the literature, holding concurrent presidential and legislative elections mitigates within-system volatility as party leaders have a strong motivation to coordinate, and people tend to like to vote for the same party for the both the legislative seat(s) and presidential office. Indeed, the coefficient for concurrency is negative and significant in the model for within-system volatility, albeit at the .1 level. In contrast, as demonstrated in Table 2, the coefficient for concurrency is positive and highly significant in the model of extra-system volatility. Although this result may initially seem surprising, there is a logic to the finding. If a political outsider who is relatively popular contests a presidential election, s/he is likely to create a new party as her or his political vehicle. Those supporting the political outsider for the presidential election may also transfer support to the new outsider party in the legislative election. Within the recent history of Latin America, there are numerous examples of this phenomenon. For example, when Alberto Fujimori first emerged as a right-wing populist presidential candidate in Peru's 1990 election, he formed a new party, Cambio 90, which garnered 16.5% of legislative seats when he was elected (Roberts, 2006, pp. 93–94). Similarly, in Venezuela, Hugo Chávez's left-wing candidacy was accompanied by the formation of the Movimiento V. República (MVR) (Ellner,

2005). MVR won 20% of legislative seats with Chávez in the 1998 election (and increased its seat share to 55% in the 2000 elections following adoption of a new constitution). The creation of PAIS in Ecuador (2006), which was a vehicle for Rafael Correa's candidacy, also illustrates this pattern.

Consistent with expectations, ethnic diversity is associated with higher levels of electoral volatility. The coefficient for ethnic diversity is positive in the models for extra-system and total volatility. The results for this covariate for extra-system volatility are also intuitive. As different groups are incorporated into the political system, new parties are likely to emerge to represent their interests. This pattern has been well-documented with parties and indigenous groups in Ecuador, but other cases are also illustrative. In Bolivia, the MAS (Movimiento al Socialismo) and MIP (Movimiento Indígena Pachakuti) parties increasingly represented members of the Aymara and Quechua after their mobilization in the 1990s (Van Cott, 2005, pp. 12, 95–96). Van Cott (2005, p. 12, n. 9) also provides examples of parties in Colombia that emerged to incorporate newly active Afro-Colombians. Interestingly, ethnic diversity has a strong positive effect on within-system volatility in African countries but does not have a significant effect on extra-system volatility (Kuenzi et al., 2019). As noted, ethnic diversity appears to be connected to extra-system volatility in Latin America because new parties have emerged in countries to represent different groups as they become incorporated into the system (see Madrid, 2005). In Africa, the most ethnically diverse region of the world, ethnic diversity appears to be linked to within-system volatility not because of the incorporation of new groups that require new parties to represent them but because ethnic coalitions tend to be unstable (Ferree, 2010) resulting in shifting alliances. The coefficient for the log of the population is positive, as expected, but is only significant at the 0.1 level in the model for extra-system volatility (Model 2). It appears that it is the level of diversity of the population rather than the population size that affects electoral volatility.

The level of democracy appears to have a mitigating effect on extra-system volatility and total volatility, as the coefficients for these variables are negative and significant. The coefficient for democracy is negative but not significant in the model for within-system volatility. This finding is consistent with the argument that extra-system volatility and democratic strength are negatively associated with each other. Where democracy is strong, we would expect established parties to be available to articulate the sentiments of the citizens. In contrast, the coefficient for the age of the democratic regime is positive and significant at the .1 level in the models for extra-system volatility and total volatility, suggesting that a longer experience with multiparty elections is associated with higher levels of extra-system volatility and total volatility. At first, this result may seem surprising, but it makes a great deal of sense, given the trends toward the greater incorporation of different groups we have seen over

time in the political systems of Latin American countries, which we discuss above. This finding is consistent with those of many other studies which do not find that party systems stabilize over time (e.g., see Bernhard & Karakoc, 2011; Bogaards, 2008; Lindberg, 2007; Mainwaring & Zoco, 2007). Although the length of time a country has had experience with multiparty elections does not appear to be related to extra-system volatility in the way one would expect, the level of democracy does have a dampening effect on the level of extra-system volatility. Thus, it does not appear to be the length of time a country has been a democracy but rather the quality of democracy that depresses the likelihood of new parties entering the political arena and attracting support.

Conclusion

This study supports a broad version of the economic voting theory and suggests that the political economy variables that influence voting behavior and by extension electoral volatility are likely to differ across contexts, depending on which economic issues are salient to the public. Indeed, our results do not indicate that there is a straightforward relationship between economic downturns and electoral volatility in Latin American countries as economic growth does not register a significant relationship with electoral volatility. We add to the prior literature by demonstrating that structural adjustment increases legislative volatility in Latin America, where neoliberal reforms have been a salient issue. Given that structural adjustment also increases legislative volatility in Africa's multiparty electoral regimes, it seems reasonable to hypothesize that structural adjustment will contribute to volatility in those countries where it has been a prominent issue. Therefore, we are helping to refine the economic voting theory as it applies to transitional democracies. Moreover, the results of our study lend support to the notion that whether voters punish ruling parties for poor performance by shifting their votes to established opposition parties or new parties depends on a country's supply of parties.

Our findings also highlight the importance of disaggregating electoral volatility when attempting to identify the factors behind it. Within-system volatility and extra-system volatility appear to be largely driven by different factors, or in different ways by the same factors in Latin American countries. For example, the concurrency of presidential and legislative elections tends to depress within-system volatility but raise extra-system volatility. Therefore, when one examines only total volatility, one is likely to miss important relationships. Extra-system volatility appears to be driven by the institutional arrangements and social demography of a country. Electoral systems that encourage political leaders to coordinate appear to have a mitigating effect on extra-system volatility. Higher levels of extra-system volatility tend to characterize countries with lower levels of democracy and

larger, more ethnically diverse populations. Just as Powell and Tucker (2014) find that identifying factors that influence within-system volatility is the more difficult task in post-Communist Europe, we find that only a couple of variables included in our models affect within-system volatility in Latin America. Given the small number of factors that appear to influence within-system volatility in Latin America, the effect of structural adjustment on this type of volatility is all the more striking.

Appendix

Table A1. Independent Variables, Measures, and Sources.

Variable	Measure	Source(s)
IMF Program _(t-1)	Coded "1" if a country received disbursement from the IMF in the previous year, "0" otherwise. Lagged by 1 year.	IMF website, https://www.imf.org/external/index.htm
Party fractionalization _(t-1)	Calculated by squaring the share of the parties in an election and adding all the squares together, lagged by 1 year	LAPALE data set (Cohen et al., 2018)
Plurality system	Coded "1" if at least some of the legislators were elected using plurality electoral rules in either the upper house or lower house, "0" otherwise.	World Bank's Database of Political Institutions (Keefer 2012), https://datacatalog.worldbank.org/dataset/wps2283-database-political-institutions
Concurrent elections	Coded "1" if legislative and presidential elections were held concurrently, "0" otherwise.	LAPALE data set (Cohen et al., 2018)
Democracy _(t-1)	Polity IV scores, lagged by 1 year	Marshall et al. (2017)
Ethnic diversity	Level of ethnic diversity	Alesina et al. (2003)
Population, log	Log of population	World Bank Development Indicators (n.d.)
GDP per capita (log, t-1)	Log of GDP per capita in constant 2010 USD, lagged by 1 year	World Bank Development Indicators (n.d.)
GDP growth _(t-1)	GDP growth in constant 2010 USD, lagged by 1 year	World Bank Development Indicators (n.d.)
Age of democracy	Years since first election in data set	LAPALE data set (Cohen et al., 2018)

Table A2. List of Countries in Study and the Number of Observed Elections Per Country.

Country	Observed elections
Argentina	16
Bolivia	7
Brazil	8
Chile	6
Colombia	9
Costa Rica	8
Dominican Republic	8
Ecuador	12
El Salvador	10
Guatemala	7
Honduras	8
Mexico	11
Nicaragua	5
Panama	6
Paraguay	5
Peru	8
Uruguay	6
Venezuela	7

Table A3. Countries and Years Receiving IMF Disbursement.

Country	Year						
Argentina	1987	1989	1991	1993	1995	1997	
	2001	2005					
Bolivia	1989	1993	1997	2002	2005		
Brazil	2002						
Costa Rica	1986						
Dominican Republic	1986	1994	2006	2010			
Ecuador	1986	1988	1990	1992	2002	2017	
Honduras	1993	2001	2005				
Mexico	1985	1988	1991	2000			
Nicaragua	2001	2011					
Panama	1994	1999					
Peru	1985						
Uruguay	1999	2004					

Note: No observations for Chile, Colombia, El Salvador, Guatemala, Paraguay, and Venezuela.

The findings of this study are also limited in certain respects. First, the time-series for the analysis covers the period of 1982 to 2016. Although this time frame is appropriate to test the main covariates of interest, it is possible that a longer time-series would yield different results. Second, as noted, the underlying reasons for the contrasting effects of adjustment on electoral volatility in Africa and Latin America remain unclear. We remain hopeful that future researchers will address these issues in their work.

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