Party Strength and Economic Growth

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ABSTRACT

This study argues that strong parties play a critical role in fostering economic development. The theory explores how parties broaden the constituencies to which policy makers respond and help politicians to solve coordination problems. These features ensure that politicians engage in better economic management, provide productivity enhancing public services, and help ensure political (and thus policy) stability. This, in turn, should enhance economic growth.

Drawing on a novel measure of party strength from the Varieties of Democracy dataset, we test this hypothesis on data from more than 150 countries, with time series extending from 1900 to 2012. We identify a sizeable and highly significant effect, and one that is robust to a variety of specifications, estimators, and samples. The effect operates in both democracies and autocracies and is fairly stable across various regions of the world and across time periods. We also provide suggestive evidence about causal mechanisms, focusing on measures of economic management, public goods, and political stability.

This paper contributes to two large literatures, respectively focusing on features of political parties and on the institutional determinants of growth. While previous studies have highlighted the role of parties in improving the quality of governance such claims are usually limited in context – to democratic or authoritarian settings – and generally do not pertain to distal outcomes such as per capita GDP growth. Studies of economic development, while focused explicitly on growth, generally identify other long-run causal factors at work, e.g., geography, property rights, political constraints, colonial origins, inequality, social capital, or human capital.

Many scholars of international development subscribe to some version of institutionalism. They believe that the vast cross-country differences in development evident today are primarily the product of varying political institutions (Acemoglu & Robinson 2012; Fukuyama 2011; Haggard et al. 2008; Hall & Jones 1999; Huntington 1968; Knack & Keefer 1995; North 1990; Rodrik et al. 2004; Rothstein 2011). The story is plausible but hard to prove, prompting skepticism from some quarters (e.g., Aron 2000; Chang 2011; Glaeser et al. 2004; Przeworski 2004; Sachs 2003; Vollrath 2014).

Several impediments to falsifiability may be briefly mentioned. First, institutional theories are often pitched at a high level of abstraction, relying on concepts such as good institutions, inclusion, accountability, predation, rent-seeking, or good governance that are open to many interpretations (e.g., Jutting 2003). Relatedly, measures of institutional quality are often highly aggregated and highly correlated, making it difficult to distinguish one institutional feature from another. They may also be limited in temporal or spatial coverage, or of questionable validity when placed on the right side of a causal model (Arndt & Oman 2006; Kurtz & Schrank 2007; Thomas 2010). Ambiguously framed and hard to operationalize, institutional theories seem to explain everything, or nothing. It is difficult to envision the ceteris paribus conditions of arguments centered on the role of "good institutions."

We propose to shift attention to a lower – and hopefully, more tractable – level of analysis. Theorizing at the middle range, we claim a central role for political parties. We argue that strong parties enhance growth by incentivizing leaders to cater to broad interests and enabling them to solve coordination problems. In contrast to prior work, we argue that these capabilities transcend regime-type; they matter as much for economic growth in democratic as in authoritarian contexts, and for many of the same reasons. The theory we put forth thus builds on, and bridges, two traditions of work on political parties, one focused on democracies and the other on autocracies.

To test the theory we draw on a unique dataset from the Varieties of Democracy (V-Dem) project (Coppedge et al. 2015). Based on coding by thousands of country experts and covering most sovereign and semi-sovereign states over the past century, V-Dem provides multiple indicators focused on different features of political parties, which we employ to construct a composite index of Party Strength. Using this index, we conduct a variety of tests to probe the relationship between political parties and economic growth. Estimators include fixed effects, generalized method of moments (GMM), and instrumental variables.

In Section I, we present our theoretical argument about how party strength affects economic growth. In Section II, we describe our data and the construction of the index of Party Strength. In Section III, we explore country cases in East and Southeast Asia, which provide a face validity test for the index and illustrate our theoretical argument. In Section IV, we estimate the impact of Party Strength on growth in a global sample, finding a substantively large and robust effect. In Section V, the relationship is subjected to a series of specification tests. In Section VI, we conduct mediation analysis to test the presence of mechanisms suggested by our theory. Section VII reviews the argument and discusses its ramifications.

I. Theory

A large literature extending back to the birth of modern political science attests to the importance of political parties in establishing conditions for democratic stability and accountability (Bryce 1888; Key 1949; Ranney 1962; Schattschneider 1942; Wilson 1908). More recently, scholars have demonstrated the capacity of strong parties to resist clientelism and provide public goods, functions that presumably enhance economic performance (Croissant & Volkel 2012; Hicken & Kuhonta 2014; Hicken, Kollman & Simmons forthcoming; Keefer 2013; Kitschelt 2000; Kitschelt & Wilkinson 2006; Levitsky 1998; Mainwaring & Scully 1995; Pierskalla & Fernandez 2011; Powell & Tucker, 2013; Randall & Svåsand 2002; Simmons forthcoming; Simmons et. al. 2014; Tommasi 2006; Ufen 2008).

Meanwhile, a distinct literature on autocratic regimes finds that institutionalized parties help to stabilize authoritarian rule (Boix & Svolik 2013; Brownlee 2009; Greene 2007; Huntington 1968; Magaloni 2006, 2008; Magaloni & Kricheli 2010; Svolik 2012). Researchers have also noted that one-

party regimes are associated with greater investment and stronger growth performance than other types of autocracies (Gandhi 2008; Gehlbach & Keefer 2011; Keefer 2007; Miller 2015; Wright 2008), though problems of causal identification persist (Pepinsky 2014).

A schematic review of the literature on political parties in democratic and autocratic contexts thus suggests that the strength of political parties matters in very different contexts.
This is not to say that parties operate the same way in democratic and autocratic settings. Where multi-party elections exist parties are in direct competition with each other, for example. However, the impact of parties on economic growth may depend less on inter-party dynamics than on intra-party dynamics, i.e., the way in which parties are organized internally.[1] Sweden (a strong-party regime within a democratic context) is different from Papua New Guinea (where parties are small, weak, evanescent, and subordinate to individual politicians), just as China (where all power is centralized in the Chinese Communist party) is different from Saudi Arabia (a party-less monarchy). In both democratic and autocratic contexts we may expect the strength of political parties to affect the incentives and behavior of elites, i.e., the choice of public policies and the effectiveness with which those policies are implemented – and, ultimately, long-term growth performance.

At this juncture, it is important to define several key terms. When referring to *political parties* we are primarily concerned with the major parties within a polity, not the smaller and less consequential ones. In polities where only one party is allowed to compete this is the only party of theoretical interest. In party systems that are highly fragmented but where long-standing coalitions perform the work of large parties (i.e., they act in a highly coordinated and predictable fashion), coalitions perform the function of major parties.

Party strength is understood in terms of unity, centralization, organizational complexity, and mass constituency. Where these traits are lacking – i.e., parties are weak or absent – other forms of political organization predominate. Non-party formats may be characterized broadly as *personal rule*, either familial or charismatic (Jackson & Rosberg 1982), *group-based rule*, where ethnic, racial, or religious groups form the basis of power (Wimmer 2013), or *military rule* (Finer 1988; Huntington 1957). These are the causal counterfactuals of our argument. To the extent that parties are weak, a polity is assumed to be ruled by an individual, a social group, and/or a military group.

It may seem axiomatic that strong parties are preferable to these other forms of political organization. Nonetheless, it is important to specify – albeit in rather broad terms – why strong parties are likely to facilitate stronger growth performance over the long term. Parties, we surmise, align the interests of leaders with the interests of the party, (1) imposing constraints on leaders, (2) institutionalizing power, and (3) elongating time-horizons. Parties also serve as coordination mechanisms among powerful groups and interests within a society by virtue of (4) their encompassing-ness, (5) their ability to overcome veto points, and (6) their effective implementation of policies. Let us now unpack these complex relationships.

First, strong parties provide a mechanism for constraining leaders so that s/he fulfills the ambitions of the party rather than (or in addition to) his or her personal ambitions. Constraints on leaders stem partly from the process of leadership selection, which in a strong party is monopolized by party members. As such, it favors individuals with a demonstrated commitment to the party, usually those who have risen through the ranks. Organization men, not mavericks, are likely to emerge from a party-centered selection process. The chosen individual, having been thoroughly socialized in the party, is unlikely to work against its wider interests once installed in a top policymaking position. Nor is it likely that a leader would be able to deviate from the party line, even

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[1] Work on parties in democracies usually focused on the "external dimension" of party system institutionalization, i.e., patterns of inter-party competition. Our conceptualization of party strength leans toward the "internal dimension" of party system institutionalization, i.e., party organizational structures and party rootedness in society (Mainwaring and Scully 1995 Levitsky 1998; Randall and Svåsand 2002; Ufen 2008; Croissant and Volkel 2012; Hicken and Kuhonta 2014; Powell and Tucker, 2013). The literature on autocratic parties, naturally, focuses mainly on the latter (e.g., Geddes 1999; Magaloni 2006; Gehlbach & Keefer 2011; Svolik 2012), with some attention to linkages between opposition party actors and the ruling party (e.g., Gandhi 2008).

if s/he so desired. Strong parties provide checks against wayward leaders, employing internal mechanisms of control, often of an informal nature (Gehlbach & Keefer 2011, 2012; Svolik 2012). Indeed, party activists and officials may resist actions by the executive if they conflict with their interests and the long-term interests of the party (Stokes 1999). Note also that party leaders need party members; they cannot afford to alienate their base. More generally, we note that a tightly organized party structure – where members are in continual contact with one another and have long-standing personal relationships – allows party members to overcome collective action problems and thus to serve as an effective counterweight to the top leadership (Svolik 2012).

For these reasons, we expect a modicum of accountability operating within a strong party, even when there are no formal institutions mandating anything that might be described as intra-party democracy. As evidence of this, one might consider the capacity of strong parties to limit the tenure of rulers and, in some cases, to control the leadership selection process in autocratic settings such as Vietnam (after Ho Chi Minh), China (in recent years), and Mexico (under the PRI). It follows that we may regard the political party as providing a credible check on executive power, preventing predatory behavior that might harm long-run growth, and thus the party's reputation and standing, in much the same fashion as is claimed for formal, constitutional constraints (e.g., Acemoglu et al. 2001; Besley & Kudamatsu 2008; North & Weingast 1989; Wright 2008).

Second, strong parties establish highly institutionalized spheres of politics and policymaking. They may or may not be transparent in formulation, but they are clear in execution so that investors and other actors know what to expect. More important, once adopted, policies are likely to be sustained, and this track-record means that strong parties can credibly commit to policies. Market uncertainties associated with unpredictable policy swings are minimized, and growth performance should be enhanced. More generally, the institutionalization of political conflict – and of leadership succession in particular – should enhance political stability over the long run. As we will show, polities ruled by strong parties seem to be less susceptible to civil war (see also Fjelde 2010), an occurrence with negative repercussions for growth (Collier 1999, Gates et al. 2012).

Third, strong parties are typically enduring, and because of this longevity leaders and others whose interests are aligned with a party's fate are compelled to think about policymaking from a long-term perspective. Studies have shown that a party's image and overall support among the citizenry is colored by the policies and overall performance achieved during periods when the party ruled (e.g., Magaloni 2006). Legacies matter. This means that parties that expect to stick around may have an incentive to invest in policies that are anticipated to increase long-term growth, even if they impose short-term costs. For example, we might expect a strong party to prioritize productive public investments in infrastructure and human capital over less productive public spending and to promote policies conducive to private investment, even though the gains from such policies accrue slowly over many years (e.g., Olson 1993; Simmons forthcoming).

Fourth, strong parties often promote an encompassing vision (an ideology intended to embrace most, if not all, citizens), a leadership cadre that includes representatives of most (non-trivial) social groups, and a large membership base. A strong party is broad; indeed, it may attempt to fuse its mission and identity with the nation. Groups who are integrated into a party will also be integrated into politics and this, in turn, may serve to vitiate dissent and rebellion. The encompassing vision, and (envisioned) constituency, of a strong party may encourage leaders to prioritize public goods over targeted distribution of private goods, with positive repercussions for growth (e.g., Bueno de Mesquita et al. 2003; Knutsen 2011a). Likewise, the sheer size of a strong party means that clientelistic payoffs – designed to compensate party members and supporters – are unlikely to be viable over the long term unless coupled with strong growth performance. Distributive politics may be workable for a short time; but in the absence of economic growth party elites will be unable to fill their coffers for very long (e.g., Morgan 2011). There is simply not enough pelf to go around. Growth is the only solution that will placate members of a large party, not to mention the broader constituencies whose allegiance they claim.

Fifth, strong parties can serve as a vehicle for formulating objectives and overcoming potential veto points (see Tsebelis 2002) – whether located within government, in informal institutions, or in the private sector. In particular, cohesion among elites is enhanced, allowing party leaders to resolve coordination problems among themselves – striking deals that involve intertemporal tradeoffs and enforcing those deals through time (Boix & Svolik 2013; Hicken & Simmons 2008; Kuhonta 2011; Magaloni 2006; McGillivray 1997; Müller 2000; Nielson 2003; Svolik 2012; Tommasi 2006). Focusing on democratic settings, Gerring & Thacker (2008: 36-37) propose that "wherever parties are weak, policies are necessarily the product of ad hoc coalitions and individual interests," whereas a strong party "synchronizes individual career goals with the party's quest for political power." In an autocratic setting, Magaloni (2008) shows how party organizations, with their associated side-payments, perks and opportunities for future positions and influence, strengthen the incentives of different actors to invest in the current regime. This means that strong-party governments should be capable of reaching authoritative decisions on important matters of public policy and making these decisions stick, establishing credible commitment even in the absence of formal constitutional constraints (Gehlbach & Keefer 2011).

Finally, strong parties – with well-established organizations, monitoring and information-processing capacities, and deep roots in society – are better able to implement policies, once adopted. While the "developmental state" literature (e.g., Johnson 1982; Evans 1995; Leftwich 2000; Kohli 2004; Wade 1990) is normally interpreted as a brief for bureaucratic rule it should be appreciated the extent to which ruling parties, in democracies and autocracies alike, contributed to these outcomes. Parties characterized in the literature as strong have exerted a transformational influence on societies by providing a level of organization, discipline, and direction that societies would not otherwise possess. They have overturned class relations, ensuring that the state is not the handmaiden of traditional elites. They have developed infrastructure. They have penetrated remote countryside hamlets. They have served as agents of modernization, with all its attendant disruption and more than occasional cruelty. They often share a vision of state-supported development, but have been willing to abandon ideas and programs, switching course when needed. Strong parties are thus a potent tool for modernizing backward societies, with party leaders providing central direction, activists performing the grunt work, and the state apparatus, in conjunction with para-military organizations, providing coercive mechanisms, when needed (Haggard 1998; Huntington 1968; Hutchcroft & Rocamora 2003; Kuhonta 2011; Pempel 1990; Slater 2010; Woo-Cummings 1999). Party-led modernization, in turn, may serve as a precursor to long-term growth (see Murphy et al. 1989).
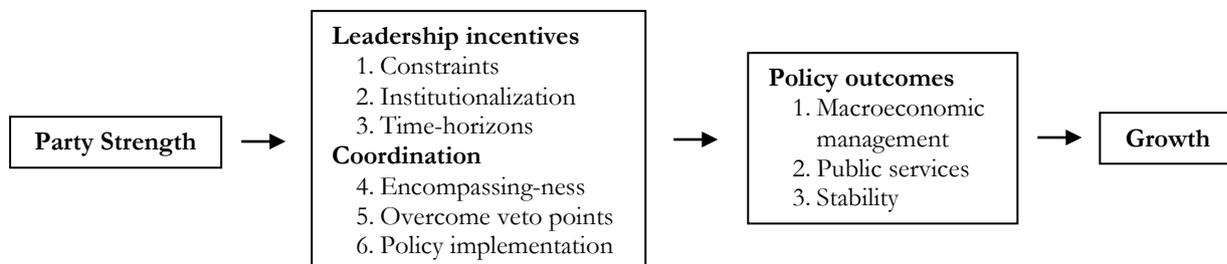
The foregoing institutions – constraints on leaders, institutionalization of power, elongated time-horizons, encompassing-ness, overcoming veto points, and effective policy implementation – should, in turn, enhance policy outcomes that are generally regarded as conducive to growth. First, party strength should mitigate predatory policies and economic mismanagement, e.g., when calibrating monetary and fiscal policies, thus promoting investment and limiting inflation. Second, party strength should provide productivity-enhancing public services such as infrastructure, education, and health, which should have follow-on effects on economic productivity by lowering transaction costs and improving human capital (Mankiw et al. 1992). Third, party strength should ensure political stability by institutionalizing power and allowing for credible commitments – assuring peaceful leadership transitions, allowing for peaceful bargaining rather than civil war, and keeping order. More generally, party strength should guarantee a stable, predictable policy environment, all of which should encourage growth (Alesina et al 1996; Rodrik 1991).

The pieces of this comprehensive argument, which provides the foundation for subsequent empirical analyses, are depicted in Figure 1. Of course, we realize that our theoretical discussion presents a stylized view of the subject. Naturally, there are many exceptions to the patterns sketched above. Strong parties do not always play heroic roles, as the disastrous Great Leap Forward campaign in China attests (Dikotter 2010). Nonetheless, on balance, and compared with the alternatives –*personalistic rule*, *group-based rule*, and *military rule* – the case for parties as vehicles of

growth seems highly plausible and builds on a large literature on political parties, which we have paid homage to in the foregoing discussion.

Figure 1: The Argument Summarized

| Party Strength | → | **Leadership incentives**
  1. Constraints
  2. Institutionalization
  3. Time-horizons
Coordination
  4. Encompassing-ness
  5. Overcome veto points
  6. Policy implementation | → | **Policy outcomes**
  1. Macroeconomic
     management
  2. Public services
  3. Stability | → | Growth |

II.   Party Strength

We defined party strength initially according to the unity, centralization, organizational complexity, and mass constituencies of political parties. To operationalize this concept we employ six indicators from the V-Dem dataset. These measure the extent to which political parties within a polity are characterized by: (1) permanent national party organizations, (2) permanent local party branches, (3) centralized mechanisms of candidate selection, (4) legislative cohesion, (5) minimal party switching (where elected members of a party change their party affiliation in between elections), and (6) programmatic (rather than clientelistic) linkages to their social base. Indicators are aggregated through simple addition to form a Party Strength index, reflecting the expectation that each element of the index is partially substitutable.

Further detail on these indicators, and discussions of how they map onto the definitional attributes of the key concept, is contained in Appendix B. It bears emphasis that the empirical results shown in subsequent tables are robust to the omission of *any* of these indicators. Results are also robust to alternate aggregation rules for the index, such as principal components analysis or multiplication. Both sets of results are shown in Table B2.

Figure 2 presents a histogram of the Party Strength index for all 16,221 country-year observations in our dataset, revealing a distribution that approximates a normal curve. The index varies from -1.73 to 1.36, with median and mean values of 0.03 and 0.00, respectively, and a standard deviation of 0.53 (see Table A2 in Appendix A).

When observed over time across our global sample, Party Strength shows a long-term secular increase, with a strong increase in the years directly following World War II, and a small decline around 1990 (coinciding with the collapse of Communist one-party regimes in Eastern Europe and the introduction of multi-party politics in many Africa countries), as shown in Figure B1. Nevertheless, the overall increase over time is not dramatic. The mean score is about -0.4 in 1900 and 0 in 2012. To be sure, this aggregate-level pattern is partly a product of a changing sample, where newer countries are likely to have lower values on the index. It also hides substantial variation across the sample, with some countries experiencing very large changes (both positive and negative) over time.

Cross-country variation at any given point in time is substantial, as one might expect. Some countries are characterized by strong parties (e.g., Sweden, Germany, Spain, the Netherlands, and Vietnam with the highest scores in 2011) and others by weak or no parties (e.g., Liberia, PNG, Saudi Arabia, and Haiti, which show the lowest scores in 2011). Point estimates for all countries in 2011

are listed in Table B1. Importantly, not all point estimates are distinguishable, as signaled by the confidence intervals accompanying each score.

Figure 2: Histogram of Party Strength
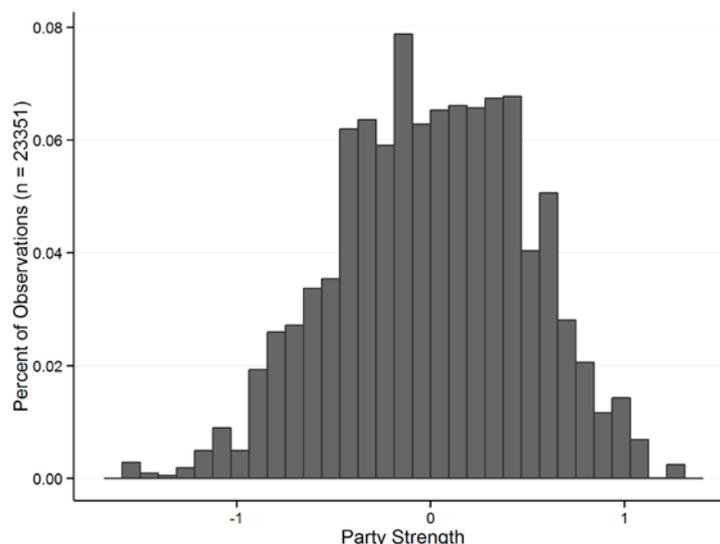
Convergent validity tests, shown in Appendix C, indicate that Party Strength is positively associated with other indicators often regarded as measures of party strength or institutionalization. This includes party *age* (the average age of the three largest parties in the legislature), party vote *volatility* (change in share of votes received from election to election), and party *linkage* (a stable and socially rooted party system), as shown in Table C3. In sub-sets of relatively autocratic countries, Party Strength is much higher in regimes categorized as "Single-party," "One-party," or "Dominant Multi-party," than in regimes categorized by Geddes et al. (2014) and Hadenius & Teorell (2007) as "Personalist," "Military," or "Monarchy," as shown in Tables C1 and C2.

It is worth noting that Party Strength is only modestly associated with common measures of good governance (e.g., the Worldwide Governance Indicators) and democracy (e.g., Polity2). To be sure, Party Strength is higher in democracies and in countries that exhibit higher degrees of rule of law and control of corruption. Yet, the modest correlations suggest that our index is picking up a different concept than regime type or good governance, as commonly understood.

III.   Case Study Analysis

To provide further validation of the index, and to corroborate some of our expectations (especially those about causal mechanisms), we begin our empirical foray by exploring countries in a region of the world that exemplifies enormous variation in the factor of theoretical interest. By common understanding, "East and Southeast Asia" includes Burma/Myanmar, Cambodia, China, Indonesia, Japan, Laos, Malaysia, North and South Korea, the Philippines, Taiwan, Thailand, and Vietnam. We exclude micro-states (e.g., Hong Kong, Singapore) as well as countries generally classified as part of the Oceanic region (e.g., Australia, Papua New Guinea).

Note that while some regions of the world feature parties that are generally quite strong (e.g., Western Europe), and other regions feature parties that are generally quite weak (e.g., Africa), East and Southeast Asia is hard to characterize on this dimension by virtue of its manifest diversity.

As such, this region of the world provides an ideal setting for a "most-similar" style analysis, where variation in X is maximized while variation on background conditions is minimized. Of course, being situated in the same geographic region does not entail that ceteris paribus conditions have been achieved. Nonetheless, it provides some ex ante plausibility for making cross-country comparisons given that countries in the same region are likely to share many cultural and geographic features, and historical experiences (Gerring 2007).

The literature on the developmental trajectories of East and Southeast Asia has focused on explaining the rapid growth and development of the so-called high performing Asian economies vis-à-vis their underperforming neighbors. Johnson (1982) established the "developmental state" genre with his work on Japan, which was followed by studies of the four "tiger" economies (Taiwan, South Korea, Singapore, and Hong Kong)[2], and the "mini-tigers" (Indonesia, Malaysia, and Thailand).[3] A common theme in this work is the importance of a strong state that can engage in long-term developmental planning, establish developmental priorities, mediate between competing interests, and coordinate the tasks related to development among various public and private stake-holders. Importantly, most of the strong states were run by strong parties. With few exceptions, high performing economies were governed by dominant parties that enjoyed long time-horizons, had the power to maneuver around potential veto points, could shield the bureaucracy from special interests, and could effectively oversee policy implementation.[4] While these tasks might still be carried out in the absence of a strong party (as the South Korean and Thai cases demonstrate), much of what scholars have attributed to strong states may well be a function of strong parties. In other words, by focusing on *state* capacity the literature has sometimes neglected *political* capacity embedded in political parties (Leftwich 1995; 2008).

This, at any rate, is the impression one gets when one compares Party Strength (measured by our index) with growth rates over the postwar period, as shown in Table 1. Countries with the strongest growth trajectories such as China, Vietnam, Indonesia, Japan, Taiwan, and Malaysia generally were characterized by stronger parties. (The Party Strength index is centered on zero so a positive score signals an above-average score across the entire sample, which includes most sovereign and semi-sovereign countries in the world.)

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[2] See Amsden 1989; Cheng 1990; Wade 1990; Haggard 1990; World Bank 1993; Rodrick 1995; Evans 1995; Campus and Root 1996; Woo-Cummings 1999.

[3] See Lim 1983; Bowie 1991; Doner 1991, 2009; McVey 1992; MacIntyre 1994.

[4] Again, there are important differences among states along each of these dimensions. See MacIntyre 1994 for example.

Table 1: East & Southeast Asian Cases at a Glance

	Party Strength		Growth
	Estimate	*Confidence interval*	*GDP per cap*
China	0.787	0.646 0.928	5.060
Vietnam DR	0.707	0.511 0.902	4.464
Indonesia	0.546	0.368 0.725	3.183
Japan	0.518	0.337 0.699	4.458
Burma/Myanmar	0.509	0.323 0.695	3.945
South Korea	0.487	0.348 0.625	5.660
North Korea	0.429	0.186 0.672	0.827
Taiwan	0.428	0.226 0.631	5.593
Malaysia	0.225	0.113 0.336	3.748
Laos	-0.091	-0.132 -0.050	1.754
Cambodia	-0.105	-0.262 0.052	2.980
Thailand	-0.440	-0.584 -0.296	4.214
Philippines	-0.541	-0.617 -0.464	2.561

Party Strength and per capita GDP growth averaged across the 1946-2012 period.

Readers will be aware that the group of countries classified as members of the East and Southeast Asia region are heterogeneous along a number of dimensions that might be expected to affect party strength and economic development, and hence serve as potential confounders in our narrative. Arguably, a more satisfactory most-similar analysis may be attained by focusing on a smaller group of countries that are more homogeneous on background characteristics. As subjects for this focused comparison, we choose Indonesia, Malaysia, Philippines, and Thailand. These four countries have long coastlines and are therefore exposed to international currents of trade, technology, and ideas. They have no history of communist control or of "total" colonial control exercised by Japan, and often regarded as a modernizing force (Kohli 1994). With the exception of Thailand, they transitioned to independence at about the same time. And, they had comparable socioeconomic characteristics at mid-century as measured by per capita GDP, education, and urbanization.

Figure 3 plots the Party Strength index for these cases over the course of the past century. (This includes periods of colonial rule, as coded by the V-Dem project.) Several features of this comparison are notable. First, corresponding with the consensus in the literature, Thailand and the Philippines consistently registered the lowest levels of party strength. In both countries, parties are generally described as ephemeral alliances of convenience, with little commitment to program or ideology and only tenuous connections to voters and societal groups (Brownlee 2008; Croissant & Volkel 2012; Hicken 2006a, 2006b, 2009; Hicken & Kuhonta 2014; Hutchroft & Rocamora 2003; Quimpo 2005; Ufen 2012). These stand in sharp contrast to Indonesia and Malaysia, where party strength has historically been much stronger (Kuhonta 2011).

Figure 3: Party Development in Selected Cases
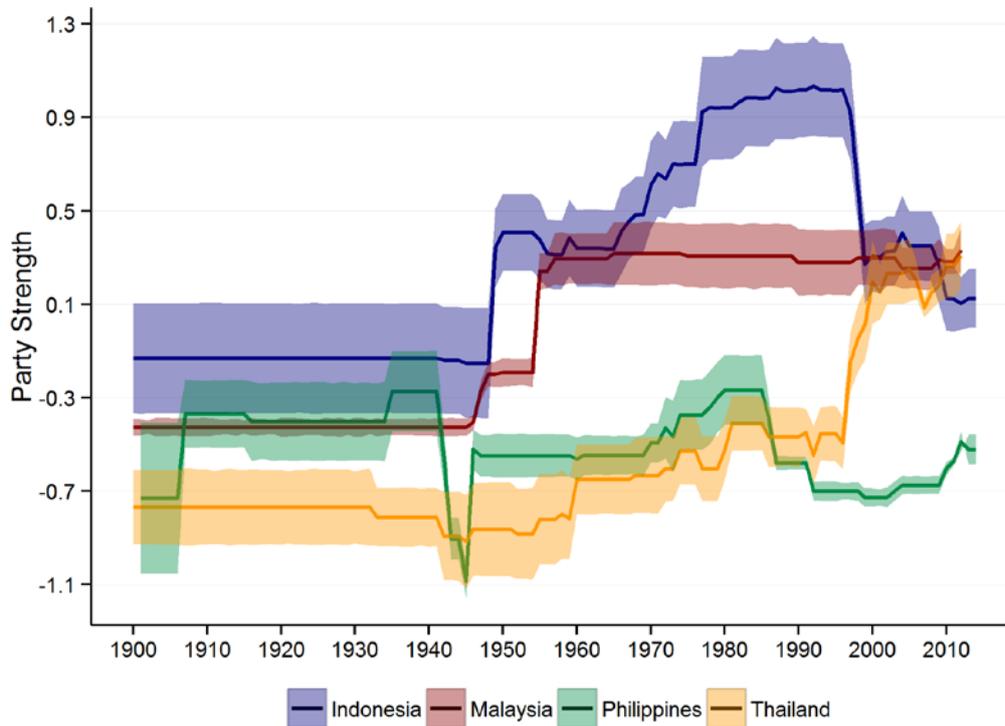
Party Strength through time for selected East and Southeast Asian cases, including pre-independence periods.

The Party Strength index also appears to capture important changes to party systems over time, as described in the scholarly literature. For example, the time-series for Thailand shows a modest increase in party strength beginning in the late 1990s. This corresponds to changes to the Thai party system occurring in the wake of the 1997 constitutional reforms and the rise of Thaksin Shinawatra and the Thai Rak Thai party (Hicken 2006b, 2013). In Malaysia, we see an increase in party strength in the 1950s, reflecting the creation of three ethnically-based parties (UMNO, MCA and MIC) and their banding together to form the ruling Alliance—a pact that has formed the core of the ruling coalition ever since. Indonesia's graph picks up the period of turbulent party competition after the country's independence, which pitted secular nationalist, Communist, and Islamic parties against each other. It also captures the substantial increase in party strength accompanying the creation of Suharto's ruling GOLKAR party in the late 1960s. And, it registers the decline in the strength and rootedness of parties corresponding with the return of democracy in 1998. The index, finally, shows a decline in party strength in Indonesia since 2005, which fits nicely with accounts in the literature highlighting the deinstitutionalization of Indonesia's party system in the aftermath of a switch to open-list PR in 2008 (Aspinall 2014).

Considering more closely the cases of Thailand and Malaysia, a large gap is discernible between Thailand and Malaysia for most of their history, as shown in Figure 3. Kuhonta (2011) argues that the differences between these two party systems help account for the developmental disparity between the countries. With its institutionalized and pragmatic parties, Malaysia was poised to "create organizational power that is necessary to drive through social reforms, provide capacity and continuity that sustain and protect a reform agenda, and maintain the ideological moderation that is crucial for balancing pro-poor measures with growth and stability" (Kuhonta 2011, 4). By contrast, Thailand has featured parties distinguished by their lack of interest in programmatic

policies and a striking lack of institutionalization. The result was a policy environment where needed public goods, reforms and investments were chronically undersupplied, even while a fairly capable bureaucracy was able to maintain a macroeconomic environment conducive to short term growth via foreign investment and factor accumulation (Hicken 2001; Doner 2009; Kuhonta 2011). As a result, while both countries have experienced periods of impressive rapid economic growth, "Malaysia has done significantly better than Thailand in achieving equitable development" (Kuhonta 2011, 5).

Perhaps no case illustrates our argument more perfectly than the Philippines. Among the states of East and Southeast Asia, the Philippines stands out with the lowest level of party strength, as shown starkly in Figure 3. Moreover, the relative weakness of the party system in Philippines is front-and-center in many accounts of the country's disappointing economic performance (de Dios & Hutchcroft 2003; Hawes 1992; Hutchcroft & Rocamora 2003; Mackie & Villegas 1999). That the Philippines would emerge as the perpetual "sick man of Asia" was not a foregone conclusion. Indeed, post-WWII the Philippines was widely-expected to emerge as one of Asia's success stories. However, the absence of party strength in the Philippines has been one of the biggest obstacle to robust, sustained economic growth in the Philippines. Philippine parties "are characterized by factionalism, frequent party switching…and party labels that generally mean little to voters or candidates. As a result they…are not cohesive unitary actors pursuing unique policy agendas. Rather, they are temporary alliances of narrowly oriented politicians primarily concerned with distributing the spoils of government…to themselves and their supporters" (Hicken 2008, 223).

As a result of the chronic undersupply of needed collective goods and comprehensive national policies, economic growth in the Philippines has been weak, especially when compared to the success of its neighbors, as shown in Table 1. At the conclusion of WWII the Philippines was one of the wealthiest countries in the region, behind only Japan and Malaysia. However, beginning in the 1970s the countries of first East Asia, then Southeast Asia, soared ahead of the Philippines. As the other Asian economies grew at a staggering pace during the 1980s and 1990s the Philippines fell further and further behind.

In the section below, we show that the relationship between party strength and economic growth is not restricted to the East and South-East Asian context, but that the observed differences between the Philippines and its neighboring countries reflect a more general pattern, *and* that the correlation may be due to a causal effect of party strength on growth.

IV.   Global Analyses: Main Tests

We proceed to a global analysis that includes most sovereign countries observed across the past century. Per capita GDP data is drawn from the Maddison Project (Bolt & van Zanden 2014). We conduct numerous tests on the relationship between Party Strength and GDP per capita growth, employing different estimation techniques, control variable sets, samples, time lag specifications, and operationalizations of key concepts. We report only a selection of these tests, presenting additional models in Appendix E. It is worth signaling at the outset that the basic result – Party Strength enhances economic growth – is robust to an extent that has few parallels in the literature on institutional determinants of growth.

We begin with a parsimonious specification, displayed in Model 1, Table 2. Here, growth is regressed on Party Strength in an ordinary least squares model along with year and country fixed effects, and GDP per capita (logged). The latter is intended to account for convergence effects (Barro & Sala-i-Martin 2004) as well as the possibility that parties might be stronger in richer countries. All right-side variables are lagged one period behind the outcome, and (robust) errors are clustered by country to correct for panel-specific autocorrelation. This benchmark model incorporates 10,147 country-year observations from 153 countries within a time-series starting in 1900 and extending for up to 110 years.

The estimated coefficient and standard error for Party Strength in Model 1 indicate a strong relationship with subsequent growth. Based on that model, Figure 4 plots the estimated impact of

hypothetical changes in Party Strength, surrounded by 95% confidence intervals. Holding initial level of income constant, and controlling for country- and year-fixed effects, the point estimate suggests that a 1-point increase in the Party Strength index boosts GDP per capita growth in the subsequent year by about 1.6 percentage points. A 1-point difference in Party Strength is not far from the 0.91-point difference in 2012 Party Strength scores between the cases of Malaysia (0.36) and the Philippines (-0.55), discussed above. Such a difference in party strength has substantial consequences for economic development over time. Model 1 suggests that if two otherwise equal countries start out today with the 2012 Party Strength scores of Malaysia and the Philippines, respectively, the former will grow to be twice as rich as the latter in about fifty years. Subsequent tests introduce variations in this benchmark model to assess the robustness of this finding.

Figure 4: Party Strength and predicted GDP per capita growth
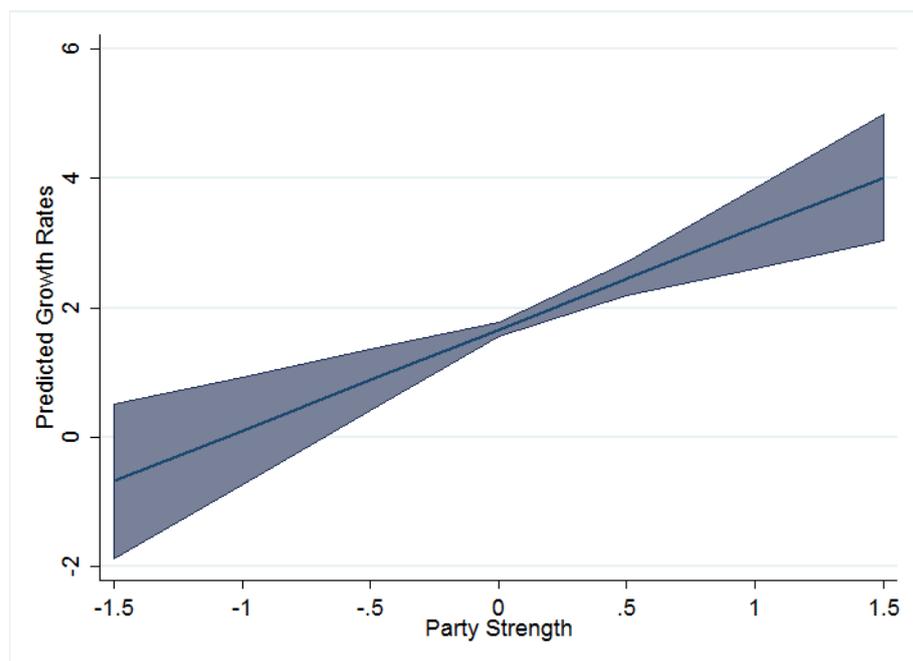
Predicted growth rates, surrounded by 95% confidence intervals, as a function of Party Strength based on Model 1, Table 2, with other independent variables at their means.

Table 2: Main Tests

	1	2	3	4	5	6	7	8	9	10	11
Sample	Full	Full	Full	Full	Full	Full	Full	Imputed	Full	Democracies	Autocracies
Estimator	OLS	OLS	OLS	OLS	OLS	Sys. GMM	2SLS	OLS	OLS	OLS	OLS
Time-periods	1 year	5 years	1 year	1 year	1 year	5 years	1 year	1 year	1 year	1 year	1 year
Party Strength	1.568***	1.038***			1.360***	1.994***	1.282***	1.110***		3.177***	2.088***
	(0.369)	(0.355)			(0.325)	(0.649)	(0.243)	(0.218)		(0.928)	(0.631)
Party Strength, L10			0.772**								
			(0.357)								
Party Strength, stock				0.446***							
				(0.014)							
Party Strength, II									1.126		
									(1.240)		
Party Strength, III									1.574		
									(1.407)		
Party Strength, IV									2.343*		
									(1.408)		
Party Strength, V									3.168**		
									(1.440)		
Party Strength, VI									3.684**		
									(1.502)		
GDPpc (ln)	-2.023***	-2.830***	-1.653***	-2.162***	-2.290***	-0.468	-2.069***	-0.404***	-2.010**	-6.041***	-2.214***
	(0.353)	(0.404)	(0.313)	(0.037)	(0.325)	(0.295)	(0.196)	(0.113)	(0.346)	(0.807)	(0.622)
Growth					0.180***	0.116*					
					(0.031)	(0.649)					
Ec.growth, region							0.348***				
							(0.293)				
Ec.growth, globally							-5.636***				
							(0.685)				
Year fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country fixed effects	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Countries	153	153	153	153	153	153	151	205	153	104	127
Years (Max)	110	21	100	110	109	21	109	114	110	108	100
Obs	10147	1822	9471	10147	9991	1814	9852	23146	10147	3702	5087
R2 (within)	0.109	0.206	0.101	0.108	0.136		0.128+		0.109	0.207	0.116

Outcome: GDP per capita growth. Independent variables lagged by one time-period. *Sample:* Full (all available observations), Imputed (Honaker & King 2010), Democracies or Autocracies (Boix et al. 2013). *Estimator:* OLS (ordinary least squares), Sys GMM (system GMM [Blundell & Bond 1998]), 2SLS (two-stage least squares), standard errors clustered by country. *** p<.01 **p<.05 *p<.10. + Centered R-Squared.

Model 2 in Table 2 employs variables measured across 5-year intervals (rather than annually). Specifically, we generate a moving average of all variables and then run the benchmark model using every fifth year (1900, 1905,…). This reduces the amount of information available and blunts proximal relationships that may exist between Party Strength and growth. However, it also reduces noise from short-term business cycles, and models the relationship in a more distal fashion (note that a five-year lag replaces a one-year lag between right- and left-side factors). While the point estimate for Party Strength is reduced (to 1.0), the relationship persists and remains statistically significant at the 1% level.

In Model 3, we return to annualized data but this time we introduce a longer lag on the variable of theoretical interest. Here, Party Strength is lagged ten years behind the outcome, while per capita GDP retains its one-year lag. This model accounts for the possibility that it might take considerable time for party characteristics to influence social and economic policies and for these policies to affect the behavior of economic actors. It also reduces the possibility of spurious results (since we are separating right- and left-side variables by a longer interval). The estimated impact is somewhat weaker than in our benchmark model (with a one-period lag), indicating that the relationship weakens as inputs and outputs are separated in time. However, the coefficient remains positive and statistically significant.

Another approach to functional form, reported in Model 4, considers a country's historical experience with Party Strength as the determinant of growth. Following Gerring et al. (2005), we generate a stock variable summarizing Party Strength scores over a country's observed time-series, with an annual discount rate of 1%. The estimated coefficient for Party Strength is positive and highly significant, suggesting that this factor may have both short-term and long-term effects. This result also offers further assurance that our findings are not the product of simultaneity (factors that affect both right- and left-side variables). Note that the stock variable extends back to 1900 (or the first year in which Party Strength is observed for a country).

In Model 5, we include a lagged dependent variable as an additional regressor in the benchmark model. This dynamic model estimates how Party Strength at *t-1* affects changes in the economic growth rate from *t-1* to *t*. The point estimate in this model is 1.4, and the t-value is 4.2 – remarkably close to our benchmark (Model 1). Another approach (not shown in Table 2) deals with temporal confounders by measuring one-period changes in right- and left-side factors – a first-difference model. This also shows a large (2.0) and statistically significant (t=2.2) effect (see Appendix).

In Model 6, we test more complex dynamic panel model known as system generalized method of moments, a version of GMM regarded as appropriate for studying sluggish variables such as Party Strength (Blundell & Bond 1998).[5] These tests reveal extremely large and highly significant coefficients for Party Strength. However, model diagnostics suggest that the overidentifying restrictions may not be valid in the 1-year specifications due to the large number of instruments. Hence, we follow a standard approach for GMM models with long time series. Specifically, instead of annual data we use data at five-year intervals, as in Model 2. This reduces the number of time series units and thus the number of instruments, and allows for valid identification (following the assumptions of the model). We allow four lags for instrumentation, producing 123 instruments, well below the number of cross-sectional units (153), which is often employed as a rule-of-thumb threshold (Roodman 2009). The Ar(2) test p-value is 0.38 and the Hansen J-test p-value is 0.43, suggesting that Model 6 provides consistent estimates. Even when modelling Party Strength as

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[5] The system GMM estimator includes level and differences regressions, and accounts for endogenous regressors by using lags of levels to instrument for differences and lags of differences to instrument for levels. Four lags are used for instrumentation (123 instruments in total), and Party Strength, ln GDP p.c. and lagged growth are modelled as endogenous. The Ar(2) test p-value is 0.38, and the Hansen J-test p-value is 0.43. To mitigate the "too-many-instruments" problem (Roodman 2009), we restrict the number of lags used for instrumentation (models using 2- 4 lags are reported for the 1-year specifications in the Appendix, and models using 2-6 lags are reported for the 5-year specifications). We test models only considering Party Strength as endogenous, but our favored specifications also consider income level and lagged growth as endogenous. The results are robust.

endogenous, the GMM model estimates that the short-term effect of a one-point increase in Party Strength results in 2.0 percentage points additional growth (significant at 1 percent), and the long-term effect ($\beta_{\text{party strength}}/(1-\beta_{\text{lagged DV}})$) is about 2.3 percentage points.

In Model 7, we adopt an instrumental-variable approach to causal identification. To instrument for Party Strength, we adopt a technique developed for testing the effects of institutional features on economic performance (Acemoglu et al. 2014; Knutsen 2011b; Miller 2015; Persson & Tabellini 2003). This technique rests on the assumption that institutional forms are, in part, the product of diffusion (Weyland 2008). Insofar as we can measure pressures for diffusion by taking account the institutional forms adopted by a country's neighbors, and insofar as the institutional evolution of these neighbors has no direct impact on the outcome of interest (conditional on other factors in the causal model), we may regard such a factor as a valid instrument, satisfying the exclusion restriction.

Specifically, we construct a variable that measures average levels of Party Strength in a region (excluding the country in question) and another variable that measures average values of Party Strength globally (also excluding the country in question), with the expectation that these regional and global factors predict Party Strength in the country of interest. F-tests of these instruments in the first stage regression confirm that they are very strong predictors, explaining a substantial amount of variation in Party Strength (see Table E1). We also include on the right side of this model two variables measuring average growth rates regionally and globally to mitigate the possibility that our diffusion instruments are correlated with economic performance. The Sargan test of the exclusion restriction (p=0.16) suggest that the chosen instruments are valid. If so, the estimated coefficient for Party Strength in Model 7 – which is strikingly similar to our benchmark model – should provide a consistent estimate of the causal effect of Party Strength on growth. To test the stability of this result, we conduct a number of robustness tests, employing different sets of instruments and controls, as shown in Table E2. Results suggest that our specifications is not susceptible to arbitrary choices of instruments.

Another threat to inference is posed by sample bias. Data for key variables is not available for all countries; notably missing from our analysis are many micro-states. To mitigate this problem we employ a multiple imputation algorithm with Amelia II (Honaker & King 2010), which is adapted to the cross-section time-series structure of our data (see Appendix A for model specifications). Ten imputed datasets are produced, encompassing 205 countries and a time-series extending from 1900-2014. Model 8 reports the coefficients for the benchmark model, averaged across these imputed datasets, and with standard errors that account for variability across the datasets. The effect of Party Strength on growth remains positive (1.1), although somewhat attenuated relative to our benchmark model, and highly significant (t=5.1).

To explore functional form we construct an ordinal measure of Party Strength consisting of dummies representing different levels of Party Strength. Dummies are constructed by dividing up the index – which stretches from -1.723 to 1.363 – into six equidistant units. These dummies (excluding the first level as a reference category) replace our continuous measure of Party Strength in Model 9. It will be seen that only the upper categories are statistically significant, as one might expect (slight increases in Party Strength relative to the bottom category are not enough to generate an effect that is statistically distinguishable from zero). For our purposes, the salient result is that the coefficients increase in a monotonic, and nearly linear, fashion from II to VI. This suggests that our linear index does a good job of capturing the true functional form. It also reassures us that the effects measured in the benchmark model are not driven by a small number of unusual cases.

To understand more about the robustness of our findings, and to test our claim that the impact of Party Strength extends across regime-types, we divide the sample into democracies (Model 10) and autocracies (Model 11) using the binary regime-type index constructed by Boix, Miller & Rosato ("BMR" [2013]). The coefficients for Party Strength in both models are comparable, and the t statistics are large, supporting our claim that the impact of Party Strength on growth is orthogonal

to regime-type. Strikingly, the coefficients for Party Strength in both models are considerably higher than in our benchmark model.

V.   Global Analyses: Robustness Tests

In Table 3, we conduct a series of specification tests intended to probe the sensitivity of the Party Strength/growth relationship to potential confounders. All variables are defined in Table A1, with descriptive statistics in Table A2.

Model 1 is a spare model, including only country and year dummies (excluding per capita GDP). Model 2 adds several time-varying covariates to the benchmark specification, including urbanization, life expectancy, petroleum production, intra-state armed conflict, and inter-state armed conflict. Model 3 adds a number of fixed covariates to the benchmark model including ethnic fractionalization, percent Muslim, percent Protestant, land area, legal origin (English, French, et al.), regime-type (following the typology from Geddes et al. 2014), and region dummies. These variables, which change little, if at all, across the period of observation, replace the use of country fixed effects in a random effects model. Coefficient estimates for Party Strength are stable and comparable to our benchmark model.

In the final specification tests of Table 3 (Models 4-5) we include a variety of indices that purport to measure the quality of political institutions. This includes democracy, the quality of public administration, political corruption, property rights, judicial power, judicial freedom from political threats, and civil society freedom. Somewhat surprisingly, the estimated effect of Party Strength on growth is even higher than in our benchmark model. Equally surprising, the other institutional measures – with the notable exception of property rights – are not robust predictors of growth.

The inclusion of these indices also mitigates a potential threat to inference stemming from the foreknowledge that V-Dem coders have about the "left side" of our causal model. Specifically, country experts may be more inclined to assign a high score to a country along some institutional parameter during a period in which a country experiences high growth. If so, the relationship we find in our benchmark model is spurious, a product of coding circularity. However, we would expect this sort of coding bias – to the extent that it exists – to affect other institutional variables since they are also coded by country experts (and in some cases, by the same set of experts who coded the variables that comprise the Party Strength index). Moreover, we would expect it to manifest itself more strongly with institutional variables that are widely assumed to be associated with economic performance such as corruption control or property rights. The fact that the main result holds even when controlling for these subjectively coded institutions alleviates concern about this sort of confounding.

Table 3: Specification Tests

	1	**2**	**3**	**4**	**5**
Estimator	OLS	OLS	RE	OLS	OLS
Party Strength	1.221***	1.242**	1.124***	2.698***	2.495***
	(0.328)	(0.483)	(0.355)	(0.496)	(0.491)
GDPpc (ln)		-2.564***	-0.681**	-2.586***	-2.710***
		(0.544)	(0.291)	(0.440)	(0.451)
Urbanization		-3.587			
		(2.713)			
Life expectancy		0.017			
		(0.037)			
Petroleum		0.001*			
		(0.000)			
Internal conflict		-1.283***			
		(0.313)			
External conflict		-0.538			
		(0.474)			
Ethnic fract			-0.605		
			(0.711)		
Latitude (ln)			-0.066		
			(0.172)		
Muslim			-0.003		
			(0.005)		
Protestant			-0.002		
			(0.011)		
Land area			0.000		
			(0.000)		
Democracy, BMR				-0.190	
				(0.375)	
Democracy, Polity2					-0.047
					(0.033)
Public administration				0.293	0.087
				(0.211)	(0.264)
Corruption control				-0.406*	-0.398*
				(0.205)	(0.205)
Property rights				0.610***	0.622***
				(0.205)	(0.216)
Judicial power					-0.336
					(0.218)
Judicial threats					0.578**
					(0.225)
Civil society freedom					0.128
					(0.214)
Legal origin (dummies)			✓		
Regime type, Geddes (dummies)			✓		
Region FE			✓		
Year FE	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓
Countries	153	106	136	147	147
Years (Max)	110	107	49	108	110
Obs	10148	6822	5667	7738	7955
R2 (within)	(0.099)	(0.113)	(0.088)	(0.138)	(0.145)

Outcome: per capita GDP growth. *Unit of analysis:* country-year. *FE:* fixed effects. All right-side variables lagged by 1 year. *Estimator:* OLS (ordinary least squares), RE (random effects), standard errors clustered by country. *** p<.01 **p<.05 *p<.10**.

Our theoretical argument about the role of political parties in conditioning growth performance is intended to apply across many contexts. To probe the scope-conditions of the theory, and to alleviate concerns about influential cases or time-periods, we run the benchmark model in a series of split-sample tests, shown in Table 4. We begin by excluding certain regions of the world – sub-Saharan Africa, Asia and the Pacific, Eastern Europe and the Post-Soviet region, Latin America, the Middle East and North Africa, Western countries (Western Europe, North America, Australia, New Zealand), and non-Western countries (the remainder). Models 1-7 demonstrate that the relationship between Party Strength and growth persists in all of these sub-sample tests. Moreover, the coefficient estimates vary within a narrow range (from 1.3 to 2.4) around the estimate from our full sample (1.6), as shown in Model 1, Table 2.

To check for variation through time, we run the benchmark model across a global sample extending from 1900 to 1969 (Model 8) and 1970 to 2012 (Model 9). Again, we find remarkable consistency. Experimenting with different cut-offs, we find that the point estimate is typically somewhat higher for earlier periods but is more precisely estimated for the later periods (due, presumably, to the larger sample). The relationship between Party Strength and growth does not seem to be subject to strong period effects across the twentieth century.

Table 4: Split-Sample Tests

	1	2	3	4	5	6	7	8	9
Sample	minus sub-Saharan Africa	minus Asia-Pacific	minus Former Soviet	minus Latin America	minus MENA	minus Western	minus Non-Western	1900−1969	1970−2012
Party Strength	2.039***	1.639***	1.331***	1.742***	1.637***	1.703***	2.374***	1.585**	1.323*
	(0.440)	(0.433)	(0.320)	(0.406)	(0.364)	(0.405)	(0.816)	(0.671)	(0.710)
GDPpc (ln)	-2.576***	-2.834***	-1.581***	-1.958***	-1.926***	-1.774***	-5.786***	-5.654***	-3.803***
	(0.486)	(0.401)	(0.308)	(0.398)	(0.396)	(0.374)	(1.560)	(1.167)	(0.643)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Countries	105	131	123	129	136	131	20	130	152
Years (Max)	110	110	110	110	110	110	110	70	40
Obs	7392	8603	9078	8232	9209	7941	2150	4658	5489
R2 (within)	(.134)	(.129)	(.090)	(.118)	(.117)	(.110)	(.217)	(.127)	(.114)

Outcome: per capita GDP growth. *Unit of analysis:* country-year. All right-side variables lagged by 1 year. *FE:* fixed effects. *Estimator:* ordinary least squares, standard errors clustered by country. *** p<.01 **p<.05 *p<.10

VI.   Mediation Analysis

In our theoretical discussion we speculated that party strength affects growth by improving policy outcomes related to macroeconomic management, public services, and overall stability. In this section, we provide some suggestive evidence about these channels, focusing on factors that are measurable, and hence testable.

Before beginning, it is important to acknowledge the challenges to causal inference that confront any attempt to estimate the role of causal mechanisms (Gerring 2010; Imai et al. 2010, 2011). These challenges are magnified in a nonexperimental context where the presence of multiple potential mediators – not all of which are measurable – must be reckoned with. Mediation tests constitute the best available method for investigating causal mechanisms in a cross-country context, i.e., with data that lies at the same level of analysis as our treatment and outcome of interest. However, we regard these tests as suggestive rather than conclusive, in the spirit of most work on causal mechanisms.

In the following analyses, the quality of macroeconomic management is proxied by domestic investment and inflation (logged); the quality of public services by the infant mortality rate (logged), and overall stability by measures of internal conflict and irregular leadership exits. Definitions of these variables, and their sources, are contained in Table A1. We employ policy outcomes, rather than direct measures of policy effort, because the former are generally easier to measure and less liable to systematic bias. Note also that by including per capita GDP as a covariate we are handicapping each government's efforts by available resources and by a society's overall level of modernization.

Analyses are conducted with the mediation package developed by Imai and colleagues (Tingley et al. 2014). Specifications follow the benchmark model (Model 1, Table 2), including per capita GDP (logged) and country and year fixed effects. Detailed results for each stage of the analysis are contained in Appendix F, a summary of which is presented in Table 5. Note that the "total effect" varies across these models due to changes in sample size imposed by varying coverage provided by each mediator.

The results of primary interest concern the indirect effects that might be accorded to various mediators. Here, we find support for most of the proposed channels, but not all. Domestic investment, shown in the first row of Table 5, yields an insignificant indirect effect, although the point estimate suggests that 4% of the total effect of Party Strength on growth might be mediated through investment. Other channels – inflation, infant mortality, internal conflict, and irregular leader exit – show statistically significant results, with the proportion mediated ranging from 3.6% to 8.5%.

In sum, observable proxies of policy outcomes related to economic management, public services provision, and political stability seem to account for some of the effect of Party Strength on growth. Together, they offer support for our hypotheses about the causal mechanisms at work in our theory.

Importantly, each policy outcome variable is treated as a mediator in isolation. That is, we analyze the possible mediating effects of a variable without taking account of other potential mediators. Because mediating effects are likely to overlap one cannot simply add up the proportions mediated by each of these variables to capture the total proportion mediated by all of these causal pathways. (As time permits, we plan to test these factors in a combined model in order to address this issue.)

Table 5: Summary of Mediation Analyses

Direct effect (c)	Mediator (*M*) (*policy outcome*)	Indirect effect (a)(b)	Proportion mediated	Total effect (a)+(b)(c)	Countries	Years	Obs
0.910*** (0.578)	**Investment** (*Macroeconomic management*)	0.040 (0.071)	4.20%	0.951*** (0.591)	146	56	6428
1.060*** (0.594)	**Inflation (ln)** (*Macroeconomic management*)	0.088*** (0.045)	7.50%	1.149*** (0.569)	139	109	6875
1.431*** (0.501)	**Infant mortality (ln)** (*Public services*)	0.105*** (0.048)	6.90%	1.537*** (0.496)	150	109	8927
1.086*** (0.526)	**Internal Conflict** (*Stability*)	0.101*** (0.037)	8.50%	1.187*** (0.522)	111	109	8073
1.581*** (0.556)	**Irregular Exit** (*Stability*)	0.058** (0.051)	3.60%	1.640*** (0.556)	147	109	8860

Y: outcome, i.e., per capita GDP growth. *X:* independent variable of theoretical interest, i.e., Party Strength. *M:* possible mechanisms, i.e., indicators of macroeconomic management, public goods, and stability. *Specification:* Model 1, Table 2. *Unit of analysis:* country-year. *Time periods:* Party Strength measured in t, mediators measured at t+1, and GDP per capita measured at t+2. Standard errors clustered by country. *** p<.01 **p<.05 *p<.10
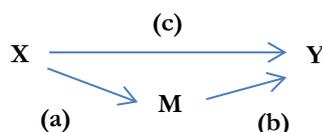
In addition to mediation analysis, we probe a variety of alternate outcomes that may also help to shed light on causal mechanisms at work in the relationship between Party Strength and economic growth, even though they cannot be analyzed in a mediation analysis (because they are derived from growth performance). Results from these tests are reported in Appendix E.

First, we examine whether Party Strength reduces the likelihood of economic crisis, understood as an episode of negative per capita GDP growth. This is variously coded as less than 0, less than -3%, or less than -5%, to generate three dependent variables. Party Strength is negatively associated with each of these outcomes when tested in our benchmark model with ordinary least squares or logistic regression estimators, as shown in Table E3. The OLS point estimate suggests that a 1-point increase in Party Strength reduces the probability of observing negative growth in the following year by 8 percentage points (29 percent of observations have negative growth).

Second, we examine whether Party Strength enhances the likelihood of periods of sustained growth, understood as consecutive years of positive growth sustained across five- or ten-year periods. Party Strength is associated with sustained growth episodes when tested in our benchmark model using both outcome intervals, and employing either ordinary least squares or logistic regression estimators, as shown in Table E4.

Third, we examine whether Party Strength reduces growth volatility, understood as the standard deviation of growth performance over 10- and 15-year periods. Point estimates from these models suggest that Party Strength reduces growth volatility, though these estimates are statistically significant only when country fixed-effects are removed. Note that when growth volatility is analyzed in a cross-country format the analysis typically does not include country

fixed-effects (e.g., Easterly et al. 2001). It seems fair to conclude that countries with stronger parties not only have higher growth, on average, they also have less volatile growth rates.

VII.   Conclusion

In this study, we argue that strong parties play a critical role in fostering economic development. Our theoretical argument highlights how parties broaden the constituencies to which policy makers respond and help politicians to solve coordination problems. These features ensure that politicians engage in better economic management, have incentives to provide productivity enhancing public services, and help ensure political (and thus policy) stability. This, in turn, should enhance economic growth.

Drawing on a novel measure of party strength from the Varieties of Democracy dataset, we test this hypothesis on data from more than 150 countries, with time series extending from 1900 to 2012. We identify a sizeable and highly significant effect, and one that is robust to a variety of specifications, estimators, and samples. The effect operates in both democracies and autocracies and is fairly stable across various regions of the world and across time periods. We also provide suggestive evidence about causal mechanisms, focusing on measures of economic management, public goods, and political stability.

This paper thus contributes to two large literatures, respectively focusing on features of political parties and on the institutional determinants of growth. While previous studies have highlighted the role of parties in improving the quality of governance such claims are usually limited in context – to democratic or authoritarian settings – and generally do not pertain to distal outcomes such as per capita GDP growth. Studies of economic development, while focused explicitly on growth, generally identify other long-run causal factors at work, e.g., geography, property rights, political constraints, colonial origins, inequality, social capital, or human capital. In these respects, the present study is novel.

With respect to work in the new institutionalist vein it should be pointed out that our argument – that "parties matter" for growth – does not impugn the role of the state, as measured by formal, legal, and constitutional factors such as federalism, separate powers, the judiciary, the bureaucracy, rule of law, and democracy. However, it should be noted that in our analyses the character of political parties is a better predictor of subsequent economic performance than these other factors – whether measured by indices drawn from the V-Dem project or from other datasets. This may reflect our inability to properly measure these features of the state. But it may also signal the relative importance of informal, or at least non-constitutional, institutions vis-à-vis formal constitutional institutions in structuring long-run development (Helmke & Levitsky 2004). While formal institutions have garnered greater attention in comparative politics (with the notable exception of studies centered on social capital), one might argue that informal institutions such as political parties play the dominant role. This, in turn, revisits an intellectual turn initiated over a century ago by the founders of American political science, who shifted their attention from formal-legal institutions to informal institutions – foremost among them, political parties (Bryce 1888; Ostrogorski 1902; Wilson 1908).

Although the evidence for a party-strength effect on growth is strong, several ancillary questions bear further study. First, we need to know more about the prior causes, i.e., the causes of party strength. Why do strong parties develop in some countries and not in others? Second, our preliminary analysis of causal mechanisms might be extended and tested in greater depth with better, or more complete, measures of intermediary factors. Third, we need to know more about the possible impact of party strength on other domestic policies (e.g., social policies) and on international policies (e.g., peace/war). If party strength matters for growth through affecting the incentives of leaders and easing coordination problems, it stands to reason it might matter for other outcomes of interest to the scholarly community and the laity.

VIII.   References

Acemoglu, Daron, James A. Robinson. 2006. *Economic Origins of Dictatorship and Democracy.* New York: Cambridge University Press.

Acemoglu, Daron, James A. Robinson. 2012. *Why Nations Fail.* New York: Crown Business.

Acemoglu, Daron, Simon Johnson, James A. Robinson. 2001. "The Colonial Origins of Comparative Development: An Empirical Investigation." *American Economic Review* 91(5):1369–1401.

Acemoglu, Daron, Suresh Naidu, Pascual Restrepo, James A. Robinson. 2014. "Democracy Does Cause Growth." NBER Working Paper No. 20004.

Alesina, Alberto, Sule Ozler, Nouriel Roubini, Phillip Swagel. 1996. "Political Instability and Economic Growth." *Journal of Economic Growth* 1:2, 189-211.

Amsden, Alice. 1989. *Asia's Next Giant: South Korea and Late Industrialization.* New York: Oxford University Press.

Arndt, Christiane, Charles Oman. 2006. *The Uses and Abuses of Governance Indicators.* OECD: OECD Publishing.

Aron, Janine. 2000. "Growth and Institutions: A Review of the Evidence." *World Bank Research Observer* 15:1, 99-135.

Aspinall, Edward. 2014. "Parliament and Patronage." *Journal of Democracy* 25.4: pp. 108-109.

Baron, Reuben M., David A. Kenny. 1986. "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, 51 (6): 1173–1182.

Barro, Robert J., Xavier Sala-i Martin (2004). *Economic Growth.* Cambridge, MA.: The MIT Press.

Beck, Thorsten, George Clarke, Alberto Groff, Philip Keefer, and Patrick Walsh (2001). "New Tools in Comparative Political Economy: The Database of Political Institutions." *World Bank Economic Review* 15 (1): 165–76.

Bertelsmann Foundation. 2014. "Bertelsmann Transformation Index." Link: http://www.bti-project.org/index/

Besley, Timothy, Masayuki Kudamatsu. 2006. "Health and Democracy." *American Economic Review* 96(2): 313-338.

Besley, Timothy, Masayuki Kudamatsu. 2008. "Making Autocracy Work." In E. Helpman (ed.) *Institutions and Economic Performance* (Cambridge: Harvard University Press).

Blundell, Bond 1998. "Initial conditions and moment restrictions in dynamic panel data models." *Journal of Econometrics* 87, 115-143.

Boix, Carles, Michael K. Miller, Sebastian Rosato. 2013. "A Complete Data Set of Political Regimes, 1800-2007." *Comparative Political Studies* 46(12): 1523-1554.

Boix, Carles, Milan W. Svolik. 2013. "The Foundations of Limited Authoritarian Government: Institutions, Commitment, and Power-Sharing in Dictatorships." *Journal of Politics* 75:2, 300-16.

Bollen, Kenneth A.; Pamela Paxton. 2000. "Subjective Measures of Liberal Democracy." *Comparative Political Studies* 33(1): 58–86.

Bolt, J., J. L. van Zanden. 2014. "The Maddison Project: collaborative research on historical national accounts." *The Economic History Review* 67 (3): 627–651.

Bowie, Alasdair. 1991. *Crossing the Industrial Divide: State, Society, and the Politics of Economic Transformation in Malaysia.* New York: Columbia University Press.

Brownlee, Jason. 2007. *Authoritarianism in the Age of Democratization.* Cambridge: Cambridge University Press.

Brownlee, Jason. 2008. "Bound to Rule: Party Institutions and Regime Trajectories in Malaysia and

the Philippines." Journal of East Asian Studies 8: 89-118.

Brownlee, Jason. 2009. "Portents of Pluralism: How Hybrid Regimes Affect Democratic Transitions." *American Journal of Political Science* 53:3, 515-532.

Bryce, James. 1888/1891. *The American Commonwealth, 2 vols.* Chicago: Charles H. Sergel.

Bueno de Mesquita, Bruce, Alistair Smith, Randolph M. Siverson, James D. Morrow. 2003. *The Logic of Political Survival.* Cambridge: MIT Press.

Campos, Edgardo, Hilton L. Root. 1996. *The Key to the East Asian Miracle: Making Shared Growth Credible.* Washington, DC: The Brookings Institution.

Chang, Ha-Joon. 2011. "Institutions and Economic Development: Theory, Policy and History." *Journal of Institutional Economics* 7:4, 473–98.

Cheng, Tun-jen. 1990. "Political Regimes and Development Strategies: South Korea and Taiwan." In G. Gerreffi and D. Wyman (eds.). *Manufacturing Miracles: Patterns of Development in Latin America and East Asia.* Princeton: Princeton University Press.

Clinton, J. D.; David Lewis. 2008. "Expert Opinion, Agency Characteristics, and Agency Preferences." *Political Analysis* 16:1, 3–20.

Clinton, J. D.; J.S. Lapinski. 2006. "Measuring Legislative Accomplishment, 1877-1994." *American Journal of Political Science* 50:1, 232–49.

Collier, Paul. 1999. "On the Economic Consequences of Civil War." *Oxford Economic Papers* 51:1, 168–83.

Coppedge, Michael, John Gerring, Staffan I. Lindberg, Jan Teorell, David Altman, Michael Bernhard, M. Steven Fish, Adam Glynn, Allen Hicken, Carl Henrik Knutsen, Kelly McMann, Daniel Pemstein, Megan Reif, Svend-Erik Skaaning, Jeffrey Staton, Eitan Tzelgov, Yi-ting Wang, Brigitte Zimmerman. 2015. "Varieties of Democracy: Methodology v4." Varieties of Democracy (V-Dem) Project.

Cox, Gary W. 1987. *The Efficient Secret: The Cabinet and the Development of Political Parties in Victorian England.* Cambridge: Cambridge University Press.

Cox, Gary W., Mathew D. McCubbins. 2001. "The Institutional Determinants of Policy Outcomes." In Stephan Haggard and Mathew D. McCubbins, eds. *Presidents, Parliaments, and Policy* (Cambridge: Cambridge University Press).

Croissant, Aurel, Philip Volkel. 2012. "Party System Types and Party System Institutionalization: Comparing New Democracies in East and Southeast Asia." *Party Politics* 18: 235-65.

de Dios, Emmanuel, Paul Hutchcroft. 2003. "Political Economy: Examining Current Challenges in Historical Perspective." In Arsenio M. Balisacan & Hal Hill, eds., *The Philippines Economy: Development, Policies, and Challenges* (Oxford University Press).

Dikotter, Frank. 2010. *Mao's Great Famine: The History of China's Most Devastating Catastrophe, 1958-1962.* New York: Walker Publishing Company.

Doner, Richard F. 1991. "Approaches to the Politics of Economic Growth in Southeast Asia." *Journal of Asian Studies.* 50:4 (November) 818-49.

Doner, Richard F. 2009. *The Politics of Uneven Development: Thailand's Economic Growth in Comparative Perspective.* Cambridge: Cambridge University Press.

Easterly, William R., Roumeen Islam, Joseph Stiglitz. 2001. "Shaken and Stirred: Explaining Growth Volatility." World Bank: Annual World Bank Conference on Development Economics.

Easterly, William, S. Rebello. 1993. "Fiscal Policy and Economic Growth: An Empirical Investigation." *Journal of Monetary Economics* 32:3, 417–58.

Evans, Peter B. 1995. *Embedded Autonomy. States and Industrial Transformation.* Princeton: Princeton University Press.

Fearon, James. 1995. "Rationalist explanations for war." *International Organization* 49:3, 379-414.

Finer, Samuel E. 1988. *The Man on Horseback: The Role of the Military in Politics.* Boulder, Colorado: Westview Press.

Fjelde, Hanne. 2010. "Generals, Dictators, and Kings: Authoritarian Regimes and Civil Conflict, 1973-2004." *Conflict Management and Peace Science* 27:3, 195–218.

Franzese, Robert J., Irfan Nooruddin, Karen Long Jusko. 2004. "Geographic *versus* Partisan Bases of Representation: Party Unity and the Effective Constituency in US Distributive Politics." Presented at the annual meetings of the Midwest Political Science Association, April, 2004. Chicago.

Fukuyama, Francis. 2011. *The Origins of Political Order: From Prehuman times to the French Revolution.* New York: Farrar, Straus, Giroux.

Gandhi, Jennifer. 2008. *Political Institutions under Dictatorship.* Cambridge: Cambridge University Press.

Gates, Scott, Håvard Hegre, Håvard M. Nygård, Håvard Strand. 2012. "Development Consequences of Armed Conflict." *World Development* 40:9, 1713-22.

Geddes, Barbara, Joseph Wright, Erica Frantz. 2014. "Autocratic Breakdown and Regime Transitions: A New Data Set." *Perspectives on Politics* 12:2, 313-31.

Geddes, Barbara. 1999. "What Do We Know About Democratization After Twenty Years?" *Annual Review of Political Science* 2, 115-44.

Gehlbach, Scott, Philip Keefer. 2011. "Investment without Democracy: Ruling-party Institutionalization and Credible Commitment in Autocracies." *Journal of Comparative Economics* 39, 123–39.

Gehlbach, Scott, Philip Keefer. 2012. "Private Investment and the Institutionalization of Collective Action in Autocracies: Ruling Parties and Legislatures." *Journal of Politics* 74:2, 621-35.

Gerring, John. 2007. *Case Study Research: Principles and Practices.* Cambridge: Cambridge University Press.

Gerring, John. 2010. "Causal Mechanisms: Yes, But…" *Comparative Political Studies* 43:11 (November) 1499-1526.

Gerring, John, Philip Bond, William T. Barndt, Carola Moreno. 2005. "Democracy and Economic Growth: A Historical Perspective." *World Politics* 57:3, 323–364.

Gerring, John, Strom C. Thacker. 2008. *A Centripetal Theory of Democratic Governance.* Cambridge: Cambridge University Press.

Glaeser, Edward L., Rafael La Porta, Florencio Lopez-de Silanes, Andrei Shleifer. 2004. "Do Institutions Cause Growth?" *Journal of Economic Growth* 9:3, 271–303.

Goemans, Hein, Kristian Skrede Gleditsch, Glacomo Chiozza. 2009. "Introducing Archigos: A Dataset of Political Leaders." *Journal of Peace Research* 46: 269-283.

Greene, Kenneth F. 2007. *Why Dominant Parties Lose: Mexico's Democratization in Comparative Perspective.* Cambridge: Cambridge University Press.

Hadenius, Axel, Jan Teorell. 2007. "Pathways from Authoritarianism." *Journal of Democracy* 18:1, 143-57.

Haggard, Stephan M. 1990. *Pathways from the Periphery: The Politics of Growth in the Newly Industrializing Countries.* Ithaca: Cornell University Press.

Haggard, Stephan M. 1998. "Business, Politics and Policy in East and Southeast Asia." In Henry S. Rowen, ed., *Behind East Asian Growth: The Political and Social Foundations of Prosperity* (Routledge) 78-104.

Haggard, Stephan M., Andrew MacIntyre, Lydia Tiede. 2008. "The Rule of Law and Economic Development." *Annual Review of Political Science* 11, 205-34.

Haggard, Stephan M., Mathew D. McCubbins (eds). 2001. *Presidents, Parliaments, and Policy.* Cambridge: Cambridge University Press.

Hall, Robert, Charles Jones. 1999. "Why Do Some Countries Produce so much more Output per Worker than Others?" *Quarterly Journal of Economics* 114:1, 83-116.

Hankla, Charles R. 2006a. "Party Strength and International Trade: A Cross-National Analysis." *Comparative Political Studies* 39: 1133-56.

Hankla, Charles R. 2006b. "Party Linkages and Economic Policy: An Examination of Indira Gandhi's India." *Business and Politics* 8:3, 1-29.

Hawes, Gary. 1992. "Marcos, His Cronies and the Philippines Failure to Develop." In Ruth McVey, ed. *Southeast Asian Capitalists* (Ithaca: Cornell Southeast Asia Program).

Helmke, Gretchen, Steven Levitsky. 2004. "Informal Institutions and Comparative Politics: A Research Agenda." *Perspectives on Politics* 2:4 (December) 725-40.

Hicken, Allen. 2006a. "Stuck in the Mud: Parties and Party Systems in Democratic Southeast Asia." *Taiwan Journal of Democracy* 2:2 (December) 23-46.

Hicken, Allen. 2006b. "Party Fabrication: Constitutional Reform and the Rise of Thai Rak Thai". *Journal of East Asian Studies* 6:3, 381-408.

Hicken, Allen. 2008. "The Politics of Economic Recovery in Thailand and the Philippines." In Andrew MacIntyre, T.J. Pempel, John Ravenhill, eds., *Crisis as Catalyst: Asia's Dynamic Political Economy* (Ithaca: Cornell University) 206-230.

Hicken, Allen. 2013. "Late to the Party: Institutional Reform and the Development of Partisanship in Thailand." *Trans: National and Regional Studies of Southeast Asia* 1:2, 1-15.

Hicken, Allen. Forthcoming. "Party Systems and the Politics of Development." In Carol Lancaster & Nicolas van de Walle, eds., *Handbook on the Politics of Development* (Oxford University Press).

Hicken, Allen, Erik Martinez Kuhonta. 2014. "Rethinking Party System Institutionalization in Asia." In Allen Hicken & Erik Martinez Kuhonta (eds), *Party and Party System Institutionalization in Asia* (Cambridge: Cambridge University Press).

Hicken, Allen, Joel Simmons. 2008. "The Personal Vote and the Efficacy of Education Spending." *American Journal of Political Science* 52:1, 109-124.

Hicken, Allen, Ken Kollman, Joel Simmons. Forthcoming. "Party System Nationalization and the Provision of Public Health Services." *Political Science Research and Methods*.

Honaker, James, Gary King. 2010. "What to Do about Missing Values in Time-Series Cross-Section Data." *American Journal of Political Science* 54:2, 561–581.

Huntington, Samuel P. 1957. *The Soldier and the State; the Theory and Politics of Civil-Military Relations.* Cambridge: Belknap Press of Harvard University Press.

Huntington, Samuel P. 1968. *Political Order in Changing Societies.* New Haven: Yale University Press.

Hutchcroft, Paul, Joel Rocamora. 2003. "Strong Demands and Weak Institutions: The Origins and Evolution of the Democratic Deficit in the Philippines." *Journal of East Asian Studies* 3:2 (May-August) 259-92.

Imai, Kosuke, Luke Keele, Dustin Tingley, Teppei Yamamoto. 2011. "Unpacking the Black Box of Causality: Learning about Causal Mechanisms from Experimental and Observational Studies." *American Political Science Review* 105:4, 765-89.

Imai, Kosuke, Luke Keele, Teppei Yamamoto. 2010. "Identification, Inference and Sensitivity Analysis for Causal Mediation Effects." *Statistical Science* 25:1, 51-71.

Jackman, Simon. 2004. "What Do We Learn from Graduate Admissions Committees? A Multiple Rater, Latent Variable Model, with Incomplete Discrete and Continuous Indicators." *Political Analysis* 12 (4): 400–24.

Jackson, Robert H., Carl G. Rosberg. 1982. *Personal Rule in Black Africa: Prince, Autocrat, Prophet, Tyrant.* Berkeley: University of California Press.

Johnson, Chalmers A. 1982. *MITI and the Japanese Miracle.* Stanford: Stanford University Press.

Johnson, Valen E., James H Albert. 1999. *Ordinal Data Modeling*. New York: Springer.

Junker, B. 1999. "Some Statistical Models and Computational Methods that may be Useful for Cognitively-Relevant Assessment." Carnegie Mellon University.

Jütting, Johannes. 2003. "Institutions and Development: A Critical Review." OECD Development Centre Working Paper No. 210.

Keefer, Philip. 2007. "Governance and economic growth in China and India." In L.A. Winters & S. Yusuf, eds., *Dancing with Giants* (Washington, DC: World Bank) 211–42.

Keefer, Philip. 2013. "Collective Action, Political Parties and the Political Economy of Development." Washington DC: The World Bank, Development Research Group, Macroeconomics and Growth Team.

Key, V.O., Jr. 1949. *Southern Politics in State and Nation*. New York: Vintage.

Kitschelt, Herbert. 2000. "Linkages between Citizens and Politicians in Democratic Polities." Comparative Political Studies 33(6-7): 845-879.

Kitschelt, Herbert, Steven Wilkinson (eds). 2006. *Patrons or Policies? Patterns of Democratic Accountability and Political Competition*. Cambridge: Cambridge University Press.

Kittel, Bernhard. 2006. "A Crazy Methodology?: On the Limits of Macroquantitative Social Science Research." *International Sociology* 21, 647-77.

Knack, Steven, Philip Keefer 1995. "Institutions and Economic Performance: Cross-Country Tests Using Alternative Measures." *Economics and Politics.* 7: 207-227.

Knutsen, Carl Henrik. 2011a. "Which Democracies Prosper? Electoral Rules, Form of Government and Economic Growth." *Electoral Studies* 30:1, 83-90.

Knutsen, Carl Henrik. 2011b. "Democracy, Dictatorship and Protection of Property Rights." *Journal of Development Studies* 47:1, 164-182.

Kohli, Atul. 1994. "Where do High Growth Political Economies Come From? The Japanese Lineage of Korea's 'Developmental State.'" *World Development* 22:9 (September) 1269-93.

Kohli, Atul. 2004. *State-Directed Development Political Power and Industrialization in the Global Periphery*. Cambridge: Cambridge University Press.

Kuhonta, Erik Martinez. 2011. *The Institutional Imperative: The Politics of Equitable Development in Southeast Asia*. Stanford: Stanford University Press.

Kurtz, Marcus, Andrew Schrank. 2007. "Growth and Governance: Models, Measures, and Mechanisms." *Journal of Politics* 69:2 (May).

Lake, David A., Matthew A. Baum. 2001. "The Invisible Hand of Democracy: Political Control and the Provision of Public Services." *Comparative Political Studies* 34: 587-621.

Leftwich, Adrian. 1995. "Bringing Politics Back In: Towards a Model of the Developmental State." *The Journal of Development Studies* 31(3): 400-427.

Leftwich, Adrian (ed). 2000. *States of Development: On the Primacy of Politics in Development*. London: Polity.

Leftwich, Adrian. 2008. "Developmental States, Effective States and Poverty Reduction: The Primacy of Politics." *UNRISD Project on Poverty Reduction and Policy Regimes*. United Nations Research Institute for Social Development

Levitsky, Steven. 1998. "Institutionalization and Peronism." *Party Politics* 4:1, 77-92.

Lim, Linda. 1983. "Singapore's Success: The Myth of the Free Market Economy." *Asian Survey* 23, pp. 752-764.

Lindberg, Staffan, Michael Coppedge, John Gerring, Jan Teorell, et al. 2014. "V-Dem: A New Way to Measure Democracy." *Journal of Democracy* 25:3, 159-69.

Lord, F. M., M.R. Novick. 1968. *Statistical Theories of Mental Test Scores*. Reading, MA: Addison-

Wesley.

MacIntyre, Andrew (ed). 1994. *Business and Government in Industrializing East and Southeast Asia.* Ithaca: Cornell University Press.

Mackie, James, Benardo Villegas, 1999. "The Philippines: Still an Exceptional Case?" In James Morley (ed.), *Driven by Growth: Political Change in the Asia-Pacific Region* (New York: Columbia University Press) chapter 4.

Magaloni, Beatriz, Ruth Kricheli. 2010. "Political Order and One-Party Strength." *Annual Review of Political Science* 13: 123-143.

Magaloni, Beatriz. 2006. *Voting for Autocracy: Hegemonic Party Survival and its Demise in Mexico.* Cambridge: Cambridge University Press.

Magaloni, Beatriz. 2008. "Credible Power-Sharing and the Longevity of Authoritarian Rule." *Comparative Political Studies* 41:4-5, 715-741.

Mainwaring, Scott, Timothy Scully (eds). 1995. *Building Democratic Institutions: Party Systems in Latin America.* Stanford: Stanford University Press.

Mankiw, Gregory N., David Romer, David N. Weil. 1992. "A Contribution to the Empirics of Economic Growth." *Quarterly Journal of Economics* 107, 407-437.

Marshall, Monty, Ted Gurr, Keith Jaggers. 2014. *Polity IV project: Dataset users' manual.* http://www.systemicpeace.org/inscr/p4manualv2013.pdf

McGillivray, Fiona. 1997. "Party Discipline as a Determinant of The Endogenous Formation Of Tariffs." *American Journal of Political Science 41*(2):584-607.

McVey, Ruth, ed. 1992. *Southeast Asian Capitalists.* Ithaca, N.Y.: Southeast Asia Program, Cornell University, pp. 7-35.

Miller, Michael K. 2015. "Electoral Authoritarianism and Human Development." *Comparative Political Studies.* Forthcoming.

Morgan, Jana. 2011. Bankrupt Representation and Party System Collapse. University Park, PA: Pennsylvania State University Press.

Murphy, Kevin M., Andrei Shleifer, Robert W. Vishny. 1989. "Industrialization and the Big Push." *Journal of Political Economy* 97:5, 1003-1026.

Müller, Wolfgang C. 2000. "Political Parties in Parliamentary Democracies: Making Delegation and Accountability Work." *European Journal of Political Research* 37:3, 309-333.

Nielson, Daniel L. 2003. "Supplying Trade Reform Political Institutions and Liberalization in Middle-Income Presidential Democracies." *American Political Science Review* 47:3, 470-491.

North, Douglass C. 1990. *Institutions, Institutional Change and Economic Performance.* Cambridge: Cambridge University Press.

North, Douglass C., Barry R. Weingast. 1989. "Constitutions and Commitment: The Institutions Governing Public Choice in Seventeenth Century England." *Journal of Economic History* 44:4, 803–832.

Olson, Mancur. 1993. "Dictatorship, Democracy, and Development." *American Political Science Review* 87:3, 567-576.

Olson, Mancur. 2000. *Power and Prosperity: Outgrowing Communist and Capitalist Dictatorships.* New York: Basic Books.

Ostrogorski, Moisey Yakovlevich. 1902. *Democracy and the Organization of Political Parties, 2 vols.* Macmillan and Company Limited.

Patz, Richard J., Brian W. Junker. 1999. "A Straightforward Approach to Markov Chain Monte Carlo Methods for Item Response Models." *Journal of Educational and Behavioral Statistics* 24, 146-78.

Pempel, T.J., ed. 1990. *Uncommon Democracies: The One-Party Dominant Regimes*. Ithaca, NY: Cornell University Press.

Pemstein, Daniel, Eitan Tzelgov, Yi-ting Wang. 2015. "Evaluating and Improving Item Response Theory Models for Cross-National Expert Surveys." V-Dem Working Paper 2015:1.

Pemstein, Daniel, Stephen Meserve, James Melton. 2010. "Democratic Compromise: A Latent Variable Analysis of Ten Measures of Regime Type." *Political Analysis* 18(4): 426–449.

Pepinsky, Thomas. 2014. "The Institutional Turn in Comparative Authoritarianism." *British Journal of Political Science* 44:3, 631-53.

Persson, Torsten, Guido Tabellini. 2003. *The Economic Effect of Constitutions*. Cambridge, Massachusetts: MIT Press.

Persson, Torsten, Guido Tabellini. 2004. "Constitutions and Economic Policy." *Journal of Economic Perspectives* 18:1, 75–98.

Pierskalla, Jan, Marco Fernandez. 2011. "Partisan Strategies and Political Economic Performance. Do Modes of Democratic Accountability Affect Economic Fortunes?" Department of Political Science, Duke University.

Pitcher, M. Anne. 2012. *Party Politics and Economic Reform in Africa's Democracies*. Cambridge: Cambridge University Press.

Powell, E. N., Joshua A. Tucker. 2013. "Revisiting Electoral Volatility in Post-Communist Countries: New Data, New Results and New Approaches." *British Journal of Political Science* 44, 123-147.

Przeworski, Adam. 2004. "Institutions Matter?" *Government and Opposition* 39:2, 527-540.

Quimpo, Nathan Gilbert. 2005. "Yellow Pad: Trapo Parties and Corruption." *Business World* (October 10).

Randall, Vicky, Lars Svåsand. 2002. "Party Institutionalization in New Democracies." *Party Politics* 8:1, 5-29.

Ranney, Austin. 1962. *The Doctrine of Responsible Party Government: Its Origins and Present State*. Urbana: University of Illinois.

Rodrik, Dani. 1991. "Policy Uncertainty and Private Investment in Developing Countries." *Journal of Development Economics* 36:2, 141-162.

Rodrik, Dani. 1995. "Getting Interventions Right: How South Korea and Taiwan Grew Rich." *Economic Policy* April(20): 55-107.

Rodrik, Dani. 2007. *One Economics, Many Recipes: Globalization, Institutions, and Economic Growth*. Princeton: Princeton University Press.

Rodrik, Dani, Arvind Subramanian, Francesco Trebbi. 2004. "Institutions Rule: The Primacy of Institutions Over Geography and Integration in Economic Development." *Journal of Economic Growth* 9:2, 131–165.

Rogowski, Ronald L. 1987. "Trade and the Variety of Democratic Institutions." *International Organization* 41:2, 203–223.

Roodman, David. 2009. "A Note on the Theme of too many Instruments." *Oxford Bulletin of Economics and Statistics* 71:1, 135-158.

Rothstein, Bo. 2011. *The Quality of Government: Corruption, Social Trust and Inequality in International Perspective*. Chicago: University of Chicago Press.

Sachs, Jeffrey. 2003. "Institutions Don't Rule: Direct Effects of Geography on Per Capita Income." NBER Working Paper, No. w9490.

Schattschneider, E. E. 1942. *Party Government*. New York: Rinehart.

Seawright, Jason. 2007. "Democracy and Growth: A Case Study in Failed Causal Inference." In Gerardo Munck, ed., *Regimes and Democracy in Latin America: Theories and Method* (Oxford: Oxford University Press).

Simmons, Joel W. Forthcoming. *The Present or the Future? Political Parties, Time Horizons, and Long-Run Economic Development*. Cambridge: Cambridge University Press.

Simmons, Joel, Allen Hicken, Ken Kollman, Irfan Noorudin. 2014. "Dividing the Spoils: Party Nationalization, Credibility, and Foreign Direct Investment." Unpublished Manuscript.

Slater, Daniel. 2010. *Ordering Power: Contentious Politics and Authoritarian Leviathans in Southeast Asia*. Cambridge: Cambridge University Press.

Sokoloff, Kenneth L., Stanley L. Engerman. 2000. "Institutions, Factor Endowments, and Paths of Development in the New World." *Journal of Economic Perspectives* 14:3 (Summer) 217-32.

Stasavage, David. 2005. "Democracy and Education Spending in Africa." *American Journal of Political Science* 49:2, 343-58.

Stokes, Susan C. 1999. "Political Parties and Democracy." *Annual Review of Political Science* 2:243-67.

Summers, Lawrence H. 1991. "The Scientific Illusion in Empirical Macroeconomics." *Scandinavian Journal of Economics* 93:2, 129-48.

Svolik, Milan. 2012. *The Politics of Authoritarian Rule*. Cambridge: Cambridge University Press.

Thomas, Melissa. 2010. "What Do the Worldwide Governance Indicators Measure?" *European Journal of Development Research* 22: 31–54.

Tingley, Dustin,Teppei Yamamoto, Kentaro Hirose, Luke Keele and Kosuke Imai. 2014. "mediation: R Package for Mediation Analysis." *Journal of Statistical Software* 59(5): 1-38.

Tommasi. Mariano. 2006. "The Institutional Foundations of Public Policy." *Economia* 6(2):1-36.

Treier, Shawn, and Simon Jackman. 2008. "Democracy as a Latent Variable." *American Journal of Political Science* 52(1): 201–17.

Tsebelis, George. 2002. Veto Players How Political Institutions Work. Princeton: Princeton University Press.

Ufen, Andreas. 2008. "Political Party and Party System Institutionalization in Southeast Asia: Lessons for Democratic Consolidation in Indonesia, the Philippines and Thailand." *The Pacific Review* 21:3, 327-350.

Ufen, Andreas. 2012. "Party Systems, Critical Junctures, and Cleavages in Southeast Asia." *Asian Survey* 52(3): 441-464.

Vollrath, Dietz. 2014. "The Skeptic's Guide to Institutions." Growth Economics Blog. [https://growthecon.wordpress.com/2014/11/18/the-skeptics-guide-to-institutions-part-1/]

Wade, Robert. 1990. *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*. Princeton University Press: Princeton.

Weyland, Kurt. 2008. "Toward a New Theory of Institutional Change." *World Politics* 60:2 (January) 281-314.

Wilson, Woodrow. 1908. *Constitutional Government in the United States*. New York: Columbia University Press.

Wimmer, Andreas. 2013. *Ethnic Boundary Making: Institutions, Power, Networks*. Oxford: Oxford University Press.

Woo-Cummings, Meredith (ed.). 1999. *The Developmental State*. Cornell University Press, Ithaca.

World Bank. 1993. *The East Asian Miracle: Economic Growth and Public Policy*. New York: Oxford University Press.

Wright J. 2008. "To Invest or Insure? How Authoritarian Time Horizons Impact Foreign Aid Effectiveness." *Comparative Political Studies* 41:7, 971–1000.

APPENDIX A: Data

Table A1: Variable Definitions

Components of the Party Strength Index

Party organizations (v2psorgs) How many political parties for national-level office have permanent organizations? A permanent organization connotes a substantial number of personnel who are responsible for carrying out party activities outside of the election season. Responses: (0) No parties. (1) Fewer than half of the parties. (2) About half of the parties. (3) More than half of the parties. (4) All parties. *Source:* V-Dem (Coppedge et al. 2015).

Party branches (v2psprbrch) How many parties have permanent local party branches? Responses: (0) None. (1) Fewer than half. (2) About half. (3) More than half. (4) All. *Source:* V-Dem (Coppedge et al. 2015).

Legislative party cohesion (v2pscohesv) Is it normal for members of the legislature to vote with other members of their party on important bills? Responses: (0) Not really. Many members are elected as independents and party discipline is very weak. (1) More often than not. Members are more likely to vote with their parties than against them, but defections are common. (2) Mostly. Members vote with their parties most of the time. (3) Yes, absolutely. Members vote with their parties almost all the time. *Source:* V-Dem (Coppedge et al. 2015).

Party linkages (v2psprlnks) Among the major parties, what is the main or most common form of linkage to their constituents? A party-constituent linkage refers to the sort of "good" that the party offers in exchange for political support and participation in party activities. Responses: (0) Clientelistic. Constituents are rewarded with goods, cash, and/or jobs. (1) Mixed clientelistic and local collective. (2) Local collective. Constituents are rewarded with local collective goods, e.g., wells, toilets, markets, roads, bridges, and local development. (3) Mixed local collective and policy/programmatic. (4) Policy/programmatic. Constituents respond to a party's positions on national policies, general party programs, and visions for society. *Source:* V-Dem (Coppedge et al. 2015).

Candidate selection—national/local (v2pscnslnl_neg) How centralized is legislative candidate selection within the parties? The power to select candidates for national legislative elections is often divided between local/municipal party actors, regional/state-level party organizations, and national party leaders. One level usually dominates the selection process, while sometimes candidate selection is the outcome of bargaining between the different levels of party organization. Responses: (0) National legislative candidates are selected exclusively by national party leaders. (1) National legislative candidate selection is dominated by national party leaders but with some limited influence from local or state level organizations. (2) National legislative candidates are chosen through bargaining across different levels of party organization. (3) National legislative candidates are chosen by regional or state-level organizations, perhaps with some input from local party organizations or constituency groups. (4) National legislative candidates are chosen by a small cadre of local or municipal level actors. (5) National legislative candidates are chosen by constituency groups or direct primaries. Scale reversed. *Source:* V-Dem (Coppedge et al. 2015).

Party switching (v2psswitch_neg) Roughly what percentage (%) of the members of the national legislature changes or abandons their party in between elections? Does not include official party splits (when one party divides into two or more parties) or dissolutions (when a party formally dissolves). Scale reversed. *Source:* V-Dem (Coppedge et al. 2015).

Other variables

Civil society freedom (CS_Freedom_JG). The first component derived from a principal components analysis of five variables designed to measure the freedom of civil society organizations (CSOs): government control over CSOs (v2cseeorgs), the participatory environment of CSOs (v2csprtcpt), government repression of CSOs (v2csreprss), government repression of religious organizations (v2csrlgrep), and freedom of religion (v2clrelig). Constructed by the authors. *Source:* V-Dem (Coppedge et al. 2015).

Corruption control (Corruption_JG). The first component derived from a principal components analysis of five variables designed to measure the extent of corruption control: executive bribery and corrupt exchanges (v2exbribe), executive embezzlement and theft (v2exembez), public sector theft (v2exthftps), corrupt activities within the legislature (v2lgcrrpt), bribery of judges or other judicial officials (v2jucorrdc), bribery of journalists (v2mecorrpt). Constructed by the authors. *Source:* V-Dem (Coppedge et al. 2015).

Democracy, Boix (e_mibmr). Dichotomous democracy measure based on contestation and participation. Countries coded democratic have (1) political leaders that are chosen through free and fair elections and (2) a minimal level of suffrage. *Source:* Boix et al. (2013).

Democracy, Polity2 (polity2). A weighted additive aggregation procedure across five sub-components: competitiveness and openness of executive recruitment, competitiveness and regulation of political participation, and constraints on the chief executive. *Source:* Polity IV database (Marshall, Gurr & Jaggers 2014).

External conflict (e_miinteco). Coded 1 if the country participated in an international armed conflict in a given year, 0 otherwise. The original source codebook (Brecke 2001) states that no war is coded as 0 and war is coded as 1. However, the data contains only 1's along with missing data (no 0's). Following the authors' instructions (personal communication), we re-code missing observations as non-conflict (0) for countries where at least one year in the original times series (which runs from 1500 until present) was coded as 1. *Sources:* Clio Infra (clio-infra.eu), drawing on Brecke (2001), compiled by V-Dem (Coppedge et al. 2015).

Ethnic fractionalization (al_ethnic). The probability that two randomly chosen individuals within a society are members of different ethnic groups, calculated with the Herfindahl index. *Source:* Alesina et al (2003).

GDPpc, ln (e_migdppc_ln). Gross domestic product per capita, transformed by the natural logarithm. *Source:* Maddison Project (Bolt & van Zanden 2014).

Infant mortality rate, ln (e_peinfmor). Number of deaths prior to age 1 per 1000 live births in a year, transformed by the natural logarithm. *Sources:* Gapminder (gapminder.org), with additional data imputed from Clio-Infra (clio-infra.eu).

Inflation (e_miinflat). Annual inflation rate, missing data within a time-series interpolated with a linear model, transformed by the natural logarithm (after first converting negative values to positive values). *Source:* Clio Infra (clio-infra.eu).

Internal conflict (e_miinterc). Coded 1 if the country suffered in an internal armed conflict in a given year, 0 otherwise. The original source codebook (Brecke 2001) states that no war is coded as 0 and war is coded as 1. However, the data contains only 1's along with missing data (no 0's). Following the authors' instructions (personal communication), we re-code missing observations as non-conflict (0) for countries where at least one year in the original times series (which runs from 1500 until present) was coded as 1. *Sources:* Clio Infra (clio-infra.eu), drawing on Brecke (2001), compiled by V-Dem (Coppedge et al. 2015).

Investment (pwt_isg1). Share of investment as a percentage of GDP. *Source:* Penn World Tables (Heston, Summers & Aten 2012).

Irregular Exit (exit_1_irregular1). Coded 1 if head of state ("leader") died of natural causes while in power, retired due to ill health, lost office as a result of suicide, lost power through irregular means, or was deposed by another state. *Source:* Archigos (Goemans et al. 2009).

GDPpc growth (e_migdpgro). Annual growth rate of GDP per capita. *Source:* Maddison Project (Bolt & van Zanden 2014).

Judicial power (JudicialPower_JG). The first component derived from a principal components analysis of four variables designed to measure the extent of judicial power: compliance with high court decisions (v2juhccomp), compliance with judicial decisions made by judicial bodies other than the high court (v2jucomp), high court independence (v2juhcind), independence of judicial bodies other than the high court (v2juncind). Constructed by the authors. *Source:* V-Dem (Coppedge et al. 2015).

Judicial threats (JudicialThreats_JG). The first component derived from a principal components analysis of three variables designed to measure threats to the integrity of the judiciary: government attacks on the judiciary (v2jupoatck), attempts to pack the court with government supporters (v2jupack), and politically motivated purges of the judiciary (v2jupurge). Constructed by the authors. *Source:* V-Dem (Coppedge et al. 2015).

Land area (wdi_area). Land area, square kilometers. *Source:* World Development Indicators (World Bank 2013).

Latitude, ln (lp_lat_abst_ln). The absolute value of the latitude of the capital city, divided by 90 (so as to take values between 0 and 1), transformed by the natural logarithm. *Source:* La Porta et al. (1999).

Legal origin (lp_legor). The legal origin of the Company Law or Commercial code of each country, classified as (1) English Common Law, (2) French Commercial Code, (3) Socialist/Communist Laws, (4) German Commercial Code, (5) Scandinavian Commercial Code. *Source:* La Porta et al. (1999).

Life expectancy (e_pelifeex). Expected longevity at birth based on current age-specific mortality rates. *Sources:* Gapminder (gapminder.org), with additional data imputed from Clio Infra (clio-infra.eu).

Muslim (lp_muslim80). Muslims as percentage of population in 1980. *Source:* La Porta et al. (1999).

Party age (partyage). Average age of three largest parties in the lower (or unicameral) chamber of the national legislature. *Source:* Authors.

Party linkage index (bti_q5). The extent to which there is a stable and socially rooted party system, able to articulate and aggregate societal interests. This includes a consideration of the extent to which parties are socially rooted and organizationally institutionalized, the degree of clientelism and the effects it has in promoting or inhibiting stability, the fragmentation of the party system, the level of polarization, and the degree of voter volatility (Bertelsmann Transformation Index 2014).

Party vote volatility (total_EV_vote). Change in share of votes received by each party from election to election according to the Pedersen (1979) index. *Source:* Authors.

Petroleum (e_mipetrol). Real value of petroleum produced per capita. *Source:* Haber & Menaldo (2011).

Property rights (PropertyRts_JG). The first component derived from a principal components analysis of three variables designed to measure the strength of property rights: men's right to acquire, possess, inherit, and sell private property (v2clprptym), women's right to acquire, possess, inherit, and sell private property (v2clprptyw), and the extent of state ownership

of the economy (v2clstown). Constructed by the authors. *Source:* V-Dem (Coppedge et al. 2015).

Protestant (lp_protmg80). Protestants as percentage of population in 1980. *Source:* La Porta et al. (1999).

Public administration (PublicAdmin_JG). The first component derived from a principal components analysis of five variables designed to measure the effectiveness of public administration: respect for the constitution by members of the executive (v2exrescon), extent to which public officials are rigorous and impartial in the performance of their duties (v2clrspct), extent to which the laws of the land are clear, well-publicized, coherent (consistent with each other), relatively stable from year to year, and enforced in a predictable manner (v2cltrnslw), the extent to which men can bring cases before the courts without risk to their personal safety, trials are fair, and men have effective ability to seek redress if public authorities violate their rights, including the rights to counsel, defense, and appeal (v2clacjstm), and the extent to which women can bring cases before the courts without risk to their personal safety, trials are fair, and women have effective ability to seek redress if public authorities violate their rights, including the rights to counsel, defense, and appeal (v2clacjstw). Constructed by the authors. *Source:* V-Dem (Coppedge et al. 2015).

Regime type (Geddes) (gwf_regimetype_num). Classification of autocratic regimes into ten categories. *Source:* Geddes, Wright & Frantz (2014).

Regime type (Hadenius, Teorell) (ht_regtype). Classification of regimes into eighteen categories. *Source:* Hadenius & Teorell (2007).

Urbanization (e_miurbani). Ratio of urban population to total population. *Source:* V-Dem (Coppedge et al. 2015), constructed from data from CLIO Infra (clio-infra.eu).

Table A2: Descriptive Statistics

		Obs	Mean	Std. Dev.	Min	Max
1.	Party Strength	16221	0.003	0.535	-1.723	1.363
2.	Party Strength (Stock)	16221	63.649	40.218	0.007	192.944
3.	Party Strength (5 Year avg)	3091	0.000	0.532	-1.723	1.363
4.	Party Strength (Imputed)	249731	0.000	0.538	-2.197	1.807
5.	PS No Switching	16235	0.003	0.563	-1.353	1.443
6.	PS No Cohesion	16243	0.003	0.518	-1.647	1.387
7.	PS No Candidate Selection	16221	0.003	0.700	-2.335	1.728
8.	PS No Linkages	16221	0.004	0.551	-1.764	1.406
9.	PS No Organizations	16222	0.001	0.505	-1.744	1.277
10.	PS No Branches	16221	0.002	0.503	-1.736	1.249
11.	PS with Nationalization	16146	0.002	0.551	-1.555	1.294
12.	PS Principal Component	16221	0.000	1.000	-2.613	2.535
13.	PS Multiplicative	16221	840.690	1032.827	0.000	6937.250
14.	PS Regional Mean	16010	0.007	0.323	-0.496	0.882
15.	PS Global Mean	16221	0.003	0.138	-0.240	0.253
16.	Party System Institutionalization	16230	0.508	0.300	0.024	0.981
17.	Party Switching	16244	-8.968	9.336	-62.944	0.000
18.	Party Cohesion	16237	0.321	0.849	-2.024	1.868
19.	Centralized Candidate Selection	16273	0.235	0.849	-3.010	2.001
20.	Party Linkages	16284	0.149	0.878	-1.870	2.165
21.	Party Organizations	16400	0.256	1.063	-1.880	2.404
22.	Party Branches	16407	0.153	1.043	-1.988	2.254
23.	Party Competitiveness across regions	16194	0.005	0.884	-2.012	1.762
24.	GDP Growth	10694	1.933	6.452	-61.493	86.946
25.	GDP Growth (5 year avg)	2092	1.904	3.748	-19.297	32.813
26.	Regional GDP Growth (mean)	10491	1.923	2.806	-26.362	20.880
27.	Global GDP Growth (mean)	10694	1.955	1.937	-5.703	9.315
28.	GDP per capita	10907	7.844	1.037	5.315	10.667
29.	GDP per capita (5 year avg)	2100	7.868	1.035	5.359	10.543
30.	Boix et al. Regimes	11797	0.395	0.489	0.000	1.000
31.	Geddes et al. Regimes	7952	4.832	3.831	1.000	11.000
32.	Polity 2	11796	0.459	7.306	-10.000	10.000
33.	Urbanization	20764	0.350	0.251	0.008	1.000
34.	Life Expectancy	16610	55.432	14.804	11.600	83.905
35.	Infant Mortality	13536	74.553	57.344	0.400	420.000
36.	Investiment	8016	22.846	11.096	-11.496	93.637
37.	Inflation	9982	40	514	-200	24411
38.	Petroleum	10752	469.868	3087.011	0.000	78588.800
39.	Internal Conflict	12932	0.098	0.297	0.000	1.000
40.	External Conflict	16612	0.075	0.264	0.000	1.000
41.	Ethnic Fractionalization	9416	0.435	0.260	0.000	0.930
42.	Latitude (ln)	9810	-1.571	0.932	-4.500	-0.325
43.	Muslim	9863	21.330	34.921	0.000	99.900
44.	Protestant	9863	13.258	21.722	0.000	97.800
45.	Land area	7904	716523	1755591	2	16400000
46.	Legal Origin	9863	2.013	0.978	1.000	5.000
47.	Public Administration (V-Dem)	16333	0.000	2.002	-4.678	5.609
48.	Corruption (V-Dem)	11871	0.000	2.132	-4.385	4.896
49.	Property Rights (V-Dem)	16515	0.000	1.515	-4.755	3.244
50.	Judicial Power (V-Dem)	16412	0.000	1.772	-4.527	4.505
51.	Judicial Threats (V-Dem)	16412	0.000	1.371	-5.265	3.741
52.	Rule of Law (V-Dem)	12128	0.000	3.462	-7.922	8.180
53.	Civil Society (V-Dem)	16511	0.000	1.956	-5.339	4.432

APPENDIX B: Measuring Party Strength

The Party Strength Index

We defined strong parties along four dimensions – unity, centralization, organizational complexity, and a mass constituency. Chosen indicators, listed in Table A1, are intended to map onto this definition, as discussed below.

Party organizations measures the extent to which political parties in a country have permanent organizations, understood as personnel responsible for carrying out party activities in between elections. This speaks most clearly to the organizational complexity of a party, but also presumably to the strength of its ties to a mass constituency.

Party branches measures the existence of permanent local party branches. This, again, speaks to organizational complexity and connections to constituencies.

Legislative party cohesion measures party voting in parliament, i.e., the extent to which a party's representatives vote together on important bills. This provides a direct measure of unity and an indirect measure of centralization (and perhaps also of organizational complexity).

Party linkages measures the predominant relationship between parties and constituents in a country, understood along a spectrum from clientelistic (constituents are rewarded with goods, cash, or jobs), to localistic (constituents are rewarded with spending targeted on their district), to programmatic (constituents' relationship to a party is based on the party's policies and overall ideology). We regard clientelistic and localistic ties as a measure of decentralization; parties with these characteristics are likely to contain strong local leaders who can resist pressures from the leadership, perhaps egged on by their constituents. These characteristics are also likely to impair party unity, especially if payoffs are discontinued (e.g., by a loss of power or by a fiscal crisis). At this point, party members may look around for alternatives, and perhaps even bolt to another party that can offer more attractive material incentives. By contrast, if a party is defined by its programmatic appeals conflict among its members, or between leaders at the apex and the periphery, is likely to be muted, as they agree on most issue-positions and on over-arching goals, and have strong incentives to stick together to pursue those goals and may accept leadership cues in the service of achieving those goals. Leninist parties are strong, in part, because of their clear ideological orientation.

Candidate selection measures the degree of centralization in the process of nominating candidates for the national legislature. At one extreme, all candidates are chosen by national party leaders. At the other extreme, candidates are chosen by constituency groups or direct primaries and party leaders play a peripheral role. This provides a direct measure of party centralization and presumably serves as an important ingredient of party unity.

Party switching measures the share of MPs who desert their party – either joining another party or becoming an independent – in between elections. This serves as a direct measure of party unity and an indirect measure of party centralization.

Figure B1: Party Strength Through Time
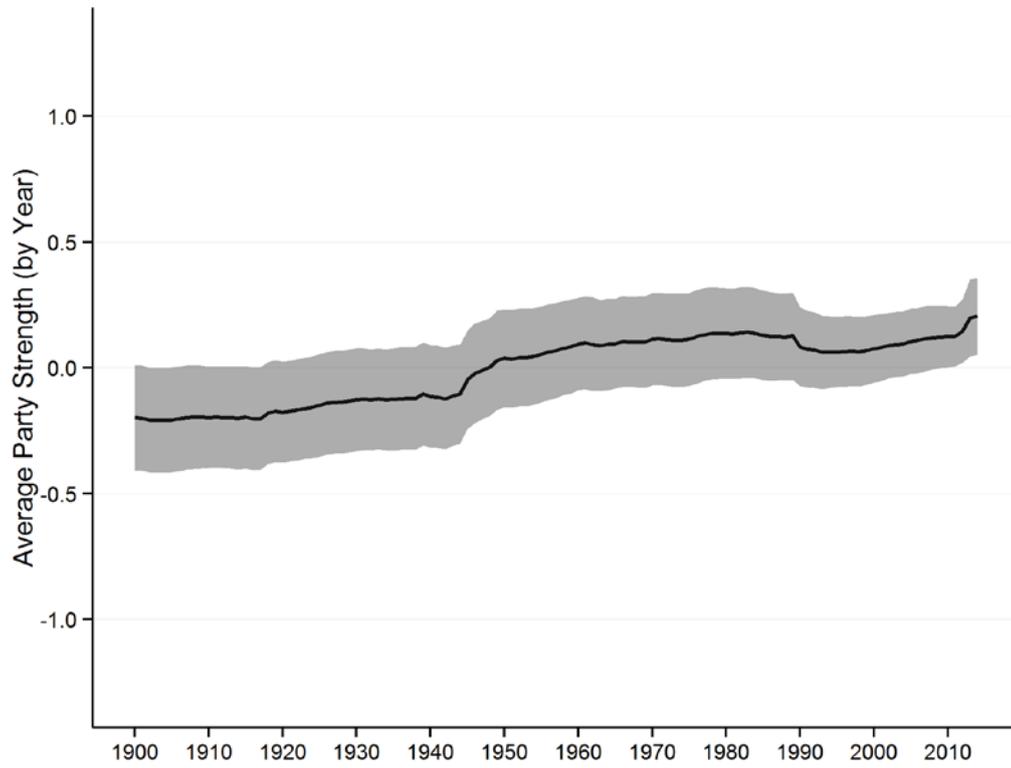
Party Strength, averaged over all countries in the sample, for each year from 1900-1912.

Table B1: Party Strength in 2011

	Score	Interval			Score	Interval			Score	Interval	
Sweden	1.052	0.819	1.285	Sudan	0.327	0.154	0.500	Brazil	-0.035	-0.076	0.006
Germany	1.039	0.808	1.270	Rwanda	0.319	0.297	0.341	Tanzania	-0.040	-0.106	0.025
Spain	1.003	0.786	1.219	Azerbaijan	0.318	0.235	0.400	Somaliland	-0.047	-0.141	0.047
Netherlands	0.935	0.699	1.171	Armenia	0.316	0.225	0.408	Zimbabwe	-0.052	-0.265	0.161
Vietnam, DR	0.822	0.605	1.039	Suriname	0.311	0.110	0.512	Honduras	-0.054	-0.127	0.019
Belgium	0.786	0.540	1.033	Kosovo	0.308	0.169	0.446	DR	-0.056	-0.171	0.060
China	0.755	0.632	0.878	Lebanon	0.305	0.190	0.420	Iraq	-0.063	-0.103	-0.023
Norway	0.741	0.534	0.948	Venezuela	0.301	0.180	0.422	Egypt	-0.068	-0.076	-0.060
Denmark	0.734	0.492	0.975	Malaysia	0.282	0.228	0.336	Maldives	-0.077	-0.079	-0.076
Austria	0.703	0.510	0.897	Russia	0.277	0.161	0.393	Yemen	-0.094	-0.236	0.049
Australia	0.684	0.468	0.900	USA	0.277	0.229	0.325	Sao Tome	-0.094	-0.290	0.102
Uzbekistan	0.670	0.569	0.770	South Sudan	0.277	0.077	0.476	Ghana	-0.101	-0.136	-0.066
Portugal	0.653	0.491	0.816	Gaza	0.273	0.158	0.387	Fiji	-0.107	-0.370	0.156
Turkmenistan	0.652	0.490	0.814	Thailand	0.263	0.124	0.402	Comoros	-0.118	-0.246	0.010
France	0.637	0.502	0.773	Jamaica	0.260	0.047	0.473	Senegal	-0.135	-0.195	-0.075
New Zealand	0.634	0.418	0.851	Laos	0.256	0.228	0.284	Paraguay	-0.141	-0.288	0.005
Uruguay	0.633	0.449	0.816	Israel	0.255	0.107	0.404	Mali	-0.170	-0.187	-0.153
Finland	0.627	0.424	0.829	Ethiopia	0.255	0.109	0.401	Algeria	-0.186	-0.222	-0.149
Switzerland	0.615	0.407	0.824	Cyprus	0.251	0.105	0.397	Congo, DR	-0.193	-0.310	-0.076
UK	0.599	0.478	0.720	Albania	0.248	0.125	0.371	Uganda	-0.193	-0.313	-0.073
Estonia	0.583	0.403	0.762	Serbia	0.238	0.157	0.319	Zambia	-0.197	-0.274	-0.120
Czech Rep	0.581	0.404	0.759	Guyana	0.238	0.071	0.405	Mongolia	-0.213	-0.292	-0.133
Montenegro	0.577	0.441	0.714	Niger	0.229	0.078	0.380	Guinea	-0.223	-0.253	-0.193
Chile	0.576	0.428	0.725	Georgia	0.227	0.120	0.334	Cambodia	-0.230	-0.236	-0.224
Greece	0.573	0.401	0.745	Belarus	0.208	0.110	0.306	Iran	-0.246	-0.287	-0.204
Poland	0.572	0.415	0.729	Bulgaria	0.208	0.126	0.290	Congo, Rep	-0.268	-0.339	-0.196
Bangladesh	0.572	0.488	0.656	Burma	0.198	0.066	0.330	Jordan	-0.273	-0.417	-0.129
Seychelles	0.547	0.296	0.798	Romania	0.187	-0.028	0.403	Guinea-Biss	-0.302	-0.311	-0.292
Tajikistan	0.541	0.409	0.672	Botswana	0.187	0.041	0.334	Nigeria	-0.324	-0.383	-0.265
Japan	0.528	0.379	0.678	Taiwan	0.182	0.085	0.278	Colombia	-0.341	-0.353	-0.329
Mexico	0.523	0.384	0.661	Costa Rica	0.173	0.055	0.292	Kenya	-0.355	-0.379	-0.331
Canada	0.505	0.318	0.692	Latvia	0.168	0.041	0.295	Sierra Leone	-0.367	-0.475	-0.259
Macedonia	0.497	0.353	0.641	Gambia	0.140	0.052	0.228	Solomon Is	-0.377	-0.637	-0.117
Turkey	0.489	0.344	0.635	Indonesia	0.122	-0.017	0.261	CAR	-0.400	-0.475	-0.325
Mauritius	0.485	0.300	0.669	Nicaragua	0.122	-0.005	0.249	Mauritania	-0.407	-0.412	-0.401
Slovakia	0.471	0.339	0.602	Namibia	0.117	-0.014	0.249	Malawi	-0.411	-0.427	-0.396
India	0.465	0.348	0.582	Italy	0.109	-0.007	0.225	Djibouti	-0.441	-0.472	-0.410
Kazakhstan	0.439	0.274	0.604	Mozambique	0.108	-0.021	0.237	Peru	-0.449	-0.506	-0.391
Barbados	0.436	0.174	0.697	Lesotho	0.099	-0.038	0.236	Benin	-0.449	-0.486	-0.413
Bosnia	0.431	0.321	0.541	Bolivia	0.097	0.026	0.168	Vanuatu	-0.455	-0.757	-0.153
North Korea	0.429	0.186	0.672	Burkina Faso	0.094	0.001	0.187	Swaziland	-0.467	-0.719	-0.215
Trinidad	0.426	0.275	0.577	Nepal	0.094	-0.015	0.202	Eritrea	-0.558	-0.786	-0.329
Slovenia	0.425	0.320	0.531	East Timor	0.091	-0.111	0.293	Kyrgyzstan	-0.566	-0.655	-0.476
Pakistan	0.425	0.279	0.570	Cuba	0.084	-0.186	0.355	Philippines	-0.573	-0.591	-0.555
Ireland	0.425	0.275	0.574	Moldova	0.080	-0.004	0.165	Somalia	-0.589	-0.627	-0.551
Cape Verde	0.382	0.225	0.540	Ecuador	0.080	-0.039	0.198	Chad	-0.700	-0.740	-0.660
West Bank	0.380	0.249	0.512	Panama	0.077	-0.064	0.219	Guatemala	-0.735	-0.929	-0.542
Hungary	0.375	0.341	0.409	Morocco	0.061	-0.014	0.136	Afghanistan	-0.775	-0.793	-0.756
Sri Lanka	0.367	0.323	0.412	Burundi	0.047	0.029	0.064	Madagascar	-0.785	-0.840	-0.731
Lithuania	0.359	0.204	0.514	Cameroon	0.026	-0.083	0.134	Libya	-0.786	-0.849	-0.723
El Salvador	0.347	0.239	0.454	Tunisia	0.022	-0.112	0.156	Qatar	-0.865	-1.134	-0.596
Croatia	0.347	0.234	0.459	Angola	0.019	-0.045	0.083	Liberia	-0.881	-0.897	-0.865
Iceland	0.346	0.134	0.559	Ukraine	0.004	-0.042	0.050	PNG	-1.130	-1.191	-1.068
Bhutan	0.345	0.171	0.520	Argentina	-0.017	-0.104	0.070	Saudi Arabia	-1.143	-1.220	-1.067
South Korea	0.342	0.202	0.483	Ivory Coast	-0.026	-0.118	0.066	Haiti	-1.232	-1.252	-1.211
South Africa	0.339	0.216	0.462	Gabon	-0.029	-0.071	0.013				
Syria	0.334	0.154	0.513	Togo	-0.034	-0.124	0.055				

Point estimates for Party Strength for all countries in 2011 along with confidence intervals.

Alternative Measures of Party Strength

Questions can always be raised about the composition and aggregation of an index. Methods of indexing involve many choices and readers may be concerned about the extent to which these choices color the findings reported here. In Table B2, we systematically test alternate indices in the benchmark model to gauge their performance.

Model 1 shows the benchmark model, in which growth is regressed on our additive index of Party Strength, replicating Model 1 in Table 2, for purposes of comparison. Model 2 tests the first component drawn from a principal components analysis of the same six indicators. Model 3 tests an index aggregated by multiplying the six indicators together. The next set of tests (Models 4-9) remove indicators from the Party Strength index, seriatim. In Model 10, we construct a party strength index (using our usual additive method of aggregation) that includes an additional attribute, Party nationalization, as measured by the V-Dem dataset.

Table B2: Alternate Indices Tested in the Benchmark Model

	Aggregation techniques			Subtracting/adding Indicators to the original index							Party System Institution-alization Index
	Additive (original)	Principal components	Multip-licative	− Switching	− Cohesion	− Candidate selection	− Linkages	− Organizations	− Branches	+ National ization	
	1	2	3	4	5	6	7	8	9	10	11
Coefficient	1.567***	0.710**	0.473***	1.435***	1.493***	1.267***	1.369***	1.497***	1.420***	1.404***	1.576*
	(0.370)	(0.281)	(0.168)	(0.385)	(0.384)	(0.332)	(0.354)	(0.347)	(0.361)	(0.371)	(0.837)
GDPpc (ln)	-2.023***	-1.950***	-1.975***	-1.989***	-2.035***	-2.014***	-1.972***	-2.012***	-2.007***	-1.952***	-1.897***
	(0.354)	(0.338)	(0.350)	(0.348)	(0.358)	(0.348)	(0.353)	(0.353)	(0.354)	(0.355)	(0.334)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Countries	153	153	153	153	153	153	153	153	153	153	153
Years (Max)	110	110	110	110	110	110	110	110	110	110	110
Obs	10147	10147	10147	10147	10169	10147	10147	10147	10147	10122	10147
R2 within	0.1090	0.1069	0.1071	0.1087	0.1084	0.1084	0.1087	0.1090	0.1086	0.1082	0.1063

Alternate indices of party strength, and an index of party system institutionalization, tested in the benchmark model (Model 1, Table 2). Estimator: ordinary least squares, standard errors clustered by country. *** p<.01 **p<.05 *p<.10

APPENDIX C: Convergent Validity Tests

Table C1: Regime-types from Geddes et al. (2014)

	1
Indirect Military	-0.142*
	(-0.077)
Military	-0.303***
	(-0.029)
Military / Personal	-0.381***
	(-0.031)
Monarchy	-0.811***
	(-0.023)
Oligarchy	-0.146**
	(-0.058)
Party	0.052***
	(-0.015)
Party / Military	-0.271***
	(-0.041)
Party / Military / Personal	-0.063*
	(-0.036)
Party / Personal	-0.196***
	(-0.025)
Personal	-0.470***
	(-0.016)
Constant	0.325***
	(-0.008)
Countries	148
Years	65
Obs	7653
R-Squared	0.222

Party Strength index regressed against nominal categories representing regime-types, as defined and coded by Geddes et al. (2014). Reference category is "Democracy." Estimator: ordinary least squares, standard errors in parentheses. ***p<.01 **p<.05 *p<.10

Table C2: Regime-types from Hadenius & Teorell (2007)

	1
No Party	-1.025***
	(0.075)
Military	-0.080**
	(0.025)
Military no-party	-0.291***
	(0.061)
Military multiparty	0.214***
	(0.033)
Military one-party	0.099**
	(0.032)
One-party	0.367***
	(0.020)
Other	-0.668***
	(0.057)
One-party monarchy	0.110
	(0.221)
Monarchy	-0.840***
	(0.044)
Rebel regime	-0.241***
	(0.058)
Civil war	-0.393***
	(0.054)
Occupation	-0.333***
	(0.081)
Theocracy	-0.457***
	(0.073)
Transitional regimes	-0.130**
	(0.063)
No-party monarchy	-0.449***
	(0.046)
Multiparty monarchy	-0.131*
	(0.060)
Democracy	0.380***
	(0.015)
Constant	-0.030*
	(0.012)
Countries	166
Years	39
Obs	5801
R^2	0.309

Party Strength index regressed against nominal categories representing diverse regime-types as defined and coded by Hadenius & Teorell (2007). Reference category is "Limited multiparty and party-less." *Estimator:* ordinary least squares, standard errors in parentheses. *** $p<.01$ **$p<.05$ *$p<.10$

Table C3: Other Indicators of Party Performance

	Correlation w/ PS index	Countries	Years	Obs
Party system institutionalization	0.340	123	5	520
Party vote volatility	-0.465	49	64	1100
Party age	0.384	154	35	5582

Pearson's r correlation between Party Strength index and other measures of party strength or institutionalization.

APPENDIX D: Data Collection

The Party Strength index is based on six indicators drawn from the Varieties of Democracy (V-Dem) project, as are several of the covariates tested in Table 3 – Public administration, Rule of law, Corruption control. Property rights, Judicial power, Judicial threats, and Civil society freedom. It is important, therefore, to understand a bit about how the data was collected and aggregated across coders. (For further information see Coppedge et al. (2015) and Pemstein et al. (2015).)

Each indicator in the V-Dem dataset that is not factual in nature is coded by multiple Country Experts, generally about five (5). Most experts do not possess the requisite expertise to code the entire V-Dem questionnaire, which means that a single country will generally be coded by a dozen or more experts, each working on different facets of the questionnaire. To date, V-Dem has engaged in collaboration with over 2,500 Country Experts.

Recruitment

The following procedure is used to recruit Country Experts. First, we identify a list of potential coders for a country (typically 100-200 names per country). This bulk of names on the list are provided by Regional Managers (members of the V-Dem project located in universities and think-tanks throughout the world) in consultation with other members of the V-Dem team. Assistant Researchers (located at V-Dem Institute, University of Gothenburg) also contribute to this list, using information about potential country experts gathered from the web. Other members of the project team provide additional names if they have country-specific expertise. At present, V-Dem has accrued a roster of 15,000+ potential Country Experts.

For each potential Country Expert on the resulting list, we compile basic information – country of origin, current location, highest educational degree, current position, and area of expertise in terms of the surveys the expert could code as evidenced by a short biographical sketch and/or list of publications, website information and the like. We also take note of any possible biases that might affect their ability to code questions in a dispassionate manner.

In selecting whom to recruit from this list five criteria come into play:

The most important selection criterion, naturally, is expertise in the country(ies) and the section of the survey they are assigned to code. This is usually signified by an advanced degree in the social sciences, law, or history; a record of publications; and positions in civil society that establish their expertise in the chosen area (e.g. a well-known and respected journalist). Naturally, potential coders are drawn to areas of the survey that they are most familiar with, and are unlikely to agree to code topics they know little about. So, self-selection also works to achieve our primary goal of matching questions in the survey with country-specific expertise.

The second criterion is origin in the country to be coded. V-Dem's goal is that a minimum of three out of five (60%) Country Experts should be nationals or permanent residents of the country they code (preferably both). Exceptions are required for a few countries where it is difficult to find in-country coders who are both qualified and independent of the governing regime. This criterion should help avoid potential Western/Northern biases in the coding.

The third criterion is the prospective coder's seriousness of purpose. By this, we mean a person's willingness to devote time to the project, to deliberate carefully over the questions asked in the survey, and to report their honest judgment. Sometimes, personal acquaintanceship is enough to convince a Regional Manager that a person is fit, or unfit, for the job. Sometimes, this feature becomes apparent in communications with Project Coordinators that precede the offer to work on V-Dem.

The fourth criterion is impartiality. V-Dem aims to recruit coders who will answer survey questions in an impartial manner. This means avoiding those who might be beholden to powerful actors – by reason of coercive threats or material incentives – or who serve as spokespersons for a political party or ideological tendency (in some instances, such as North Korea, this may entail avoiding all in-country coders). Where this is difficult, or where the reality is difficult to determine, we aim to include a variety of coders who, collectively, represent an array of views and political perspectives on the country in question.

The final criterion is obtaining diversity in professional background among the coders chosen for a particular country. For certain areas (e.g the media, judiciary, and civil society surveys) this entails a mixture of highly recognized professionals from the sector along with academics who study these topics. Generally, it also means finding experts who are located at a variety of institutions, universities and research institutes.

After weighing these five criteria, the 100-200 potential experts on the list are given a rank from "1" to "3" indicating order of priority.

The two Project Coordinators at the V-Dem Institute, University of Gothenburg, then handle the enrolment of Country Experts from the list of potential country experts. In handling the recruitment, the continuously review the resulting mix of actual country experts in light of the five criteria to ensure that V-Dem ends up with a set of experts for each country that fulfill our standards.

If the quota of five Country Experts per section of the survey for each country is not met, we work down the list of potential Country Experts until the quota is obtained. Others, following the same procedure, replace those who fail to complete the survey in a reasonable time. Coders receive a modest honorarium for their work that is proportional to the number of surveys they have completed.

A number of steps are taken to assure informed consent and confidentiality among participants. The on-line survey provides full information about the project (including this document) and the use of the data, so that coders are fully informed. It also requires that prospective coders certify that they accept the terms of the agreement. They can access the surveys only with a randomized username that we assign and a secret password that they create themselves. The data they supply is stored on a firewall-protected server. Any data released to the public excludes information that might be used to identify coders. All personal identifying information is kept in a separate database in order to ensure the protected identities of coders.

In order to ensure that we are able to recruit widely among potential experts, and in order to minimize confusion due to unfamiliarity with English, questions are translated from English into five additional languages: Arabic, French, Portuguese, Russian, and Spanish. Approximately 15 percent of the experts code in a non-English version of the questionnaire.

About 35 percent of the Country Experts are women, and over 80 percent have PhDs or MAs and are affiliated with research institutions, think tanks, or similar organizations.

Coding

Coding is carried out using the V-Dem online survey tool. The web-based coding interfaces are directly connected with a postgres database where the original coder-level data is kept, maintaining coder confidentiality.

In addition to country-specific ratings, Country Experts are requested to code several additional countries that they are familiar with for a shorter time-slice. This «bridge» or «lateral» coding assures cross-country equivalence by forcing coders to make explicit comparisons across countries, and provides critical information for the measurement model (described below).

For each question, and for each country-year, experts are required to report a self-assessed level of certainty. This is an indicator of their subjective level of uncertainty for the data point they provide. This is scored on a scale from 0 to 100 with substantive anchor points for each 10-percent interval.

Measurement

Having discussed the process of data collection, we proceed to the task of measurement. Under this rubric, we include (a) the questionnaire, (b) our measurement model, (c) methods of identifying error in measurement, (d) studies of measurement error, and (e) methods of correcting error. In principle, the discussions are relevant for different types of data (A, B, and C in the V-Dem scheme) but most if not all of them are much more acute when it comes to expert-based coding of evaluative, non-factual yet critical indicators. Hence, most of the following is focused on the C-type indicators.

The most important feature of a survey is the construction of the questionnaire itself. In crafting indicators we have sought to construct questions whose meaning is clear and specific and not open to a wide variety of interpretations. They should mean the same thing (more or less) in each context and not suffer from temporal or spatial non-equivalence. Our methodology involves enlisting some of the leading scholars in the world on different aspects of democracy and democratization – known as Project Managers.

Each Project Manager was enrolled because of his/her specific and evidenced expertise in a particular area (e.g. legislatures, executives, elections, civil society, and so on) and with a view to generate a group that also had substantive experiences and expertise on all regions of the world. Starting in 2009, Project Managers designed survey-questions in their area to measure democraticness in relation to the different traditions of democratic theory. All suggestions were reviewed and refined collectively over the course of two years. The V-Dem pilot test carried out in 2011 served as an initial test of our questionnaire, prompting quite a few revisions in the next round of surveys. Another round of collective deliberation followed that also involved a number of consultations with scholars outside of the project team. The revised questions for C-coding thus went through several rounds of review with the Project Managers and outside experts over the course of two years before emerging in their final form, depicted in the Codebook.

Even with careful question design, a project of this nature cannot help but encounter error. This may be the product of linguistic misunderstandings (recall that most of our coders do not speak English as their first language and some take the survey in a translated form), misunderstandings about the way in which a question applies to a particular context, factual errors, errors due to the scarcity or ambiguity of the historical record, differing interpretations about the reality of a situation, variation in standards, coder inattention, errors introduced by the coder interface or the handling of data once it has been entered into the database, or random mistakes.

Some of these errors are stochastic in the sense of affecting the precision of our estimates but not their validity. Other errors are systematic, potentially introducing bias into the estimates that we produce.

Having five coders for each question is immensely useful, as it allows us to identify wayward coders as well as to conduct inter-coder reliability tests. These sorts of tests – standard in most social science studies – are rarely if ever employed in extant democracy indices.

While we select experts carefully, they clearly exhibit varying levels of reliability and bias, and may not interpret questions consistently. In such circumstances, the literature recommends that researchers use measurement models to aggregate diverse measures where possible, incorporating information characterized by a wide variety of perspectives, biases, and levels of reliability (Bollen & Paxton 2000, Clinton & Lapinski 2006, Clinton & Lewis 2008, Jackman 2004, Treier & Jackman 2008, Pemstein, Meserve & Melton 2010). To combine expert ratings for a particular country/indicator/year to generate a single "best estimate" for each question, we employ methods inspired by the psychometric and educational testing literature (see e.g. Lord & Novick 1968, Jonson & Albert 1999, Junker 1999, Patz & Junker 1999).

The underpinnings of these measurement models are straightforward: they use patterns of cross-rater (dis)agreement to estimate variations in reliability and systematic bias. In turn, these techniques make use of the bias and reliability estimates to adjust estimates of the latent—

that is, only indirectly observed—concept (e.g. executive respect for the constitution, judicial independence, or property rights) in question. These statistical tools allow us to leverage our multi-coder approach to both identify and correct for measurement error, and to quantify confidence in the reliability of our estimates. Variation in these confidence estimates reflect situations where experts disagree, or where little information is available because few raters have coded a case. These confidence estimates are tremendously useful. Indeed, the tendency of most researchers to treat the quality of measures of complex, unobservable concepts as equal across space and time, ignoring dramatic differences in ease of access and measurement across cases, is fundamentally misguided, and constitutes a key threat to inference.

The majority of expert-coded questions are ordinal: they require raters to rank cases on a discrete scale, generally with four or five response categories. To achieve scale consistency, we fit ordinal IRT models to each question (see Johnson & Albert 1999 for a technical description of these models). These models achieve three goals. First, they work by treating coders' ordinal ratings as imperfect reflections of interval-level latent concepts. Therefore, while an IRT model takes ordinal values as input, its output is an interval-level estimate of the given latent trait (e.g. election violence). Interval-valued estimates are valuable for a variety of reasons; in particular, they are especially amenable to statistical analysis. Second, IRT models allow for the possibility that coders have different thresholds for their ratings (e.g. one coder's somewhat might fall above another coder's almost on the latent scale), estimate those thresholds from patterns in the data, and adjust latent trait estimates accordingly. Therefore, they allow us to correct for this potentially serious source of bias. This is very important in a multi-rater project like V-Dem, where coders from different geographic or cultural backgrounds may apply differing standards to their ratings. Finally, IRT models assume that coder reliability varies, produce estimates of rater precision, and use these estimates—in combination with the amount of available data and the extent to which coders agree—to quantify confidence in reported scores.

With lateral and bridge coding we are able to mitigate the incomparability of coders' thresholds and the problem of cross-national estimates' calibration. While helpful in this regard, our tests indicate that given the sparsity of our data, even this extensive bridge-coding is not sufficient in solving cross-national comparability issues. We therefore also employ a data-collapsing procedure. At its core, this procedure relies on the assumption that as long as none of the experts change their ratings for a given time period, we can treat the country-years in this period as one year. The results of our statistical models indicate that this technique is extremely helpful in increasing the weight given to lateral/bridge coders, and thus further mitigates cross-national comparability problems.

APPENDIX E: Additional Results and Robustness Tests

Table E1: 2SLS Results for Model 7, Table 2 (first stage)

	1
GDPpc (ln)	0.034***
	(0.013)
Regional growth	0.00029
	(0.00020)
Global growth	0.0049
	(0.685)
Regional Party Strength	0.045***
	(0.00020)
Global Party Strength	-138.76***
	(0.23)
Year FE	✓
Country FE	✓
Countries	151
Years (Max)	109
Obs	9852
Sargan test p-value	0.161
Cragg-Donald Wald F-statistic	1.8*10^5

Outcome: Party Strength. Independent variables lagged by one time-period. *FE:* fixed effects. *Estimator:* 2SLS (two-stage least squares); first-stage regression. *** p<.01 **p<.05 *p<.10

Note that the implausibly large (and negative) value on the global party strength instrument in this particular specification is due to the very high correlation with the year dummies (they are not perfectly correlated because global growth is always calculated exempting country in question). This is not important to the interpretation of the main result, since it is robust, for instance, to substituting the year dummies with a time trend, and to omitting the global instrument and only using the regional, as shown in Table E2. Furthermore, the instrument(s) in the first-stage regressions of these alternative specifications are also always very strong, as indicated by the Cragg-Donald Wald F-statistics shown in Table E2.

Table E2: Alternative 2SLS specifications (second stage)

	1	2	3	4	5	6	7
Estimator	FE	FE	FE	FE	RE	RE	RE
Party Strength	3.479**	5.581***	3.667***	6.620***	0.881***	1.743***	1.739***
	(1.766)	(0.824)	(0.787)	(0.796)	(0.129)	(0.462)	(0.458)
GDPpc (ln)	-2.250***	-1.555***	-2.412***	-2.833***	-0.085	-0.400***	-0.440***
	(0.281)	(0.185)	(0.230)	(0.234)	(0.067)	(0.118)	(0.128)
Regional growth	0.353***	0.362***	0.375***		0.382***	0.405***	0.406***
	(0.032)	(0.031)	(0.031)		(0.029)	(0.030)	(0.030)
Global growth		0.130***	0.135***		-6.401***	0.103**	0.105**
		(0.044)	(0.043)		(0.692)	(0.043)	(0.043)
Time trend			✓	✓		✓	✓
Year FE	✓				✓		
Country FE	✓	✓	✓	✓			
Instruments							
Regional party strength	✓	✓	✓	✓	✓	✓	✓
Global party strength		✓	✓	✓	✓	✓	✓
Countries	151	151	151	153	151	151	151
Years (Max)	109	109	109	110	109	109	109
Obs	9852	9852	9852	10091	9852	9852	9852
Sargan test p-value	-	.00	.29	.48	-	-	-
Cragg-Donald Wald F	183.70	460.34	495.13	528.63	-	-	-

Outcome: per capita GDP growth. *Units of analysis:* country-year. Independent variables lagged by one time-period. *Estimator:* two-stage least squares with FE (fixed effects) or RE (random effects), second-stage results only. Test statistics not calculated for random effects models due to software limitations. *** $p<.01$ **$p<.05$ *$p<.10$.

Table E3: Party Strength and Economic Crises

	1	**2**	**3**	**4**	**5**	**6**
Coding of outcome	Growth<0		Growth<-3		Growth<-5	
Estimator	OLS	Logit	OLS	Logit	OLS	Logit
Party Strength	-0.080***	-0.466***	-0.052**	-0.441**	-0.038**	-0.425*
	(0.026)	(0.153)	(0.020)	(0.217)	(0.016)	(0.249)
GDPpc (ln)	0.045**	0.231**	0.045***	0.443***	0.032***	0.461***
	(0.018)	(0.108)	(0.015)	(0.149)	(0.012)	(0.161)
Year FE	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓
Countries	153	152	153	149	153	146
Years (Max)	110	110	110	110	110	110
Obs	10147	10127	10147	10036	10147	9366

Outcome (Y): economic crisis, coded 1 if per capita GDP growth is below a designated value. *Units of analysis:* country-year. Independent variables lagged by one time-period. *FE:* fixed effects. *Estimator:* OLS (ordinary least squares), Logit (logistic regression), standard errors clustered by country. *** $p<.01$ **$p<.05$ *$p<.10$

Table E4: Party Strength and Sustained Growth Episodes

	1	2	3	4
Y measured across…	5 years		10 years	
Estimator	OLS	Logit	OLS	Logit
Party Strength	0.111***	0.684***	0.064**	0.896**
	(0.035)	(0.225)	(0.031)	(0.383)
GDPpc (ln)	-0.110***	-0.739***	-0.136***	-1.844***
	(0.032)	(0.223)	(0.030)	(0.417)
Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
Countries	153	152	153	118
Years (Max)	106	106	101	101
Obs	9473	9255	8633	6464

Outcome (Y): a prolonged growth period, coded 1 if per capita GDP growth is positive (>0) in consecutive years for a 5- or 10-year period. Independent variables lagged by this same time interval. *FE:* fixed effects. *Estimator:* OLS (ordinary least squares), Logit (logistic regression), standard errors clustered by country. *** $p<.01$ **$p<.05$ *$p<.10$

Table E5: Party Strength and Growth Volatility

	1	2	3	4	5	6	7	8
Y measured across	10 years	15 years	10 years	15 years	10 years	15 years	10 years	15 years
Estimator	OLS	OLS	OLS	OLS	PCSE	PCSE	PCSE	PCSE
Party Strength	-0.351	-0.323	-0.276	-0.303	-0.536***	-0.533***	-0.532***	-0.387**
	(0.384)	(0.433)	(0.396)	(0.442)	(0.154)	(0.111)	(0.172)	(0.171)
GDPpc (ln)	-0.385	-0.425	-0.510	-0.485	-0.044	0.289**	-0.132	-0.228
	(0.313)	(0.315)	(0.361)	(0.371)	(0.160)	(0.131)	(0.164)	(0.354)
Average growth			-0.071	-0.027			-0.065**	-0.066
			(0.061)	(0.083)			(0.027)	(0.060)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓				
Countries	153	152	153	152	153	152	153	152
Years (Max)	101	96	100	95	101	96	100	95
Obs	8633	7811	8481	7661	8633	7811	8481	7661

Outcome (Y): standard deviation of per capita GDP growth rate over specified time interval. *Average growth:* per capita GDP growth over this interval. Independent variables lagged by one year prior to this interval. *FE:* fixed effects. *Estimators:* OLS (ordinary least squares with standard errors clustered by country), PCSE (ordinary least squares with standard errors corrected for panel-specific heteroscedasticity and panel-specific AR(1) autocorrelation). *** $p<.01$ **$p<.05$ *$p<.10$

APPENDIX F: Mediation Analysis

This appendix provides further detail about the mediation analyses summarized in Table 5. To test potential pathways from Party Strength to Growth we employ the mediation package developed by Imai et al. (2010), which estimates direct and indirect effects by jointly analyzing results of a model predicting the mediator and a model predicting the outcome. The relationships of interest are diagramed at the bottom of Table 5.

   All analyses follow the specification of the benchmark model (Model 1, Table 2) which includes per capita GDP (logged) along with country and year fixed-effects.
Party Strength and per capita GDP are set at t, the mediator at $t+1$, and growth at $t+2$. Statistical significance for direct and indirect effects are estimated using quasi-bayesian confidence intervals produced after 1000 (one thousand) simulations.

   In the first stage of the analysis, a mediator – variously, Investment, Inflation, Infant Mortality, Internal Conflict, and Irregular Exit – is regressed on Party Strength and per capita GDP. Models predicting Investment, Inflation, and Infant Mortality) are linear mixed models. Models for Internal Conflict and Irregular Exit are logistic mixed models with identical specifications. In the second stage, growth is regressed on the mediator, Party Strength and GDP per capita in a linear model. Details for each stage of the regression analysis are shown in Table F1.

Table F1: Regression Results for the Mediation Analysis

Outcome	1 Investment	1 Growth	2 Inflation	2 Growth	3 IMR	3 Growth	4 Internal conflict	4 Growth	5 Irregular Exit	5 Growth
Party Strength	3.811***	0.917**	-0.301***	1.039***	-0.101***	1.423***	-1.257***	1.093***	-1.901***	1.567***
	(0.406)	(0.311)	(0.066)	(0.304)	(0.013)	(0.264)	(0.183)	(0.269)	(0.183)	(0.277)
GDP per capita (ln)	4.322***	-2.907***	-0.710***	-3.025***	-0.494***	-3.358***	-1.484***	-2.642***	-0.009	-3.377***
	(0.324)	(0.25)	(0.054)	(0.251)	(0.010)	(0.238)	(0.181)	(0.227)	(0.147)	(0.227)
Investment		0.011								
		(0.010)								
Inflation (ln)				-0.295***						
				(0.057)						
Infant mortality rate (ln)						-1.043***				
						(0.222)				
Internal conflict								-1.401***		
								(0.231)		
Irregular exit										0.454*
										(0.200)
Country FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Countries	146	146	139	139	150	150	111	111	147	147
Years (Max)	56	56	109	109	109	109	109	109	109	109
Obs	6428	6428	6875	6875	8927	8927	8073	8073	8860	8860
Log-likelihood	-20957.1	-19260.3	-10843.4	-20969.7	-1526.9	-27767.2	-1773.4	-25358.2	-2377.8	-27872.2
Deviance	41914.2	38520.5	21686.9	41939.3	3053.8	55534.5	3546.7	50716.4	4755.6	55744.5
BIC	43764.4	40379.4	23948.8	44210.1	5437.2	57926.9	5543.9	52731.6	7100.6	58107.7

Outcome: per capita GDP growth. *Independent variable of interest*: Party Strength. *Unit of analysis:* country-year. *FE:* fixed effects. Standard errors clustered by country. *** p<.01 **p<.05 *p<.10.

APPENDIX REFERENCES

Alesina, Alberto, Arnaud Devleeschauwer, William Easterly, Sergio Kurlat, Romain Wacziarg. 2003. "Fractionalization." *Journal of Economic Growth* 8:2, 155-94.

Bernhard, Michael, Christopher Reenock, Ekrem Karakoc, Dong-Joon Jung, & Keith Wegorst. 2015. «Party System Institutionalization in the World, Dataset.» Department of Political Science, University of Florida.

Bertelsmann Transformation Index. 2014. *BTI 2014 Codebook for Country Assessments.* Accessed 24/08/2015: http://www.bti-project.de/uploads/tx_itao_download/BTI2014_Codebook.pdf

Brecke, Peter. 2001. "The Long-Term Patterns of Violent Conflict in Different Regions of the World." Paper presented at the Uppsala Conflict Data Conference, Uppsala, Sweden.

Coppedge, Michael, John Gerring, Staffan I. Lindberg, Jan Teorell, David Altman, Michael Bernhard, M. Steven Fish, Adam Glynn, Allen Hicken, Carl Henrik Knutsen, Kelly McMann, Daniel Pemstein, Megan Reif, Svend-Erik Skaaning, Jeffrey Staton, Eitan Tzelgov, Yi-ting Wang, and Brigitte Zimmerman. 2015. "Varieties of Democracy: Methodology v4." Varieties of Democracy (V-Dem) Project.

Goemans, Hein E., Kristian Skrede Gleditsch, Giacomo Chiozza. 2009. «Introducing Archigos: A Data Set of Political Leaders.» *Journal of Peace Research* 46:2 (March) 269-183

Haber, Stephen, Victor Menaldo. 2011. "Do Natural Resources Fuel Authoritarianism? A Reappraisal of the Resource Curse." *American Political Science Review* 105:1, 1-26.

Heston, Alan, R. Summers, B. Aten. 2009. *Penn World Table Version 7.1.* Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania.

Imai, Kosuke, Luke Keele, Teppei Yamamoto. 2010. "Identification, Inference and Sensitivity Analysis for Causal Mediation Effects." *Statistical Science* 25:1, 51-71.

Kollman, Ken, Allen Hicken, Daniele Caramani, David Backer, David Lublin. 2014. *Constituency-Level Elections Archive.* Produced and distributed by Ann Arbor, MI: Center for Political Studies, University of Michigan.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, Robert W. Vishny. 1999. "The Quality of Government." *Journal of Economics, Law and Organization* 15:1, 222-79.

Pedersen, Mogens N. 1979. «The Dynamics of European Party Systems: Changing Patterns of Electoral Volatility.» *European Journal of Political Research* 7:1, 1-26.