

# Are Political Institutions Substitutes for Democracy? A Political Economy Analysis of Economic Growth\*

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## Abstract

This manuscript empirically assesses the effects of political institutions on economic growth. It analyzes how political institutions affect economic growth in different stages of democratization and economic development by means of dynamic panel estimation with interaction terms. The new empirical results obtained show that political institutions work as a substitute for democracy promoting economic growth. In other words, political institutions are important for increasing economic growth, mainly when democracy is not consolidated. Moreover, political institutions are extremely relevant to economic outcomes especially in periods of transition to democracy and in poor countries with high ethnical fractionalization.

*Keywords:* Political Institutions, Economic Growth, and Democracy.

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## 1. Introduction

It has been already demonstrated that markets require economic institutions<sup>1</sup> as major source of economic growth across countries. It is also well understood that, in addition to having a decisive role in economic growth, economic institutions are also important for the allocation of resources available in a society. As a consequence, some groups or individuals will be able to extract more benefits than others given the set of preexisting economic conditions and resource allocation. In other words, economic institutions are endogenous (Acemoglu and Robinson, 2006), and they reflect a continuous conflict of interests among various groups and individuals over the choice of economic institutions and resource allocation.

The prevailing institutional design of economic organizations thus depends mostly on the allocation of political power among elite groups. Although economic institutions determine economic performance, the way political power is allocated shapes economic institutions. In other words, economic institutions are chosen because they serve the interests of politicians or social groups that hold political power at the expense of the rest. Put even more strongly, this is why powerful groups do not predate efficiently (Acemoglu, 2003).

In addition to face commitment problems, powerful political players cannot credibly and adequately compensate for potential losses, which may occur as a consequence of their economic policies (Weingast, 1995). That is why economic policy tends to be inefficient and sometimes generates poverty and inequality. In that perspective, the distribution of political power is also endogenous and will be a direct consequence of political institutions.

Since economic performance can be established in a great variety of combinations of political institutions, establishing a causal relationship between them is not an easy task. Thus, the key research questions this paper attempts to address are the following: what form or combination of political institutions is required to enhance economic growth? Do political institutions affect economic performance regardless of any precondition or stage of democratic consolidation? In other words, does a consolidated or incipient democracy tend to perform similarly if it has a parallel or different political institution?<sup>2</sup>

To assess the importance of political institutions for economic growth we developed an econometric model which originally takes into account several political institutions, such as electoral rules (plurality rule vs. proportional representation – open and closed lists – and district magnitude); form of government (parlia-

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<sup>1</sup>Rodrik (2007) argues, for instance, that markets require market-supporting institutions (such as property rights, regulatory institutions, institutions for macro-economic stabilization, institutions for social insurance, and institutions for conflict management) because markets are not self-creating, self-regulating, self-stabilizing, or self-legitimizing.

<sup>2</sup>For consolidated democracy we mean “when it becomes self-enforcing; that is, when all the relevant forces find it best to continue to submit their interests and values to the uncertain interplay of the institutions” (Przeworski, 1991).

mentary vs. presidential systems); political regime (dictatorship vs. democracy measured in terms of years under democracy); government fractionalization; size of the executive political party or coalition in Congress (number of seats held by executive party or coalition); federalism and robustness of federal structure (degree to which states/provinces have authority over taxing, spending or regulating); and years during which the same elite group is in office, or government durability.

It is possible that the relationship between political institutions and economic growth is dependent on the chance of conflicts. An institution with a stronger central government, for example, may have different impacts as it may diminish problems related to fractionalization (Montalvo and Reynol-Qerol, 2005). Therefore, we also control for the impact of the degree of ethnic fractionalization and the wealth of countries on economic growth. Our key dependent variable was the growth domestic product – GDP per capita.

We are neither interested in the optimal combination of political institutions that maximize economic growth nor in the role played by each specific institution in this process. Political institutions may affect economic performance differently and, as a consequence, it is not possible to infer which one is good or bad *a priori*. Rather, we aim to investigate the aggregate effect of political institutions on growth and their interaction with the development of democracy.

Controlling for other economic variables, our findings indicate that political institutions fundamentally matter most for incipient democracies, but to a lesser extent for consolidated democracies. Consolidated democracies have already internalized the effect of political institutions on growth. New democracies, on the other hand, need the effective and ostensive presence of political institutions. As a consequence, their impact on economic performance is more visible and necessary. Our results suggest that the adoption of a democratic regime positively affects economic growth once it is controlled by the variables that measure political institutions.

## 2. Political Institutions and Economic Growth

### Political Regime and Economic Growth

Some authors argue that democracy undermines economic growth in poor countries (see De Schweintz, 1959, Huntington and Dominguez, 1975). The argument is that democracy in poor countries would lead to welfare problems by encouraging immediate consumption at the expense of investment, thus restricting economic growth. The adequate response to the increased pressure for consumption would be to repress trade unions and labor parties in order to allow freedom of action so that entrepreneurs can invest in the economy. Proponents of this view conclude that dictatorships would be better off to force savings and investment. Other authors claim that by protecting property rights and allowing a longer-term perspective to investors, democracy can better allocate the available resources to

productive use (see, e.g., North, 1990). Hence, dictatorships, of any stripe, are sources of inefficiency by undersupplying or oversupplying government activities (Barro, 1996, Findlay, 1990, Olson, 1993).

Przeworski et al. (2000) provides cross-country evidence that both arguments, in favor of dictatorship and in favor of democracy, are not necessarily incompatible. The authors show that the rate at which productive factors grow may be higher under dictatorship, but the use of resources may be more efficient under democracy. And because these mechanisms work in opposite directions, the net effect may be that there is no difference between the two regimes in the average rates of growth they generate.

Contrary to this interpretation, Acemoglu (2009) relies on the idea of dysfunctional democracies to cope with the disturbing finding provided by Przeworski et al. (2000) and Barro (1996) that democracy does not lead to faster economic growth. That is, democracy is considered dysfunctional when it is captured by elites or when it is dominated by a strong populist man who, despite pursuing policies that are detrimental to economic growth, receives majority support from the population.<sup>3</sup>

## Electoral Systems

Some scholars have analyzed the extent to which electoral rules provide incentives to favor special interests or whether electoral rules benefit large segments of the population. Persson and Tabellini (2000, 2006b) predict that political rents will be higher under electoral systems that rely on list voting than in those where voters directly select individual candidates. They also claim that open list systems should be more conducive to good behavior than closed lists, as should preferential voting (voters are asked to rank candidates of the same party).<sup>4</sup>

By making a distinction between interparty and intraparty competition, Carey and Shugart (1995) and Golden and Chang (2001) claim that the former type of competition is desirable, but that the latter leads politicians to please local constituencies through patronage and other illegal side payments. Persson and Tabellini (2000) show that when the electoral race has likely winners, incentives for good behavior may instead be weaker under the plurality rule than under proportional representation. The winner-take-all rules in majoritarian systems force competing parties to focus exclusively on the swing voting constituencies,

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<sup>3</sup>Acemoglu (2009) concludes that there are no clear-cut relationships between political regimes and economic growth. Democracy will generate higher growth under certain circumstances. In contrast, democracy will lead to worse economic performance by pursuing populist policies.

<sup>4</sup>These authors also found that the ballot structure is strongly correlated with corruption: “a switch from a system with all legislators elected on party lists, to plurality rule with all legislators individually elected, would reduce perceptions of corruption by as much as 20 per cent (...) The decline in corruption is stronger when individual voting is implemented by the plurality rule, rather than by using preferential voting or open list in proportional electoral systems.”

leading them to promise fewer public goods and more targeting goods.

### **Single Party versus Coalition Government/Unified versus Divided Government**

In general terms, the “electoral institutionalists,” as they are called by Hallerberg and Hagen (1998), argue that coalition governments are associated with larger costs than single-party governments (Poterba, 1994), and that power dispersion increases the chances of fiscal profligacy. In this respect, Roubini and Sachs (1989) argue that when power is dispersed, either across branches of the government, or across many political parties through the alteration of political control over time, the likelihood of inefficient budgetary policy is heightened. Thus, they find that the size and persistence of budget deficits in industrial countries in the past decade is greatest where there has been divided government. Other scholars argue that expenditures grow as the number of legislators and political parties increases, and that the budget approved by a coalition is larger than the expected budget supported by a single-party majority (Weingast, 1979, Weingast et al., 1981). In multiparty legislatures, as the effective number of parties increases, coalitions become unstable, and because of the norm of universalism, the size of the budget grows (Scartascini and Crain, 2001). Electoral systems with proportional representation combined with large districts are more likely to produce weaker governments than plurality rule systems (Stein et al., 1998). Alesina and Rosenthal (1995) also claim that coalition governments face greater difficulties in implementing fiscal adjustments as well as in responding to budget imbalance than do unitary governments. Acosta and Coppedge (2001) claim that the presidents’ partisan powers have a direct and powerful effect on spending and only an indirect effect on deficits *per se*.

### **Parliamentary versus Presidential System**

There used to be a lively debate about whether presidential systems are less stable or more susceptible to gridlock. Linz and Valenzuela (1994) argue against presidentialism and Mainwaring and Shugart (1997) suggest that the vast differences in the electoral rules and level of party discipline among presidential systems make sharp conclusions about the effects of presidentialism on stability and gridlock. Mainwaring (1993) argues that the problem with presidential system occurs when it is combined with multiparty systems.

### **Federalism**

Weingast (1995) links economic outcomes to federalism. He links the economic rises of England and the United States, as well as the recent boom in China, to federalism. Federalism provides a way of limiting a government that is strong enough to protect private markets, but also powerful enough to “confiscate the wealth of

its citizens” (1995:24). This is because competition among subnational governments provides incentives to create economic prosperity, rather than to intervene in markets, to pander to interest groups, or to act corruptly; because of federalism, subnational governments are unlikely to abuse the authority vested in them by the citizenry. Subnational governments are also better suited for creating policies well-adjusted to local conditions (Weingast, 2006). Weingast is particularly interested in a specific form of federal systems he calls “market-preserving federalism.” In addition to having hierarchy and autonomy, to be market-preserving a system requires three other features which makes federalism self-sustainable: subnational unities have regulatory powers over the economy; no trade barriers against other political unities of the federation; and federal unities have neither the ability to print money nor unlimited credit (Weingast, 2006). Empowered with these institutional features, subnational unities limit the central government’s authority to make economic policies. In addition, market-preserving federalism has the effect of inducing competition among lower unities of the federal structure, diversity of public goods and, as a consequence, limits the success of rent-seeking.

### 3. Methodology and Data

A significant number of papers have recently studied how economic policies, or their resulting performances, have been affected by the structure of political institutions. The various empirical problems that have been outlined in growth econometrics are considered to provide adequate empirical evidence. In particular, it is necessary to address the likely problems of parameter heterogeneity; endogeneity; and time-invariant, country-specific heterogeneity.

Most articles make use of post-war data to evaluate how growth or other measurements of economic performance are affected using dynamic panel methods such as the difference-in-difference methodology (e.g. Acemoglu et al., 2008, Persson and Tabellini, 2006a, Giavazzi and Tabellini, 2005, Persson, 2005, Papaioannou and Siourounis, 2004, Rodrik and Wacziarg, 2005). The prevalent use of dynamic panel methods has to do with the fact that it deals with endogeneity problems and time-invariant, country-specific heterogeneity.

Therefore, there is no question as to the dynamic panel methodology, given that this is indeed one of the most suitable methods for the study in question. However, Bond et al. (2001) have shown that, in studies of economic growth, the first-differenced GMM estimator can behave poorly, since lagged levels of the series provide only weak instruments for subsequent first differences, showing that this problem may be substantial in practice. To solve this problem, they suggest using a system GMM estimator that exploits stationary restrictions. It has been proved that this approach generates more reasonable results than first-differenced GMM in empirical growth models.

We followed the approach offered by Bond et al. (2010), who advocate that an autoregressive distributed lags – ADL specification with annual data for pooled

countries may have a better performance given that the error term will not be serially correlated. This methodology was also chosen because we wish to study the heterogeneity of growth during periods of democratization and not only long term effects, it was necessary to use annual data series. This approach is possible in our case because our data vary from year to year. A potential problem with utilizing annual data for growth studies is the possibility that the results reflect fluctuations in the series rather than fluctuations in the long term. Following Bond et al. (2010), we rely on dynamic econometric specifications to implicitly filter out these higher-frequency influences while acknowledging the limitations of this approach.

Thus, we used the following specification with the inclusion of lags for output and controls, which are necessary for the study of economic growth (see Durlauf et al., 2005).

$$g_{it} = \alpha g_{it-1} + \gamma p_{it-1} + x'_{it-1} \beta + u_{it} \quad (1)$$

where  $g_{it}$  is the per capita economic growth rate (GROWTH) of country  $i$  in period  $t$ . The lagged value of this variable on the right-hand side is included to capture persistence in economic growth and also potentially mean-reverting dynamics (i.e., the tendency of the economic growth to return to some equilibrium value for the country). The main variable of interest is  $p_{it-1}$ , the lagged value of the political variables defined in the previous section. The parameter  $\gamma$  therefore measures the causal effect of political variables on economic growth. It is important to bear in mind that the political variables included in our model belong to two categories that are conceptually very distinct:

- i) formal rules that govern the political process (SYSTEM, MDMH, PLURALITY, CL, AUTHOR, STATE) and
- ii) outcomes of the political process (YRSOFFC, GOVFRAC, ENPG, GOVUNI, POLARIZ).<sup>5</sup>

All other potential covariates are included in the vector  $x_{it-1}$ . In this vector, we included the first difference of human capital stock (average years of schooling – HUMAN), lagged levels of per capita GDP and investment (INV). We can expect a great heterogeneity of parameters in estimation of model (1), as pointed by Durlauf (2001). To address this problem, we used several interaction terms of political variables with state variables, such as democracy, as suggested by Aghion and Howitt (2009). We also included time fixed effects.

The presence of multiple instruments in the GMM procedure allows us to investigate whether the assumption of no serial correlation in  $u_{it}$  can be rejected and also to test for overidentifying restrictions. The AR(2) test and the Hansen J

<sup>5</sup>Table A.1, in the Appendix, summarizes definitions and sources of the political variables we use in the paper.

test indicate that there is no further serial correlation and that the overidentifying restrictions are not rejected. Furthermore, to avoid overidentification problems we limit the number of lags of the instruments, following the suggestion of Roodman (2009).

All data on economic variables were obtained from Barro and Lee (2001)<sup>6</sup> and Penn World Table 6.2.  $u_{it}$  is an error term, capturing all other omitted factors, with  $E(u_{it}) = 0$  for all  $i$  and  $t$ . Finally, the Database of Political Institutions (DPI) of the World Bank, compiled by Beck et al. (2001) and updated in 2004, contains all the political variables employed in the analysis.<sup>7</sup> We use yearly data in a large sample of 109 countries<sup>8</sup> covering a maximum time span from 1975 to 2004.

#### 4. Full Sample Results

Political institutions place constraints and incentives on key societal players within nations. The government's ability to commit to private rights and exchange is an essential condition for economic growth. Thus, to generate positive economic outcomes, political institutions must provide incentives for politicians to create favorable economic policies, in the short run and into the future; good economic performance is a function of credible intertemporal commitments of policymakers generated by political institutions.

Table 1 shows the results for the entire sample of countries. Each column represents the result of the estimation, taking into consideration the effect of one of the aspects of political institutions. Economic growth is the dependent variable and line  $p_i$  shows the marginal effects of each political variable on economic growth. The results of the control variables with the correct sign are significant in all the cases for the explanation of economic growth.

The results show that a parliamentary (SYSTEM) and stable (YRSOFFC) regime, with the chief executive remaining for a long time in power, results in good economic performance. Persson and Tabellini (2000) note that, as compared to presidential systems, cohesion is higher both across branches of government and across actors in the legislature in parliamentary systems. Unlike presidential governments, majorities in parliamentary systems are subject to no-confidence motions, which bring about a loss of power for the ruling parties. Therefore, because ruling parties are weary of no-confidence motions, stable and cohesive

<sup>6</sup>Barro-Lee supplies a five-year based database. We used linear interpolation to adjust these data.

<sup>7</sup>We also refer the reader to the original source book of the DPI database for more information on the variables. It can be found at [http://siteresources.worldbank.org/INTRES/Resources/DPI2004\\_variable-definitions.pdf](http://siteresources.worldbank.org/INTRES/Resources/DPI2004_variable-definitions.pdf).

<sup>8</sup>We have chosen to use annual data because we are investigating the transition dynamics of economic growth especially during periods of transition to democracy. One may argue that we should use five-year period instead. However, this methodological choice would undermine our analysis since we no longer would have conditions to verify the effect of transition periods.



Table 1  
Effects of Political Variables on Economic Growth – ALL COUNTRIES

Variables	SYSTEM	YRSOFFC	GOVFRAC	ENPG	GOVUNI	MDMH	PLURALITY	CL	POLARIZ	AUTHOR	STATE
GROWTH(-1)	0.1190*	0.1349*	0.1263*	0.1253*	0.1239*	0.1033*	0.1238*	0.1302*	0.1178*	0.1223*	0.1087*
INV	(73.51) 0.0702*	(61.74) 0.0779*	(28.54) 0.0832*	(161.67) 0.0567*	(86.68) 0.0574*	(101.38) 0.0899*	(60.80) 0.1328*	(58.45) 0.1973*	(34.84) 0.1265*	(51.17) 0.1319*	(62.56) 0.2706*
HUMAN	(6.34) 5.1426*	(8.29) 3.6668*	(4.93) 0.7125	(7.23) -0.4901	(4.70) 1.3669*	(17.88) 1.0529*	(18.85) 2.7336*	(29.66) 0.9029	(6.69) 3.327**	(9.09) 0.0118	(29.63) -11.442
GNP(-1)	(10.83) -0.001*	(4.30) -0.001*	(0.60) -0.001*	(0.70) -0.001*	(4.03) -0.001*	(2.36) -0.001*	(6.51) -0.001*	(1.24) -0.001*	(1.76) -0.001*	(0.85) -0.001*	(-1.59) -0.001*
$p_i$	(-7.15) 8.7098*	(-14.42) 0.2966*	(-7.47) 13.672*	(-5.42) 0.0940*	(-3.29) 7.7079*	(-10.09) -0.121*	(-12.18) 10.005*	(-9.52) 3.8238*	(18.59) 6.0356*	(-11.97) 15.566*	(-24.10) 14.925*
	(40.94)	(29.80)	(24.91)	(10.01)	(27.78)	(-10.38)	(94.68)	(17.50)	(18.59)	(18.54)	(36.22)

Note:  $t$ -statistics in parentheses. \* $P < 0.05$ , \*\* $P < 0.10$ .

majorities are more likely to form in parliamentary systems. This cohesion of parliamentary systems is found to be associated with growth-promoting economic policies (Persson, 2005).

The variables that measure the degree of government fragmentation with regard to the number of parties (GOVFRAC, ENPG, and POLARIZ) present contradictory results, though. Following the above theory, it is expected that any given nation should experience higher economic growth when its legislature is cohesive, whether it be parliamentary or presidential. If coordination problems within and across government branches can be overcome, the quality of economic policies is likely to increase. Moreover, if governments are unstable, economic growth is likely to be reduced, although the cause of this instability may arise from opportunistic behavior on the part of the government. Therefore, we should expect that the greater the government fractionalization, polarization, and the greater the number of partisan veto players within the government's coalition, the smaller the economic growth. However, the positive and statistically significant coefficients of these variables suggest otherwise. This result can be better explored and understood when we differentiate the sample between democratic and autocratic governments, as we do in the next econometric exercise. With regard to the variable GOVUNI, which measures the percentage of government seats in Congress, it behaved according to the theoretical expectation. That is, minority governments are likely to be associated with less economic growth than coalition and single-party majority governments.

The results related to the variables that measure electoral rules (MDMH, PLURALITY and CL) are consistent with the literature. That is, the greater the district magnitude, the less proportional the electoral systems, and the more control party bosses have over the nomination of party members, the higher the economic growth will be. Thus, if the electoral system creates incentives for a politician's personal reputation instead of partisan and collective reputation, economic performance suffers.

With regard to our two variables that measure federalism, both of them behaved according to the literature on market-preserving federalism. That is, countries that are hierarchically autonomous and that decentralize regulatory authority to subnational unities have better economic performance.

## 5. Democracy/Autocracy and Economic Growth

Table 2 shows the results of the effects of political variables and democracy on economic growth. We first defined a dummy variable: Democracy – DEM. This variable takes the value of 1 for democracy and zero otherwise (as defined by Polity IV, 2002). The interaction between the political institution variables and DEM ( $DEM \cdot p_i$ ) informs us if the marginal effect of political institutions is significantly different when democracies and autocracies are compared. The results show that the effects of political institution variables are statistically different for all the

cases, except for ENPG, MDMH and CL.

In all of the significant cases, the interaction had an opposite sign in relation to the political variable without interaction. That is, in a democratic regime, the magnitude of the marginal effect of political institution variables on economic growth is smaller or it changes its sign. Given that political institution variables often suggest a certain degree of political rights, the results suggest that even autocratic regimes can have a satisfactory economic performance as long as some political rights are granted to society. It also might suggest that political institutions work as a substitute for democracy in authoritarian regime, generating economic growth. We will deeply explore and discuss this hypothesis later on in this paper. In other words, autocracies can differentiate from one another in terms of political institutions. That corroborates the claim of Przeworski et al. (2000), who have not found considerable differences between the economic growth as a function of political regime, either in democracies or autocracies. Therefore, we suggest that instead of just considering the different types of regimes as a single “package” (democracy versus authoritarianism), it is imperative to determine which type of democracy and/or autocracy is considered within the analysis controlling for its respective specific political institutions. As suggested by Acemoglu (2009), to understand how different political institutions affect economic decisions and economic growth we will need to go beyond the distinction between democracy and non-democracy.

Line  $p_i$  represents the effect of political variables on authoritarian regimes and the sum of the coefficients  $p_i$  and  $DEM^*p_i$  tells us what the marginal effect of political variables is on democratic regimes. The last line of Table 2 tells us if the sum of the coefficients  $p_i$  and  $DEM^*p_i$  is significantly different from zero.

The results show that the effects of political institutional variables are different for autocracies and democracies. In addition, the change of sign of the YRSOFFC and POLARIZ variables has drawn our attention. The YRSOFFC variable reveals that, in democratic regimes, the longer the political power is held by a particular political leader, the greater the economic growth. That can be explained by the long-term political gains generated by the stability of the same democratic elite in power. That is, the chief executive only appropriates political gains if there is a real expectation as to the control of power in the long run. Therefore, it is fair to expect that countries with high YRSOFFC have better long-run policies. However, when dealing with autocracies such effect is perverse. That is, in an autocratic regime, the YRSOFFC variable can signify less political freedom, property rights, and freedom of expression – in sum, it implies less effective policies and fewer investments.

Political polarization (POLARIZ) also has an opposing effect under democratic and authoritarian regimes. While this variable does not help authoritarian governments to achieve good economic performance, it does provide a positive impact on democratic governments. That is, authoritarian regimes require political cohesion

Table 2  
Effects of Political Variables and Democracy on Economic Growth

Variables	SYSTEM	YRSOFEC	GOVRAC	ENPG	GOVUNI	MDMH	PLURALITY	CL	POLARIZ	AUTHOR	STATE
GROWTH(-1)	0.1137* (42.65)	0.1218* (55.50)	0.1205* (104.43)	0.1270* (65.23)	0.1269* (94.78)	0.0982* (24.92)	0.1184* (28.42)	0.1356* (19.42)	0.1248* (59.02)	0.1252* (106.8)	0.1246* (61.85)
INV	0.0619* (4.29)	0.1015* (18.91)	0.0941* (10.85)	0.0520* (4.38)	0.0604* (5.06)	0.0965* (4.60)	0.1166* (6.21)	0.1841* (8.65)	0.0993* (14.09)	0.0865* (7.69)	0.1779* (13.36)
HUMAN	5.9023* (6.21)	2.4155* (6.12)	0.9687* (1.29)	-0.5582* (-0.57)	0.9084* (1.33)	0.9926* (1.16)	2.2551* (2.08)	0.5036* (0.46)	2.8958* (4.94)	2.1716* (3.54)	2.3430* (2.42)
GNP(-1)	-0.001* (-3.84)	-0.001* (-7.03)	-0.001* (-5.30)	-0.001* (-4.83)	-0.001* (-5.95)	-0.001* (-9.85)	-0.001* (-7.87)	-0.001* (-4.36)	-0.001* (-8.01)	-0.001* (-12.38)	-0.001* (-11.07)
$p_i$	9.6668* (25.71)	-0.0775* (-8.02)	10.216* (15.87)	0.0939* (8.98)	7.5240* (13.22)	0.0815* (4.07)	12.146* (93.80)	1.1350* (2.06)	-12.43* (-18.22)	20.901* (13.05)	11.034* (18.94)
DEM	2.4002* (7.23)	-0.6191* (-2.53)	1.1091* (5.01)	0.8862* (2.96)	5.2286* (10.72)	0.4870* (0.83)	2.9069* (4.51)	-0.5133* (-1.01)	-1.178* (-5.47)	1.4318* (9.85)	1.5096* (6.74)
DEM* $p_i$	-6.874* (-14.94)	0.1726* (4.69)	-8.9559* (-12.24)	0.2341* (1.10)	-7.441* (-14.38)	-0.0654* (-1.16)	-6.2756* (-5.66)	10.160* (1.57)	12.897* (20.54)	-16.19* (-9.45)	-6.312* (-19.41)
Wald Test	42.23*	5.40*	4.11*	2.27	0.01	0.16	31.86*	11.68*	8.71*	59.10*	85.98*

Note:  $t$ -statistics in parentheses. \* $P < 0.05$ , \*\* $P < 0.10$ .

and internal coordination in order to afford economic growth. However, democracy deals much better with ideological diversity between the governing and other political parties.

Other findings are the following: the variables “effective number of parties in the government coalition,” “District Magnitude,” and the “closed list” electoral system lose statistical significance under democracy. We do not have a clear-cut explanation why those political variables are statistically significant under the authoritarian regime but not under a democracy. However, one could argue that the smaller the number of parties or its extreme, the one-party system, so common in authoritarian regimes, would play against economic growth. It is plausible to infer that political and economic players would have just one channel for representing their interests in such system. The closed list system, on the other hand, benefits economic growth regardless of the political regime. The other political institution variables (SYSTEM, GOVFRAC, GOVUNI, PLURALITY, AUTHOR and STATE) seem to work better for economic growth under authoritarian regimes.

## 6. Results for Selected Samples

In addition to the different effects on democratic and autocratic regimes, it might be possible to investigate differences among political variables when poor countries with high levels of ethnic fractionalization are taken into account. This is a controversial issue in the current literature. Kaplan (2000) argues that democratic transitions are risky for low-income countries with poor institutions and ethnic divisions. However, Rodrik and Wacziarg (2005) reach the opposite results. If democratization may have different effects on those countries, the structure of the political institutions probably has different effects on the economic growth of such countries as well.

Furthermore, another relevant question is related to the age of democracy. As discussed in the previous section, in non-democratic countries, political institutions work as substitutes for democracy in order to generate growth. It is worth questioning what happens when democracy is firmly established and consolidated. Does democracy also replace political institutions minimizing their effects on the economy?

To explore the issues above, a model was estimated for the following subsamples:

- i) Sub-Saharan African countries;
- ii) Rich countries;
- iii) Poor countries; and
- iv) Old democracies.

The group of “Rich countries” includes countries with average GDP per capita greater than the total average; and “Poor countries” are those with an average GDP per capita lower than the average. The “old democracies” subsample includes countries which have been under a democratic government during the entire period and have had at least 25 years of a democratic system at the beginning of the sample.

Table 3 shows the results of the effects of political institutions only.<sup>9</sup> The results show that in countries with a consolidated democracy political institutions (with the exception of the variable “number of years the chief executive has been in power” and “size of the district magnitude”) do not significantly affect economic growth. Therefore, the hypothesis that democracy and political institutions are substitutes for determining economic growth was reinforced. Political institutions matter mostly in incipient democracies than in consolidated ones. New democracies need the effective and ostensive presence of political institutions. Old and consolidated democracies, on the other hand, have already internalized the effect of those institutions. As a consequence, their impact on economic performance is less visible and not as much prominent.

As expected, in rich countries, the effects of political institutions on growth are small or negligible as opposed to poor countries. These findings support the results for “Old democracies” since there is a strong correlation between income and democracy.<sup>10</sup> On the other hand, political institutions (with the exception of political system and federalism) are extremely important for economic growth in low-income countries. Specifically, the longer the same elite is in power, the more fragmented the party system is and the greater the number of parties in the governing coalition, and the more party-centered the electoral system is, the smaller economic growth will be for low-income countries. On the other hand, the greater the district magnitude; the more pluralitarian the electoral system is; political polarization and federalism help poor countries to achieve better economic performance.

The result also makes clear that political institutions have a different effect on countries with significant ethnic fractionalization (sub-Saharan Africa). Moreover, a regime with fragmented control of power – which generates higher values of GOVFRAC and ENPG – or with power distribution among districts or states (AUTHOR) acts in opposition to growth. In those countries, this result can be explained by the high costs involved in the making process of political alliances for the implementation of economic and institutional policies related to economic growth.

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<sup>9</sup>The control variables used are the same as before, but the results are omitted for ease of reading. The full models are available upon request.

<sup>10</sup>Przeworski (1999) shows that “the expected life of democracy in a country with per capita income under \$1,000 is about eight years. Between \$1,001 and \$2,000, an average democracy can expect to endure eighteen years. But above \$6,000, democracy lasts forever.”

Table 3  
Effects of Political Variables on Economic Growth – Selected Samples

Samples	SYSTEM	YRSOFFC	GOVFRAC	ENPG	GOVUNI	MDMH	PLURALITY	CL	POLARIZ	AUTHOR	STATE
High-income countries	-0.2117 (-0.69)	0.1065* (2.94)	0.5102 (1.21)	0.1034 (0.88)	-0.4268 (-0.58)	-0.0018 (-1.10)	-0.1134 (-0.43)	-0.0399 (-0.08)	0.4098* (3.16)	0.2654 (1.05)	-0.0132 (-0.07)
Low-income countries	0.5903 (1.06)	-0.105* (-3.45)	-5.101* (-20.2)	-0.035* (-4.07)	-4.829* (-7.29)	0.047** (1.84)	2.5925* (23.05)	-3.986* (-5.50)	3.2478* (5.03)	3.366** (1.75)	11.030 (1.13)
Sub-Saharan Africa	5.9805* (1.95)	0.2322 (0.71)	-8.777* (-2.46)	-3.57** (-1.65)	0.8075 (0.14)	0.1776* (1.65)	1.3821* (3.57)	-26.433 (-1.68)	-34.95 (-0.61)	-9.89** (-1.86)	76.273 (1.19)
Old democracies	20.077 (0.64)	0.432** (1.75)	23.942 (1.09)	0.9701 (1.03)	86.107 (1.03)	0.2313* (2.17)	18.769 (1.14)	0.0254 (0.10)	0.1163 (1.01)	0.2122 (0.95)	0.1006 (0.60)

Note:  $t$ -statistics in parentheses. \* $P < 0.05$ , \*\* $P < 0.10$ .

## 7. The Rule of Political Institutions on Economic Growth around Democratizations

A relevant result of this work is the change in magnitude and sign when there is a transition from an authoritarian to a democratic system. The main question we analyze in this section is whether or not political institutions modify their economic performance during the period of democratization. For such analysis, we follow Rodrik and Wacziarg's approach (2005). We first defined a dummy variable: New Democracy – ND. This variable takes the value of 1 in the year(s) and subsequent five years of any major democratization (as defined by Polity IV, 2002). Using the ND variable, we can determine if the country's economic growth during the democratization period depended on political institutions.

Przeworski et al. (2000), for instance, demonstrate that “the observed average rate of growth was the same in those countries that did not experience any regime transitions and in those that underwent one or more regime change: the rate of growth for the former was 4.23 percent and for the latter, 4.25.” The authors conclude that there is no reason to think that growth in countries where regimes were stable was different from that in countries where regimes changed. It is important to bear in mind that the authors did not control for the effect of specific political institutions as we do here.

Table 4 shows the respective results of our tests. The interaction between ND and political variables (outlined on line  $ND \cdot p_i$ ) tells us if economic growth was different during the transition to democracy in relation to political institutions. The last two lines in Table 4 show the results of Wald tests – they reveal the significance of the marginal effect of political variables during periods of democratization. This significance is made by the sum of the coefficients  $p_i$ ,  $DEM \cdot p_i$ , and  $ND \cdot p_i$  (on line A+B+C).

The results indicate that specific political institutions affect economic outcome during the process of democratization. Such relationship may explain the great heterogeneity among the economic performances of countries during the post-democratization period as addressed by Rodrik and Wacziarg (2005) and Persson and Tabellini (2007). Such result sustains similar conclusions obtained by Inman and Ribinfeld (2005) and Persson and Tabellini (2006a) and it presents a mechanism capable of diminishing the waiting time for the economic gains resulting from democracy. Papaioannou and Siourounis (2004) argue that a democratic system will have economic gains in the long run only. This work has concluded that economic gains can be favorable even in the short run as long as political institutions provide for conditions that can diminish momentary instability.

Additionally, the results related to political institutions after the democratization process are less relevant than during the period of transition to democracy. Such fact sustains the idea that the consolidation of democracy downplays the importance of political institutions in relation to economic performance due to an existing substitutability among them. Once democracy is consolidated, and



Table 4  
Effects of Political Variables on Economic Growth after Democratizations

Samples	SYSTEM	YRSOFFC	GOVFRAC	ENPG	GOVUNI	MDMH	PLURALITY	CL	POLARIZ	AUTHOR	STATE
GROWTH(-1)	0.1129* (45.09)	0.1228* (49.48)	0.1194* (67.49)	0.1256* (56.58)	0.1256* (59.14)	0.1027* (17.85)	0.1170* (28.49)	0.1350* (13.78)	0.1250* (56.42)	0.1258* (83.86)	0.1250* (56.81)
INV	0.0672* (4.36)	0.1018* (8.62)	0.0925* (8.02)	0.0420* (2.84)	0.0605* (3.02)	0.0872* (3.08)	0.1194* (6.18)	0.1870* (5.52)	0.0993* (12.93)	0.1001* (8.48)	0.1689* (13.38)
HUMAN	6.0392* (5.66)	2.9254* (4.08)	0.9410 (1.04)	-0.2084 (-0.18)	14.893 (1.63)	0.5971 (0.48)	2.2666* (2.02)	0.8688 (0.79)	3.0862* (4.07)	2.6971* (4.13)	2.4248* (2.28)
GNP(-1)	-0.001* (-4.58)	-0.001* (-4.72)	-0.001* (-5.16)	-0.001* (-2.77)	-0.001* (-3.45)	-0.001* (-6.96)	-0.001* (-6.44)	-0.001* (-3.48)	-0.001* (-7.29)	-0.001* (-7.47)	-0.001* (-9.80)
(A)	9.6480* (21.14)	-0.1304* (-11.20)	10.874* (16.62)	0.1007* (7.53)	7.0814* (11.26)	0.0726* (2.98)	11.970* (92.49)	1.3628* (2.10)	-12.21* (-16.24)	8.2544* (9.14)	9.6698* (19.46)
DEM	2.4252* (6.14)	-0.2185 (-0.48)	1.4259* (3.37)	1.4264* (2.05)	5.3237* (7.29)	0.7943 (1.10)	2.7643* (4.51)	-0.88** (-1.65)	-0.956* (-2.48)	0.7512* (2.93)	1.9425* (6.88)
(B) DEM** $p_i$	-7.343* (-9.24)	0.1626* (4.20)	-9.8701* (-13.52)	0.0186 (0.07)	-7.722* (-11.13)	-0.0283 (-0.33)	-5.7754* (-5.42)	1.4654* (2.15)	12.621* (19.01)	-5.950* (-6.21)	-5.756* (-11.26)
ND	-0.1481 (-0.47)	-2.0961* (-5.47)	-0.8299* (-2.28)	-3.089* (-4.089)	-3.452* (-2.44)	-0.3495 (-0.63)	0.1210 (0.30)	-0.005 (-0.008)	-0.2674 (-0.64)	-0.463* (-2.14)	-1.544* (-3.26)
(C) ND** $p_i$	0.8583* (2.09)	0.4659* (8.76)	14.028 (1.32)	1.8012* (3.60)	4.9878* (2.13)	-0.0392 (-0.71)	-1.121** (-1.74)	-0.4504 (-0.54)	-0.0945 (-0.28)	1.5983* (2.20)	0.962** (1.85)
Wald Tests											
(A)+(B)	16.36*	0.56	2.06	0.24	0.74	0.42	36.41*	26.61*	3.13**	8.10*	34.20*
(A)+(B)+(C)	45.82*	70.88*	3.39**	16.46*	2.89**	0.007	21.67*	5.82*	1.29	22.09*	110.93*

Note:  $t$ -statistics in parentheses. \* $P < 0.05$ , \*\* $P < 0.10$ .

favorable institutional conditions for investments are provided, the importance of the political variable loses intensity.

## 8. Concluding Remarks

This paper empirically assessed the effects of political institutions on economic growth. Using dynamic panel estimation with interaction terms, we show how political institutions affect economic growth in different stages of democratization and of economic development. It presents new empirical results, demonstrating that political institutions work as a substitute for democracy, thus promoting economic growth. In other words, an incipient democracy would require *de jure* political institutions because it lacks *de facto* institutions; however, as soon as a democracy becomes consolidated, *de jure* institutions are somehow absorbed by political and economic actors. By saying and demonstrating that political institutions are less relevant to economic growth on consolidated democracies we are not arguing that political institutions do not matter or that they could simply be removed and similar economic outcome could be achieved. Quite the opposite! We are just arguing that in consolidated democracies political institutions are already internalized in the minds of political players and economic actors.

Our empirical analysis offers at least three implications for the literature. First, it contributes to the economic growth literature by assessing the effect of democracy on growth. As highlighted by Persson (2005) and Acemoglu (2009), types of democracy matter for explaining economic growth. That is, although the adoption of a democratic regime is not sufficient to achieve greater economic growth, democracy with good institutions might be. This article corroborates this assumption and offers two other additional contributions:

- i) in authoritarian regimes, good political institutions have a significant impact on growth. It means that even an autocracy could substantially bestow economic growth and, on average, it should lead to greater economic performance than a democracy with bad political institutions;
- ii) political institutions work as a substitute for democracy; thus political institutions matter for economic performance in non-consolidated democracies mostly.

Secondly, the literature that assesses the economic performance of countries under transitions to democracy (Rodrik and Wacziarg, 2005, Persson and Tabellini, 2007) shows that there exists a greater amount of heterogeneity in terms of economic performance during the process of political liberalization. This paper demonstrates that the quality of political institutions strongly affects economic performance during this particular transition period. Thus, countries with stable political institutions or in equilibrium tend to substantially grow during the democratization process. The same is not true in the case of countries whose

political institutions are not in equilibrium and do not generate enough incentives for stability, consistent with Papaioannou and Siourounis (2004) who argue that a democratic system will have economic gains in the long run only. That is, economic gains can be favorable even in the short run as long as political institutions provide for conditions that can diminish momentary instability.

Finally, this article offers an additional contribution by showing that political institutions have a different effect on countries with significant ethnic fractionalization. Moreover, it is clear that a regime with fragmented control of power or with power distribution among districts or states acts in opposition to growth. In those countries, such facts can be explained by the high costs involved in the process of making political alliances for the implementation of economic and institutional policies related to economic growth. In sum, the relationship between political institutions and economic growth is quite significant. The importance of such relationship varies drastically in relation to the level of democratization and to the stage of economic development of each particular country. Political institutions are important when determining economic growth if, and only if, the country does not have a consolidated democracy.

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Table A.1 – Description of Political Variables

Variable	Description	Symbol
Chief Executive Variables:		
Political System	Parliamentary (2), Assembly-elected President (1), Presidential (0)	SYSTEM
Years of Chief Executive in Office	Number of years the chief executive has been in office	YRSOFFC
Party Variables in the Legislature:		
Government Fractionalization	The probability that two deputies picked at random from among the government parties will be of different parties	GOVFRAC
Government Coalition	Effective number of parties in the government coalition	ENPG
Government Power	% of government seats in the Congress. Source: $\text{NUMGOV} / (\text{NUMGOV} + \text{NUMOPP})$ in DPI-2004	GOVUNI
Electoral Rules:		
Mean District Magnitude House	The weighted average of the number of representatives elected by each constituency size	MDMH
Plurality System	In “plurality” systems, legislators are elected using a winner-take-all / first past the post rule. “1” if this system is used, 0 otherwise	PLURALITY
Closed Lists	Are closed lists used? (1 if yes, 0 if no)	CL
Stability and Checks and Balances:		
Polarization	Maximum polarization between the executive party and the four principal parties of the legislature	POLARIZ
Federalism:		
Fiscal Federalism	Do the state/provinces have authority over taxing, spending, or legislating? 1 if yes, 0 if no	AUTHOR
Political Federalism	Are there state/province governments locally elected? 1 if yes, 0 if no	STATE