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Geography, Development, and Power: Parliament Leaders and Local Economies

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Abstract

While formal institutions are considered rather stable in Western countries, the same can not be said of those in Latin America and the Caribbean (LAC). This paper explores how the development of subnational regions is affected by their proximity to parliament leaders' birthplaces. We collected data on 366 political leaders' birth locations over 1992–2016 and constructed a panel of approximately 183,000 subnational micro-regions across 45 LAC countries/ autonomous territories. Our results show that incumbent parliament leaders favor regions near their birthplaces, as measured by night light emissions and World Bank aid. This favoritism is informed by the de jure and de facto influence given to the parliament by the particularly unstable Constitutions of LAC countries.

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1 Introduction

Political favoritism and pork-barrel politics are phenomena that have existed as long as civil societies. The Roman historian Tacitus mentioned widespread favoritism as one of the main problems of the early empire under Augustus, and pork-barrel politics have, for instance, been a consistent feature of US politics since at least the 19th century (Shepsle and Weingast, 1981). As national accounts of data are imprecise in most developing countries, and subnational accounts of development often do not exist, Hodler and Raschky (2014) instead use levels in light intensity at night in their seminal study of favoritism. Thus, apart from exposing the significantly higher levels of night light in leaders' birth regions, they find preliminary evidence that increased inflows of Official Development Assistance (ODA) in a country typically result in more economic activity in the home region of the country's president, suggesting aid is being used as a specific channel of favoritism. Dreher et al. (2019) repeat the exercise using local level data of World Bank and Chinese aid instead. By focusing on inflows in African countries, they find substantial evidence that Chinese aid is diverted to leaders' home regions. Favoritism, however, is not a problem unique to developing countries. In modern political systems, favoritism is often associated with the (mis-)use of political power to benefit particular industries or particular regions. Aghion et al. (2010), for example, document that when a congressman joins the Appropriations Committee—responsible for allocating funds for research university expenditure—their state receives larger shares of federal university funds in subsequent years. Such mechanisms also operate at the supranational level in the UN Security Council (Vreeland and Dreher, 2014) as well as at local levels, as Carozzi and Repetto (2016) show for Italy. The latter work documents that municipal governments receive larger government transfers when legislators are born there, even when they are not elected in those municipalities.

Literature in this field typically focuses on heads of state or government—the former in the form of presidents in presidential systems and the latter as prime ministers in parliamentary ones. The bench-marking work by Hodler and Raschky (2014) looked at executive branch leaders of 126 countries, 21 of those countries being from the Americas. They, however, did not find conclusive results for the Americas.[1] These results may not be surprising, given that Latin American and Caribbean (LAC) political systems have very influential leaders in alternative centers of power, such as those in parliament. Furthermore, while constitutions and basic institutions delimiting governance are very stable in Western countries, those in LAC countries change substantially over time. Ecuador, for instance, has had 20 constitutions since its formal independence from the Spanish empire in 1830, averaging a remarkable 9.5 years per constitution. Some of the consequences of this institutional instability come in the form of, a priori, ephemeral de jure power residing in various political actors and, thus, rather precarious de facto influence. Indeed, this may imply that exercises of power cannot become entrenched in particular political elites, yet the institutional instability of the region has brought

[1] As the results in the work of Hodler and Raschky (2014) indicate, when categorizing by continent, leaders' birth regions have a non-significant coefficient of zero. More than doubling their sample size for the LAC region, our results, later detailed in Section 3, show that the effect for executive branch leaders is non-significant in general, yet negative for the regions that have been a "leader region" before.

about other consequences. One of the most important adverse consequences is a constant tension between the executive and the legislative.

Two of the many anecdotes of the region portray this tension well. On the one hand, the former Ecuadorian executive branch leader Rafael Correa has repeatedly argued that "... to win the presidency is not to win [discretionary] power [over national affairs]. There are several de facto powers that have informed, historically, our economic and public policy..." Fundamedios (2007). Correa was thereby referring to the de facto power over key economic and political decisions historically held by the Ecuadorian Parliament,[2] which he claimed needed to be rebalanced in order to improve the country's usually poor economic performance. On the other hand, in recent years parliament leaders in Venezuela have publicly challenged the power of President Nicolas Maduro. Maduro and his predecessor, among other things, have been accused of enriching their families and home regions (Baverstock and Foster, 2013). Most notably, however, and as recently as 2019, the leader of the national assembly Juan Guaidó reacted to an allegedly rigged election—by the Maduro regime—and declared himself interim president of Venezuela, arguing that the constitution in such situations grants him the power to do so. These examples, besides illustrating the very common tension between the executive and legislative branches in LAC countries, illustrate the significant influence the leaders of the legislature can have in the region. Thus, while the direct and quite visible favoritism and rent-seeking of heads of state may be pronounced elsewhere (Hodler and Raschky, 2014; Dreher et al., 2019), the typical unstable allocation of de jure power in the region leaves substantial de facto power in the hands of party or faction leaders. A hitherto unexplored phenomenon is the regional favoritism enacted by parliament leaders of Latin America and the Caribbean.

While favoritism occurs at different levels and in different manifestations, it can take two basic forms. First, politicians can favor specific regions or groups of voters with subsidies or other forms of policy concessions in order to buy votes in upcoming elections (Cox and McCubbins, 1986; Dahlberg and Johansson, 2002; Dixit and Londregan, 1996), receive direct campaign or party support, or invite bribes or less direct forms of support (Cox and McCubbins, 2007; Bertelli and Grose, 2009; Berry et al., 2010). Second, politicians can also engage in pure favoritism in the form of policies or projects that directly benefit their family, friends, and immediate network (Bates, 1974; Kramon and Posner, 2013; Dahlberg et al., 2021; Harjunen et al., 2021). In the following, we argue that the implied relevant geographic area in which favoritism can be seen differs across these manifestations. On the one hand, in order for it to be effective, vote/support-buying favoritism must necessarily affect a relatively large area or a large demographic group, whereas the pure favoritism policies will, in most cases, have visible consequences in very sharply defined geographic areas. As such, we specifically ask if the particular institutional division of political power in Latin America implies that parliament leaders can channel resources to client regions in approximately the same dimension as is usually found for heads of government or prime ministers in other parts of the world.[3] We argue that a basic mechanism emerges from the uncertain normative framework

[2] Correa was also referring to diverse other interest groups from the banking and media sector.

[3] We use the terms heads of state, heads of government, prime ministers, executive leaders, and presidents interchangeably to refer to leaders of the executive branch throughout the paper.

underpinning governance in the region, and explore how and to what extent the influence provided by de jure and de facto mechanisms shape the favoritism of parliamentary leaders. To do so, we collected data on Latin American and Caribbean leaders' birthplaces. Most of these data are from parliament leaders—from Upper and Lower Houses— but we also collected information on executive leaders that are not included in the data directly shared with us by Hodler and Raschky (2014). The panel data consist of 238 different leader birth regions over the 1992–2016 period, which we analyze in relation to 183,082 subnational micro-regions in models that control for ADM1-year and micro-regional fixed effects, and that include relevant covariates such as executive leader's birth region dummies. To shed light on our main mechanism of interest, we develop an Index of Parliamentary Powers (IPP), which is then interacted with dummies for leaders' birthplaces to control for the different degrees of de jure powers allocated to the parliament. In parallel, we test other plausible proxies of informal, institutional resourcefulness. For example, we run a specification where we use the age of the current constitution as a measure of constitutional entrenchment or de facto institutional influence. By exploiting the cross-sectional and time-varying data of our preferred model we distinguish parliament leader's favoritism from a historic association between levels of economic development (night lights) and the birth region of the leader in office. That is, based on the time, subnational and exogenous variation of the proximity to leaders' birthplaces, and together with the use of our controls, we argue that our model identifies the causal relationship between incumbent parliamentary leaders and the immediate subsequent development of the regions near their birthplaces.

Our results show that parliament leaders are able to divert resources to regions in close proximity to their birthplaces (in a radius of 11 km from the leader's birthplace), represented by an 8.3% increase of the regions' night light emissions just one year after the leaders' taking office. The discretionary influence of parliament leaders is greater than that estimated for executive branch leaders, which is non-significantly different from zero in regions that have not been an executive leader region before, and rather negative (15.4% decrease, significant at the 10% level) for regions that have been near an executive leader birthplace in the past. The effects for parliamentary leaders are larger when comparatively high de jure power is allocated to the parliament as the regions of the countries in the third tercile of IPP (IPP$>$0.40) experience an increase of 24% (5% level) in its light indicator. Similarly, the effects are larger in leader regions of countries with more de facto institutional instability or less entrenched constitutions, as measured by the age of the most recently introduced constitution in the country. In leader regions where the constitution has just been introduced, an increase of 12.7% (5% level) in night light emissions is seen. Every extra constitution year generates a 0.2% marginal decrease (10% level) of the leader's regional night lights figure, which implies that only after more than 63 years of a constitution remaining in place do the effects of favoritism completely dissipate.

We also find that favoritism is apparent in how World Bank (WB) aid is allocated. This effect is mediated by the de jure influence given to the parliament—again, proxied by our Index of Parliamentary Powers. The leader regions in countries with an IPP over its second tercile (IPP$>$0.27) see an increase of around 23% (at 5% level) in the amount of WB aid they

receive. Parallel to the light indicator, for every extra year the constitution is in place, the effect on aid decreases by 0.3%. The results on WB aid also suggest a competition-for-resources dynamic between parliament and executive leaders. When analyzing the effect across different levels of IPP, a significant increase (decrease) of aid is visible in parliament leaders' birth regions located in countries with higher (low) levels of IPP. In turn, the inverse is true for presidential leaders. A significant increase (decrease) of aid is visible in executive leaders' birth regions located in countries with low (higher) levels of IPP. Finally, favoritism from parliament leaders seems not to be present for Chinese aid.

As for robustness, we run several tests. We address concerns on the potential endogeneity of the leaders' birth region by running specifications with different proxies of development that might very well correlate with leaders' birth regions. We also test if the homelands of the future parliament leaders exhibit significantly more intense nighttime light in the years prior to or after a parliamentary transition, i.e., prior to or after their parliament's leadership. As a result of these tests, we find no evidence pointing towards post- or pre-trends potentially biasing our estimation of interest: night lights/aid with leaders' birth regions.

In sum; parliament leaders' favoritism in LAC countries is more relevant than that of presidents or prime ministers, emerges already in their first year in office, and, is as important as the degree of de jure and de facto influence provided by the institutional frameworks within which such distributional power operates. The magnitude of this favoritism is comparable to that found in the work of Hodler and Raschky (2014) for presidential leaders in other parts of the world. Our findings are of political and economic relevance as they convey the two overarching forms of favoritism (vote-buying and pure favoritism) as parliament leaders are only able to divert resources to regions in a radius of 11 km from the leader's birthplace, which is consistent with the median geographic size of LAC cities. Note that most parliament members in LAC are elected with votes at the city or state level, with only a few being elected with votes of the entire nation. Thus, parliamentary leaders seem to take advantage of their power both to buy votes and to favor their immediate political and personal network, i.e., to make direct transfers to the city, family, friends or acquaintances. Naturally, these expressions of favoritism undermine a nation's distributional efficiency even more as the opportunities through which benefits can be concentrated are larger. These effects and the key institutional mechanism on de jure and de facto influence that is given to the parliament via the constitution, highlight the importance of a balanced delimitation of the legislative branch's power and the intertemporal stability that the constitution should have.

We contribute to the literature that explores the importance of institutions on resource redistribution by documenting how different forms of institutions can strengthen or weaken subnational favoritism (Robinson et al., 2005; Acemoglu and Robinson, 2012; Prebisch, 2016). Furthermore, we add to the literature on channels of favoritism by assessing the effects of leaders' geographic characteristics on foreign aid (Hodler and Raschky, 2014; Dreher et al., 2019). Whereas some previous studies focused on prime ministers in a smaller sample of the Americas, we exploit changes in night light intensity within subnational regions of almost all parliament leaders of LAC countries. Finally, our paper is related to literature that recognizes the interplay between geography, institutions, and subnational development

(Banerjee and Iyer, 2005; Henderson et al., 2001; Henderson et al., 2018). We complement these studies by focusing on the phenomenon of favoritism in the LAC region, which has a particularly unstable context and thus is worth separating from other supra-regions. Note, however, that while our work exploits data associated with economic activity, we leave room open for future research on other equally important proxies of development such as health, education, or security.

The rest of the paper is structured as follows. Section 2 outlines our data and the empirical strategy. Section 3 describes our findings, while Section 4 presents the main robustness checks conducted. Section 5 concludes.

2 Identification Strategy

2.1 Data Structure

We base our analysis on a panel dataset of 183,082 subnational micro-regions corresponding to 45 countries/autonomous territories, 613 states/provinces, and 10,753 cities/towns of the Latin American and Caribbean region between 1992 and 2016. We gathered information about 366 political leaders' 238 distinct birthplaces at either their official second (ADM2) or third administrative border division (ADM3) level, depending on the precision of such information. Depending on the country, these divisions could refer to a province, city, or town. We geocode those distinct birthplaces at their *centroid*, i.e., at their average geo-position, which is computed using all geo-coordinates of the ADM2 or ADM3 region. We use the cutoff date of January 1st to "allocate" the leadership year to them. For countries where a number of individuals alternate the leading position during the same year, we allocated the legislative leadership to the individual who spent the most time as the leader. For countries with a bicameral system, we define the parliament leader as the one exercising the leadership of the Lower House, as they are historically more influential; for instance, the institutional division of power typically implies that Lower Houses can override Upper House's decisions.[4]

To account for regional favoritism, we rely on a common subnational measure of development (Henderson et al., 2012; Hodler and Raschky, 2014; Donaldson and Storeygard, 2016; Weidmann and Schutte, 2017; Bruederle and Hodler, 2018). This literature has validated the use of night light emissions as a proxy for economic or human development, given its need for most forms of production and consumption nowadays. Therefore, our dependent variable $Light_{ict}$ accounts for the intensity of nighttime lights in region i in country c and year t. Produced by the National Oceanic and Atmospheric Administration (NOOA), nighttime light is an indicator that ranges between 0 and 63—with an added standard 0.0001 constant for emission when using logs—that allows us to account for a spatial resolution of 1 by 1 km, and a balanced panel between 1992 and 2013 for all the regions under study.[5] We also replicate

[4] In Table V we assess the role of the distinction between Upper and Lower House leaders.

[5] In column 5 of Table B.5 of the appendix, we run a test using the inverse hyperbolic sine function instead of the logarithm of night lights in order to avoid the need to add the 0.0001 constant. Results are qualitatively comparable.

our main results using aid as the main dependent variable instead. We run regressions both on World Bank disbursed aid amounts $Aid_{i,c,t}$, and Chinese committed figures $China\ Aid_{i,c,t}$. Committed, as Chinese aid data does not include disbursement details.

Assigning latitude and longitude coordinates to birthplaces of parliament leaders allows us to create a binary variable, $LeaderBR_{i,c,t}$, that takes the value of 1 when region i is close to the leader's birth region of country c in year t, and 0 otherwise.[6] Similarly, we argue that a potential transmission channel is associated with the executive branch leaders' birth regions. We build on the data shared with us by Hodler and Raschky (2014), and code $PresidentialLeaderBR_{i,c,t}$ as a binary variable that is equal to 1 if the executive leader of country c in year t was born near region i, and 0 otherwise. As Hodler and Raschky's data do not cover all the countries that we look into, we collect information on the birthplace of executive leaders by searching official government and personal websites, and geo-code this information ourselves.

Institutions in Latin America and the Caribbean are known for their constant change and overall instability. Thus, changes in the amount of de jure power granted to the different political actors may affect their behavior directly as well as their de facto influence. As such, we expect heterogeneous favoritism effects across LAC countries and therefore include proxies that capture the redistribution of power among different factions of the political composite. A commonly used Parliamentary Powers Index already exists intended to capture different aspects of the power allocated to the legislature relative to the other branches of government. This index, developed by Fish and Kroenig (2009), is nevertheless only available for a subsample of our countries, and only as a cross-section. Given the substantial constitutional instability in most of Latin America, we cannot assume that the power allocation is stable over a 23-year period. We, therefore, develop our own Index of Parliamentary Power (IPP). Inspired by a similar exercise in Bjørnskov and Voigt (2018), we construct an indicator based on the constitutionally defined allocation of powers and separation of competences. We base our index on 15 variables available from the Comparative Constitutions Project (Elkins et al., 2009), which we update and expand to cover all sovereign countries in the region, as well as all colonies with effective home rule with available data on light intensity. Table A.1 in the Appendix section details the 15 indicators included in our index. Our IPP measure first captures information on whether the constitution directly appoints a speaker or similar official leader of the legislature, i.e., if there indeed exists a de jure leader of the parliament. The IPP further includes elements that account for the degree of power discretion within which the parliament operates. That is, whether it legislates without the consent of any other political actor or faction, or, if cabinet members have immunity from prosecution. In sum, we use the IPP as a measure of the concentration of discretionary power in the parliament. For each element listed in Table A.1, we code a score of 1 when the legislature has actual power, 0.5 if the provision is uncertain, and 0 if the legislature does not have an actual influence on the topic. The final *IPP* is a simple rate between 0 and 1, describing the average across the 15 components of Table A.1. As illustrated in Figure I, the power

[6] We exclude two parliament leaders who were born abroad from our sample: Victor Jeame Barrueto (born in Madrid, Spain), who was the leader of the Chilean parliament between 2000 and 2001, and Alfred T. Oughton (born in London, England), leader of the Bermuda Senate in the 1998-2008 period.

index is distributed between a minimum of 0.13 in a number of former British colonies in the Caribbean and a maximum of 0.67 in Nicaragua in recent years. We mainly use this index in interactions with variables at the local level, as they separate the potential effects of having greater parliamentary power allocated by the constitution. To the extent that more formal influence is allocated to the parliament, one should expect a greater room for favoritism by the parliament leaders.

Furthermore, given the unstable jurisdictional framework within which our observation units are likely to operate, we exploit other, perhaps more direct proxies of de jure and de facto originated influence. *AgeConstitution* then refers to the number of years since the adoption of full new constitutions, not only reforms. In the appendix, we also test for the number of years since the last reform or amendment was introduced to the constitution with a variable labeled *AgeAmend*. Both are arguably institutional sources of influence, yet politics do not operate in a social vacuum. Therefore, we use data on leaders from other branches or houses to generate interactions that might indicate, a priori, coordination among several centers of power, and thus, larger room for discretionary action for our leaders of interest. Namely, we use $PresidentialLeaderBR_{i,c,t}$, and a dummy representing the birth regions of leaders of the Upper House $LeaderUpperHouse_{i,c,t}$ to interact them with our main dummy $LeaderBR_{i,c,t}$. Furthermore, in robustness tests also portrayed in the appendix, we construct an index portraying the degree of unclear delimitation of jurisdiction between the executive and the legislative in the constitution, $SharedPower_{c,t}$. We also use elements of our IPP—described in Table A.1—directly and interact it with our Leader dummy. In particular, we use the dummy LHLEAD of and label it $Speaker_{c,t}$. The latter variable captures information on country-year pairs where the constitution defines a formalized position of leadership within the parliament. All variables of Table A.1 rely on information from the Comparative Constitutions Project (CCP) (Elkins et al., 2009) which we update and expand to cover all the constitutions within our sample.[7] Finally, we additionally account for time-in-office-related mechanisms that could inform varying degrees of power redistribution. Using our gathered data on legislative leaders, we build a variable *Experience*, which reports the number of years the parliament leader has been in power until year t, and a variable *Tenure*, which accounts for the total number of years in office between 1992 and 2015. Table A.4 provides the sources and definitions for the variables used throughout this paper, while Table A.5 provides summary statistics for all of them.

2.2 Empirical Strategy

In order to study the extent to which parliament leaders in LAC countries can channel resources to client localities, we employ a model based on the work by Hodler and Raschky (2014) on favoritism. Our preferred units of observation are circular-shaped micro-regions with a radius of 5 km uniformly dispersed throughout all Latin American and Caribbean countries. The regions are clipped to coastal and ADM1 borders. Thus, we compute the

[7] We also run a test using a dummy variable *Independent* representing the independent status of the country under study, considering the colonial past of countries of LAC. Results are qualitatively similar and can be requested directly to the authors.

average night light emissions per micro-region and year as displayed in Figure II.
To calculate the average impact of parliamentary favoritism then, we estimate:

$$Light_{i,c,t} = \alpha_i + \eta_{j,t} + \beta_1 LeaderBR_{i,c,t-1} + \beta_2 Light_{i,c,t-1} + \beta_3 PresidentialLeaderBR_{i,c,t-1} + \epsilon_{i,c,t} \quad (1)$$

where β_1 is our main coefficient of interest and *LeaderBR*$_{i,c,t}$ indicates whether the region under study is within a certain distance cutoff from the incumbent parliament leader's birthplace. Following Hodler and Raschky (2014), in our model we lag this variable, *LeaderBR*$_{i,c,t-1}$. *PresidentialLeaderBR*$_{i,c,t-1}$ is a dummy detailing whether the micro-region is close to the executive branch leader's birthplace as several studies mentioned previously have shown that leaders of the executive can indeed channel resources to their birth regions. We also include *Light*$_{i,c,t-1}$ to capture previous levels of development or economic activity in order to address concerns about reverse causality, i.e., leaders being elected as a result of particular socioeconomic conditions (proxied by *Light*$_{i,c,t}$) preceding them.[8] In all preferred specifications, to account for general shocks in all regions within a province/state in any given year we control for ADM1-year fixed effects ($\eta_{j,t}$). Similarly, to control for time-invariant traits of the regions under study—such as historical political influence, latitude, size, elevation, etc.—we include regional fixed effects (α_i).[9] Given that micro-regions close to the same parliament leader's birthplace might share relevant characteristics, which would imply a correlation between the error terms, we cluster standard errors at the level of parliament leaders to control for the likely correlation.[10] To account for potential geographically-related spill-overs, in our main Table I we use different cutoff distances from leaders' birth regions, i.e., 111 km, 55 km, 28 km, and 11 km—such distance cutoff distinction also allows us to understand better the type of favoritism enacted by parliamentary leaders, an aspect explained in detail later in the paper.
Figure III shows a map of the birth regions of political leaders across the LAC region at the ADM2 level. Regional variation between areas where the leaders of the parliament (in black) were born and the birthplaces of executive leaders (in gray) can be observed, particularly for the larger countries. Favoritism is likely to be present in more than one political faction, and more so, as discussed, in regions with volatile institutional incentives for discretionary action, such as in LAC countries. To the extent that leaders of the executive have been consistently shown to favor their birth regions in other continents, and these regions might coincide with the ones where the parliament leaders were born, *LeaderBR*$_{i,c,t-1}$ might capture the impact of presidential leaders instead. Thus, the role of the birth region of the leader of the executive branch might very well belong in the model as an independent covariate. For this reason,

[8] In robustness specifications we use other plausible proxies of development that can be seen later in Table V. In Table B.5 we also run tests without including a presidential dummy or any other control. Results do not vary qualitatively.

[9] ADM1 refers to the first official administrative division of a country. Depending on the country, this could either refer to a state or a province.

[10] For completeness, we lag the clusters by one period, even though results without this lag structure are qualitatively identical and can be requested directly from the authors. In parallel, we run a robustness test in column 3 of Table B.5 in which, instead of clustering at the leader's level, we use the country level in the fashion of De Luca et al. (2018) or Dreher et al. (2019). In column 4 of the same table, we also cluster errors at the same level of our preferred fixed effects,i.e., ADM1-year and micro-region level. The results are qualitatively and quantitatively comparable to our preferred specification.

we include in our main specification a control *PresidentialLeaderBR*$_{i,c,t}$, which captures information similar to the *LeaderBR*$_{i,c,t}$ variable but now referring to the leader of the executive branch. We also lag this covariate, *PresidentialLeaderBR*$_{i,c,t-1}$.
As noted before, we expect systematically heterogeneous favoritism effects as the degree of power allocated (in-)formally to parliament leaders varies considerably in our sample (as suggested by, for instance, Figure I). The baseline effects of constitutional features are captured by the ADM1-year fixed effects of equation (1), as they vary at the country-year level. In other words, as the effects of institutional differences on the entire country and ADM1 regions are captured fully by the fixed effects, the interactions capture any differential effects relevant at the local level. Thus, in equation (2), we include an interaction between our country-year level variables (e.g., Index of Parliamentary Powers) and our variable of interest *LeaderBR*$_{i,c,t-1}$. This interaction is meant to account for the local-level effect of institutionally, (in-)directly-originated, country-level influence given to the parliament. We thus estimate:

$$Light_{i,c,t} = \alpha_i + \eta_{j,t} + \beta_1 LeaderBR_{i,c,t-1} + \beta_2 (LeaderBR \times CYV)_{i,c,t-1} + \beta_3 Z_{i,c,t-1} + \epsilon_{i,c,t} \quad (2)$$

where $CYV_{i,c,t-1}$ represents any country-year level institutional variable (IPP, AgeConstitution, etc.). Adding this interaction term implies—depending on β_1—that the coefficient of $(LeaderBR \times CYV)_{i,c,t-1}$ will now measure the effect of being near a parliament leader's birth region on night light intensity in countries with different degrees of de jure (e.g., IPP) or de facto (e.g., AgeConstitution) influence granted to the legislative branch. $Z_{i,c,t-1}$ is the vector of individual (micro-region) controls (*Light*$_{ict-1}$ and *PresidentialLeaderBR*$_{i,c,t-1}$) included in equation (1).
In the following section, we present baseline results and some variations using different proxies for formal and informal sources of leaders' influence in Latin America and the Caribbean.

3 Results

To get a first impression of how nighttime light data may capture changes in economic activity as a result of regional favoritism exercised by parliament leaders, we briefly explore the Dominican Republic as a pertinent case between 1996 and 2005. Figure IV displays the average night light emissions between 1996 and 2005 in a radius of roughly 11 km from the center of the municipality "San José de Los Llanos" of the province "San Pedro de Macorís" in the Dominican Republic, which is the birthplace of the parliament leader Rafaela Alburquerque. Between the presidencies of Leonel Fernández of 1996-2000 and Hipólito Mejía of 2000-2004, Rafaela Alburquerque acted as president of the Lower House of the Dominican parliament between 1999 and 2002. The three individuals belonged to different political parties and did not share their region of birth. This particular dynamic exemplifies the phenomenon that we address in this paper, i.e., we look into a regions' growth over a given

period time, for example 1999-2002 in the Dominican Republic, when it is geographically close to the birthplace of the parliament leader in office.
Before Rafaela Alburquerque's arrival in office (1996-1998), nighttime light emissions in regions within roughly 11 km of her birthplace had a maximum output of 14. These emissions, however, as can be evidenced in Figure IV, increased dramatically upon her arrival in office (1999-2002), climbing up to 18.5—a 32.14% growth. Shortly after she left office these numbers returned to 14, as is also suggested in Figure IV for the years 2003 and 2005. The fact that light intensity significantly grew during her term, and reversed shortly after the end of her leadership (post-2002), suggests that, when in office, Rafaela Albuquerque may have deliberately favored her birth region. While such an example is obviously not evidence of either causality or generality, this first example from our data is similar to the findings by Hodler and Raschky (2014). Although not conclusive for the Americas, they show that the birth regions of executive branch leaders tend to light up soon after the leaders come to power or gain access to additional funds. Furthermore, they show that immediately after leaving office it is common to notice a decrease in the region's light output, in line with our example in Figure IV.

3.1 Main Results: Parliament's favoritism

Our baseline results for equation (1) are reported in Table I. We report three sets of results for each distance cutoff (111 km, 55 km, 28 km, 11 km): 1) results with only $PresidentialLeaderBR_{t-1}$ and $Light_{t-1}$ as covariates; 2) results including the just mentioned covariates and ADM1-year fixed effects; and 3) results including the full set of fixed effects: ADM1-year and micro-regional, and the $PresidentialLeaderBR_{t-1}$ and $Light_{t-1}$ controls.
The latter is our preferred specification, as the estimates of 1) and 2) are likely to capture selection effects if leaders are more likely to be appointed when they are from, for instance, a politically relevant location or well-performing region.[11] Note that we prefer the reading on closer localities (11 km cutoff) to those farther away since defining treated localities as those beyond 11 km would remove treatment variation from a number of small Caribbean countries, and would exclude an actor of interest for us.
The main finding in Table I is that parliament leaders in LAC countries appear able to redistribute substantial resources to their birth regions, reflected in an average increase of 8.3% of night light emissions in those areas closest to their birth regions—note that the magnitude and direction of this effect is comparable to the one found by the concurrent work of Hodler and Raschky (2014) for presidential leaders. Across Table I, when we do not include fixed effects (columns 1, 4, 7, 10), the estimates for $LeaderBR_{t-1}$ are always positive and statistically significant at the 1% level, providing evidence of regional favoritism for all distance cutoffs. When regional fixed effects are used, results are significant at the 5% level

[11] We are aware of the potential Nickell (1981) bias produced by the use of a lagged dependent variable ($Light_{t-1}$) on the right-hand side of the equation. However, following Angrist and Pischke (2009), we run a robustness test without this variable in Table B.1, which is included in Appendix B. As can be seen, its inclusion does not qualitatively change our main results. Additionally, we ran a Fisher-ADF unit root test to rule out a potential unit root issue. All P, Z, L* and Pm tests reported a p-value smaller than 1%, rejecting the hypothesis that all panels contained unit roots and therefore, that at least one panel is stationary.

and only for the regions closest to the leader's birthplace (11 km cutoff, column 12). These results indicate that when one 'zooms in' on sufficiently specific localities, namely within 11 km from the leader's birthplace, favoritism becomes consistently apparent.[12] Despite these results, it is not clear whether administrative boundaries matter. Interestingly, the treated cities in our 11 km specification have a median size of 317 km^2, whereas the non-treated have a 519.5 km^2 median size. In combination with the general results, this difference could suggest that parliamentary favoritism concentrates especially in median size cities, namely cities with an area of approximately 404 km^2. We test this in Table B.2 in the Appendix B by reestimating our main specitications for the 111 km, 55 km, and 28 km cutoffs; there, we interact our main variable of interest with a dummy that distinguishes between micro-regions belonging to cities below the median size of LAC cities from those above (columns 1 to 3), and explicit specification (column 4) at the city level (ADM2). As can be seen, the overall results reflect how the identified favoritism effects are concentrated in parliament leaders' cities with a median LAC size.[13] These findings are consistent with our hypothesis on the existence of vote-buying and pure favoritism as expressed by the limited geographic extension of the effect. Thus, parliamentary leaders seem to take advantage of their power both to buy votes and to favor their immediate political and personal network, i.e., to make direct transfers to the city, family, friends or acquaintances.

As the political relevance of the executive branch is well documented (Dreher et al., 2019; De Luca et al., 2018; Hodler and Raschky, 2014), we expand the analysis in Table II to account for the effect of executive branch leaders $PresidentialLeaderBR_{t-1}$. For this, we generate five specifications that should allow us to understand such influence better and make sense of results of previous works. In column 1 we use the referential work of Hodler and Raschky (2014). They find that the favoritism, while generally significant and positive, disappears when isolating North and South America. Their identification model, however, is slightly different from ours, most noticeably because of the use of country-year fixed effects instead of the ADM1-year fixed effects utilized in our model. For this reason, to facilitate comparison column 1 uses the set of country-year fixed effects and find the same qualitative results, i.e., a statistically insignificant presidential favoritism. In column 2 we use our main model, as represented in equation (1). Once the set of ADM1-year fixed effects is employed, presidential favoritism becomes statistically apparent, yet the effect is negative (-10.8%, at the 5% level). This negative result is, a priori, counter-intuitive, given that previous studies tend to find positive effects of being a region near to where the president in office was born. All these studies nevertheless use a less restrictive control for subnational temporal heterogeneity, i.e., country-year fixed effects. Our work then shows that there are still subnational determinants that vary over time and which might be driving the nature of presidential favoritism. For instance, recent studies have hinted that elected politicians

[12] In Figure A.1 in Appendix A, we illustrate this idea. Considering an ADM2 region of median LAC size (404 km^2), an 11 km radius buffer would cover a considerable area of said region. In the case of a square-shaped region of approximately 400 km^2 (20 km $\times$ 20 km, diagonal = 28.28 km), the leader's birth location would be placed in the center (centroid). The 11-km-radius buffer (purple) would be generated from this centroid and, as depicted in the figure, would cover around 80% of the region's surface (11/14.14).

[13] Column 4 of Table B.2 has missing ADM2 data for many of the countries of the main sample. This explains the smaller number of countries (45 vs. 26) included in the ADM2 computation.

might strategically move funds from region to region.[14] Mos pertinently, these studies Seim et al. (2020) shows that once elected politicians receive information on the places that have already received funds, they are less likely to channel funds to those places.[15] We thus generate a set of tests to analyze whether such mechanism might be taking place in LAC. Columns 3 to 5 use equation (1) as a baseline model, yet add an interaction between $PresidentialLeaderBR_{t-1}$ and a dummy categorizing regions that have already been birth locations of prior presidents/prime ministers ($PastPresidentBR_{t1}$), a parliament leaders ($PastLeaderBR_{t1}$), or either of the two ($PastAllLeadersBR_{t1}$). Following Seim et. al's rationale, we expect that regions that have already benefited from being near to a leader's birthplace concentrate the decrease seen in column 2 for our president variable. All three tests suggest that the regions that had already benefited from a leader in the past, disregarding if the leader was from the executive or the legislative branch, experience a decrease in their economic activity. These decreases range between -7% (column 3) and -22.4% (column 4) of the output of night light emissions. On the one hand, and in general, the results shed light on the relevance of accounting for subnational and time-sensitive heterogeneity, as their omission might—as seen in column 1—lead to misidentifying the phenomenon under study. On the other hand, and in particular, the results shed light on the relevance of signaling/information as it might very well drive the patterns of redistribution. In addition, the tests in Table II suggest that LAC executive leaders do not systematically favour specific regions, and if anything, they strategically allocate resources based on information of whether regions have received resources in the past or not.

3.2 Mechanisms: De jure and de facto influence

We are interested in the sources of de jure and de facto influence for parliament leaders, as that influence may very well inform the patterns of their favoritism. A priori, the more prerogatives parliament leaders enjoy in national economic affairs, the bigger their capacity to redistribute resources would be, on average. Thus, in Table III we display the results for equation (2) using different, potentially relevant de jure and de facto variables as our Country-Year-Variable (CYV) of interest. The table divides results in three categories. First, a basic mechanism of favoritism arises from the characteristically uncertain regulatory framework that influences governance in the LAC region. Therefore, in columns 1 and 2 we proxy this unstable regulatory framework with the use of our Index of Parliamentary Powers and argue that such an index captures to a great degree the level of de jure influence that the parliament would have on national affairs of varied nature. Second, as discussed before, institutional frameworks of LAC not only vary across countries but also over time. For that reason, in columns 3 and 4, we explore proxies of temporal instability and analyze the age of their constitutions, as differing levels of constitutional entrenchment might represent a strong source of de facto influence. Third, in columns 5-7, apart from combining interactions of our

[14] See, for example, Seim et al. (2020) and Cruzatti C et al. (2020).

[15] Seim et al. (2020) argue that the motivation behind such strategic redistribution is more associated with equity rather than electoral cycles, yet the scope of this study does not cover the analysis of such underlying mechanisms and therefore can say little to nothing about them.

strictly de jure and de facto variables used in previous columns, we include tests assessing the role of political networking and, specifically, how the fact that leaders of different instances of government share the same birth region molds the phenomenon of favoritism.

The first set of results detailed in columns 1 and 2—and in Figure V—shows that parliamentary leader's favoritism is more evident in countries where the IPP is larger. In other words, once the parliament of a country is constitutionally capable of enacting almost half or more of the actions listed in A.1, redistribution to their birthplaces takes place. In column 1 we directly use the IPP, whereas for column 2 we created different categories by dividing observations into balanced terciles.[16] As is visible in the fourth row of column 2, the variable representing the leader regions of the countries in the third tercile of IPP, $LeaderBR_{t-1} \times IPP3T_{t-1}$, is the only one with a positive and significant estimate at the 5% level. Namely, in countries with an IPP greater than 0.40 – approximately half of the region in recent years – an average 24% increase of night light emissions is evidenced within one year in regions closest to the parliamentary leader's birthplace. Conversely, countries where relatively less discretionary power is assigned to the parliament, represented by the categories $IPP1T_{t-1}$—which in column 2 of Table III is represented by the baseline category $LeaderBR_{t-1}$—and $IPP2T_{t-1}$, favoritism does not take place. Taken together, the results imply that parliament leaders' favoritism is a phenomenon particular to countries that give, by de jure means, comparatively higher influence to the parliament.

Constitutions are supposed to be stable and entrenched documents that are operationalized as literally established. As pointed out above, this is not the case for LAC. We thus test the effects of constitutional entrenchment by employing the variable ($AgeConstitution_{t-1}$), which counts the number of years since the most recent constitution was implemented.[17] One can start seeing the role of age for Constitutions in Figure VI—constitutions as young as 2 years old are capable of diminishing the capacity of leaders to enact favoritism. However, using equation (2) again and replacing CYV_{t-1} with $AgeConstitution_{t-1}$, in column 3 we directly use the age variable and in column 4 we categorize different ages by separating them into balanced quartiles.[18] In tandem, the results of columns 3 and 4 suggest that leaders take advantage of the lack of entrenchment of formal rules, as favoritism only seems apparent when constitutions have just been changed. As seen in column 3, when a new constitution is adopted (*AgeConstitution*=0), night lights increase by about 12.7% (at the 5% level) in the regions in the vicinity of the leader's birthplace. With every year that the constitution has

[16] Namely IPP1T=0.0-0.27, IPP2T=0.271-0.40, IPP3T=0.401-0.733. The list of countries per category is described in Table A.2 of the Appendix A. In order to test for the non-linearity of IPP levels, we created several groupings for the IPP indicator. We created categories referring to all the IPP values in our sample: 0, 0.067, 0.133, 0.2, 0.267, 0.333, 0.4, 0.467, 0.533, 0.6, 0.667, 0.733. We also regrouped them in more cohesive categories: 0-0.14, 0.14-0.2, 0.2-0.3, 0.3-0.4, 0.4-0.5, 0.5-1. To be sure we were not picking up selection effects, the upper and lower bounds of the IPP categorizations were also randomized in placebo tests, and are available upon request. Overall, the results always pointed towards categories with lower IPP values behaving differently than categories with higher IPP values, as shown by the results of Table III and Figure V.

[17] We also test the role of the number of years since the last amendment to the constitution ($AgeAmend_{t-1}$) in Table B.3 in Appendix B. The age of those amendments introduced and the adoption of a new constitution are not relevant to understanding how favoritism is operationalized by parliamentary leaders, as the results with such interaction are not significant.

[18] AgeConstitution1Q=0-13 years, AgeConstitution2Q=14-22 years, AgeConstitution3Q=23-33 years, AgeConstitution4Q=34-163 years old. The list of countries per each quartile is shown in Table A.3 of the Appendix A.

been in place (*AgeConstitution*>0), such favoritism decreases by 0.2% (at the 10% level). These estimates imply that the positive effects of a novel constitution are only overcome once the constitution has been in place for at least 63 years (0.127/0.002). Still, the results in column 4 give a clearer picture for the role of time of constitutions. When constitutions are new, favoritism can be enacted by parliamentary leaders (17% night light increase, at a 5% significance level). Conversely, once constitutions pass this threshold, namely, once they are in the third and fourth quartiles of the age distribution (older than 22 years), the output of night lights decreases at a higher magnitude than the estimate for new constitutions (around 22% vs. 17%, 23% vs. 17%). Qualitatively, these results underscore the argument that institutional uncertainty in LAC reinforces redistributive patterns, as favorist practices of parliamentary leaders are clearly associated with contexts where constitutions have been recently introduced.

The results in columns 1 to 4 in Table III suggest that parliament leaders' home regions benefit when the constitutions give more influence to the parliamentary leader. Note, however, that the specific influence defined by the constitution can be thought of as multidimensional: A formal (de jure) dimension is reflected in the power formally allocated to parliament in the constitution (i.e., IPP), and another informal dimension is defined by the (de facto) discretionary power allowed by less entrenched or poorly enforced constitutions (i.e., *AgeConstitution*). As such, the results might imply that the de jure constraints may only become de facto binding once the constitution is sufficiently entrenched. With this in mind, column 5 includes an interaction term combining these formal and informal roles of the constitution. To the extent that constitutions constrain leaders' favoritism when the constitution is not new, and when it explicitly limits the attributions of the parliament, one would expect that patterns of favoritism become evident only in regions where IPP is high and where the constitution has just been changed. In line with this expectation, column 5 shows that regions in countries with high IPP and new constitutions experience a 47.3% increase of night light emissions—statistically significant at the 1% level. Moreover, in regions with high IPP and established constitutions (i.e., *AgeConstitution*>0) the effects on night lights are reduced as the constitution grows older—1.1% yearly, at the 1% level. For the rest of the regions, i.e., with comparatively low IPP, the effects are not significant at standard levels. Altogether, the results of column 5 suggest that parliament leaders enact favoritism when they are explicitly given higher influence on matters of the state, yet such favoritism is constrained by how entrenched the the constitution is.[19]

Leaders' incentives to take arbitrary action are, nevertheless, not only shaped by formal

[19]We test the role of several other proxies of institutional influence in Table B.4 of Appendix B. The table shows the country variables of Table A.1—with enough variation—that may also proxy de jure influence for parliament leaders. Most of these variables do not play a role. There are however, two exceptions: when the constitution allows the parliament to approve changes to the same constitution, and when the constitution gives the parliament the power to dismiss the cabinet. If these two attributions are granted, parliament leaders favor their home regions, strengthening further our main argument. As more constitutional attributions are assigned to the parliament, parliament leaders' discretionary redistributive power increases. Similarly, in the same section check more traditional sources of potential heterogeneity in Table B.6. The table shows interactions with variables on the quality of budget management, quality of public sector management, corruption, the share of women in parliament, and GDPpc (per every 1000 LCU) (World Bank, 2020). All variables have variation at the country-year level. However, none of these variables seem to explain heterogeneous effects.

institutions such as the constitution. Politics do not operate in a social vacuum. One particular strand of research on distributional politics, for instance, highlights the role of informal devices such as partisanship or political networks as the source of redistribution (Arulampalam et al., 2009; Baskaran and Hessami, 2017; Brollo and Nannicini, 2012; Curto-Grau et al., 2018). In a nutshell, these authors show how more social interaction (institutionalized or not) between political figures at different levels of government can render benefits for both in the form of greater allocation of votes, government funds, infrastructural projects, or privileged information. Column 6 in Table III shows the results of interacting the executive leader's region of birth *PresidentialLeaderBR*$_{t-1}$ with our main variable of interest *LeaderBR*$_{t-1}$ as in equation (2), with *PresidentialLeaderBR*$_{t-1}$ being featured as the relevant CYV. If systematic cooperation between the executive and legislative leaders existed, we would expect to see larger and significant effects of such an interaction $LeaderBR_{t-1} \times PresidentialLeaderBR_{t-1}$. As they stand, however, the results do not indicate that parliamentary leaders' favoritism is affected by sharing birth locations with presidential leaders. Similarly, column 7 in Table III reports the estimates after interacting an Upper House leader's dummy *LeaderUpperHouse*$_{t-1}$ with our main variable of interest *LeaderBR*$_{t-1}$—as mentioned in the main analysis, *LeaderBR*$_{t-1}$ refer to the leaders of the Lower House only. Again, if significant cooperation between the legislative leaders of the Upper and Lower Houses existed, we would expect to see a larger point estimate as a result of the interaction $LeaderBR_{t-1} \times LeaderUpperHouse_{t-1}$. Nevertheless, as with the executive leaders, we do not find evidence pointing in this direction.

Overall, the evidence presented in Table III suggests at least three things. First, institutionalized sources of discretionary power, i.e., de jure influence, are relevant mediators of parliament leaders' favoritism. Second, abrupt institutional changes can also inform patterns of favoritism by constituting a source of de facto influence. Third, mixed sources of power related to formal and informal political networks do not seem to be relevant for redistributive practices of parliament leaders in LAC.

3.3 A specific channel: Foreign aid

When analyzing African countries, Dreher et al. (2019) find that Chinese aid is one of the transmission channels of executive leader's favoritism. As very precise geo-referenced data are available from 1995 for the World Bank (WB) (AidData, 2017) and from 2000 for Chinese projects (Bluhm et al., 2020), we test the relevance of this channel for parliament leaders in Table IV. We use similar setups to those of equations (1) and (2); however, while the right-hand side of the equation remains the same, we now use the logarithm of World Bank disbursed and committed Chinese aid as outcome variables—instead of (log) night lights.[20] We only include aid projects where geo-coordinates (i) correspond to the exact location, or (ii) are within 25 km of the exact location—AidData precision codes 1-2. Namely, we rely on data for 3,245 World Bank aid project locations between the years 1995-2014, and 137 China aid

[20] Similar to the night lights variable, we added a constant value of 0.0001 on both log aid variables.

project locations between 2000-2014.[21]
On the one hand, as can be seen in column 1 of Table IV, our coefficient of interest for WB aid is non-significant, suggesting that regions do not receive more WB aid when located near the current parliament leader's birthplace. On the other hand, these results become significant when particular de jure traits are taken into account. Column 2 details the results for the interaction of different levels of IPP—the same three IPP terciles used for column 2 in Table III—with our usual dummy on leader regions. As evidenced for the interactions $LeaderBR_{t-1} \times IPP2T_{t-1}$ and $LeaderBR_{t-1} \times IPP3T_{t-1}$, only when IPP is relatively high (IPP$>$0.27) do leader regions experience a statistically significant increase of aid. These findings suggest that parliamentary leaders can indeed channel aid to their birth regions under particular institutional circumstances. However, a priori, results of column 2 also pose a puzzle. Namely, when IPP is lowest (i.e., IPP$<$0.27 or IPP1T=1), why do leader regions receive less aid than regions that are not in the vicinity of leader birthplaces? In principle, given the results of our comparable tests in column 2 of Table III for night lights, one would expect no significant impact for leader regions with low IPP. Consistent with findings in Seim et al. (2020), our results indicate that political leaders make strategic choices when directing resources within their countries (Table II). One mechanism behind these decisions can relate to information on resources given to particular regions in the past (Table II, columns 3-5); however, in column 3 we open up the discussion to another form of the information mechanism underlying political leaders' calculated choices. We argue that political leaders not only react to information on previous funding, but also to information on the degree of power that other instances of government have. Thus, we do not only assess the role of IPP for parliament leaders' favoritism, but, also for executive leaders' favoritism. In column 3, apart from the interactions of column 2, we also include the interactions $PresidentialLeaderBR_{t-1} \times IPP2T_{t-1}$ and $PresidentialLeaderBR_{t-1} \times IPP3T_{t-1}$. We thus expect to find contrasting dynamics between parliament and presidential leaders' favoritism. In systems in which parliament leaders have relatively little formal influence, presidential leaders can enact more discretionary power, as the system of checks and balances are biased in their favor, leaving the regional distribution of resources more prone to favoritism. In line with our expectations, when IPP is low (IPP1T) presidential regions receive more aid (19.3%) and—as already hinted by Table III—parliament regions receive less. Similarly, when IPP is higher (IPP2T and IPP3T) president regions receive less aid (-27.6% and -26.3%, respectively), whereas parliament leader regions receive more (4% and 3.9%, respectively).[22] All results are, at a minimum, statistically significant at the 5% level. The results on Chinese aid, detailed in columns 4 to 6, suggest that parliament leaders cannot direct Chinese aid projects to their home regions when they are in power. Such stark differences between WB and Chinese aid, however, are in line with the main arguments on recipient's accountability and donor's conditionality of the aid literature. To the extent that China's aid policy involves

[21] We prefer the reading on WB aid as the Chinese aid data for precise projects for LAC have much less variation.

[22] We also ran similar tests with night lights as the dependent variable. The results in such tests are in line with the results on aid. That is, when IPP is highest (IPP3T), parliament leaders favor their regions (13%) while in parallel, regions near presidential leaders' birthplace experience a decline of their night lights (-13.2%). More detailed results can be requested from the authors.

fewer controls—than World Bank policy—on the use of such largesse, one would expect questionable practices (such as favoritism) to be present in a larger number of individuals (Isaksson and Kotsadam, 2018) and thus less apparent in the elites we analyse in this study. The results of Table IV, similar to our main results on night lights, suggest that de jure and de facto sources of influence are important for parliamentary leaders to channel resources to their home regions. However, those institutional sources of influence are also mediated by the actions of other type of leaders, suggesting that political leaders not only react to information on previous and current funding to assign resources to specific regions, but also depend on the degree of power to channel resources from other political leaders. In sum, all evidence points towards World Bank aid as, indeed, a channel through which leaders can improve economic performance of their birth regions.

4 Robustness Tests and Time Mechanics of Parliamentary Favoritism

One could argue that, even being conditional on ADM1-year and regional fixed effects, the identification of favoritism could be threatened by omitted variable bias. That is indeed a valid concern, especially when considering that our lagged light variable might capture somewhat different aspects than purely economic development. With this in mind, in Table V we run several tests for a handful of potentially relevant controls. Bluhm et al. (2021) show, for instance, that night lights are a valid proxy for agglomeration, yet whether they are equivalent to economic development is put into question when referring to units with high spatial resolution such as ours. For this reason, in column 2 of Table V we test whether our main control of previous development ($Light_{i,c,t-1}$) does capture previous development—and not just agglomeration—and add a variable of population ($Population(log)_{t-1}$) to equation (1). In column 3, we also included a variable for GDP per capita (Kummu et al., 2018) to separate development, as a more holistic indicator of welfare, from just economic output. In different words, GDP per capita would then control for relative levels of production/output, whereas $Light_{i,c,t-1}$ would uniquely control for other forms of human development, e.g., degree of development of public services, local wealth measured in infrastructure, etc. As can be seen in columns 1-3, the (non-)inclusion of other plausible controls does not qualitatively modify our main results. The estimates and statistical significance are almost identical to those of the main model (column 1).[23] Finally, one might also worry about the potential confounder effect of other types of leadership on regions' economic development. While this concern is mostly proxied by the use of a dummy on executive branch leaders' birth regions, we also wanted to test the influence of other leaders of the legislative branch. Thus, in column 4 we ran the same specification as in equation (1), including a dummy for Upper House leader birth regions. Its inclusion does not modify our main results; the point estimates remain unchanged. Column 5 reports the estimates considering all three additional controls. Importantly, parliamentary leaders' favoritism is still evidenced.

[23] As it stands, the control on GDP per capita seems to be already captured by the lagged variable on light, as its point estimate is not statistically significant.

Conditional on the use of our controls (lagged night lights, presidential dummy, and ADM1-year and regional fixed effects), time trends affecting the association between our main output of interest (night light) and the parliament leaders' birth regions could in principle still remain unobservable. In Table VI we test the robustness of our main results to timing. Following Hodler and Raschky (2014), we construct a series of dummy variables (*Past1*, *Past3*, *Future1*, and *Future3*) detailing whether a certain location is soon to become a leader region, i.e., in one year (*Future1*), or ceased to be one in the previous year (*Past1*). Similarly, to further strengthen identification, we control for pre-trends (*Pretrend*) and post-trends (*Posttrend*). *Pretrend* is a time trend included in all regions that become a leader region three years into the future, whereas *Posttrend* is a time trend included in regions that stopped being a leader region three years ago.

The key finding of Table VI is that our main results do not qualitatively change, even after accounting for prior and posterior trends. More specifically, regional increases in economic activity due to favoritism are not mediated by past ($Past1_{t-1}$, $Pretrend_{t-1}$) or future trends ($Future1_{t-1}$, $Posttrend_{t-1}$). Thus, the favoritism effects that we identify coincide quite precisely with the incumbency of parliament leaders from specific regions. Moreover, based on the non-statistical significance of the trends' coefficients, a potential trend bias does not seem to be present, strengthening the claim of exogenous variation in $LeaderBR_{t-1}$. In other words, changes in the intensity of night light emissions in a leader region are unlikely to be explained by the presence of unobservable time trends. To further capture the role of time in these redistributive dynamics separately from the inclusion of the trends, in columns 4 and 5 we account for effects of the leader's experience ($Experience_{t-1}$), as captured by the number of years the leader has been in power until t.[24] The inclusion of this leader time-related trait does not affect our results, suggesting that characteristics such as experience are not relevant for parliament leaders to favor their home regions.

To illustrate leaders' redistributive choices in LAC countries, we plot their redistributive impacts over time. Figure VII displays the effects on night light emissions over time of parliament leaders' births regions. The computations are comparable to our estimates in Table I.[25] We construct dummies representing 3 years before (-3,-2,-1 in the x axis) and 3 years after (+1, +2, +3) the parliament leader enters/leaves office, their 4 first years in power (1, 2, 3, 4), and 5 or more years (5).[26] As depicted in the figure, there is no clear effect in the three-year periods before and after the region starts and ends being a leader region, strengthening the results portrayed in Table VI. Interestingly, night light emissions seem to experience a significant increase in the first year (t=1) of the leader in office. Similar to our first look at the data of the Dominican Republic in Figure IV, we can notice a more intense effect on the region's night light once the leader has been in office for one year. Furthermore, as soon as the leader leaves office, emissions start going back to pre-leadership levels.

[24] We also run tests with trends covering larger periods of time and other potentially relevant covariates—e.g., leader's tenure, the total number of years that the leader has been in power—yet those results do not qualitatively change from those presented in Table VI. The tests are available upon request.

[25] Given that all variables depicted in Figure VII are included in the same specification, variation was severely diminished. Thus, to allow for enough variation we only use ADM1-year fixed effects.

[26] 99% of the leaders in our sample have a tenure lasting between one and five years, with only a few observations having a maximum of 7 years.

Considering that in LAC countries most parliamentary leaders' stay in power for two years or less, and as regional favoritism abruptly stops after the first year, one can argue these dynamics follow political cycles. Thus, parliament leaders of LAC take advantage of their limited time in power to benefit their immediate family, friends, and networks, which is consistent with a short-term impact with no long-lasting growth effects shown elsewhere (Hodler and Raschky, 2014).

Finally, we show an overview of the multiple robustness tests (with/without controls, fixed effects, heterogeneity tests, trends tests, etc.) conducted in this study, and which is depicted in Figure VIII. The estimate marked with red corresponds to the main result from column 12, Table I. As can be seen, for the majority of specifications, the effect of interest (parliament leaders' favoritism) is positive and moderately significant.

5 Conclusions

Recent studies have documented the phenomenon of presidents and prime ministers favoring their home regions by channeling resources to them. This phenomenon, which is known in developed democracies as a specific type of favoritist pork-barrel politics, is likely to cause overall economic losses due to their politically determined reallocation of resources. However, while the literature has found strong evidence for this type of favoritism elsewhere, for the case of the Americas it has not.

Constitutions and basic institutions delimiting governance are very stable in Western countries, yet those in LAC countries change substantially over time. One of the consequences of this institutional instability comes in the form of ephemeral de jure power residing in various political actors, which in principle makes de facto power rather volatile. This institutional instability of the region has created particular consequences. One of the most important is the constant tension between the executive and the legislative. Other than heads of state and government, parliament leaders in Latin America and the Caribbean also hold significant redistributive power. In this paper, we have therefore explored whether parliament leaders in the region are able to exert similar kinds of favoritism as previous studies documented for presidents and prime ministers. We have done so by exploring levels of light intensity at night, as our measure of economic activity, and aid, as a specific channel of such favoritism. As both indicators share a high spatial resolution, we thus sidestep the problem of either missing or misleading regional and local economic data common in our sample countries.

Overall, we report evidence of favoritism by parliamentary leaders, which mainly occurs when de jure and de facto frameworks related to the country's constitution give them more influence over their nation's matters. Moreover, when regions are close enough to the birthplaces of parliament leaders, favoritism exists in the first year of their time in office, especially in cities that better match the median size of LAC cities. This influence can also be seen in terms of World Bank aid, again, when explicit formal influence is given to the legislative. Together, the results are consistent with the existence of vote-buying and pure favoritism targeted at politicians' political and immediate networks given the geographic extent of the effect and the short-term impact of such favoritisms. Thus, political favoritism in Latin America and the Caribbean is a real phenomenon that arises from political opportunities seized by parliamentary leaders, especially when the constitution explicitly grant them high discretionary power and when less entrenched constitutions allow them more de facto influence.

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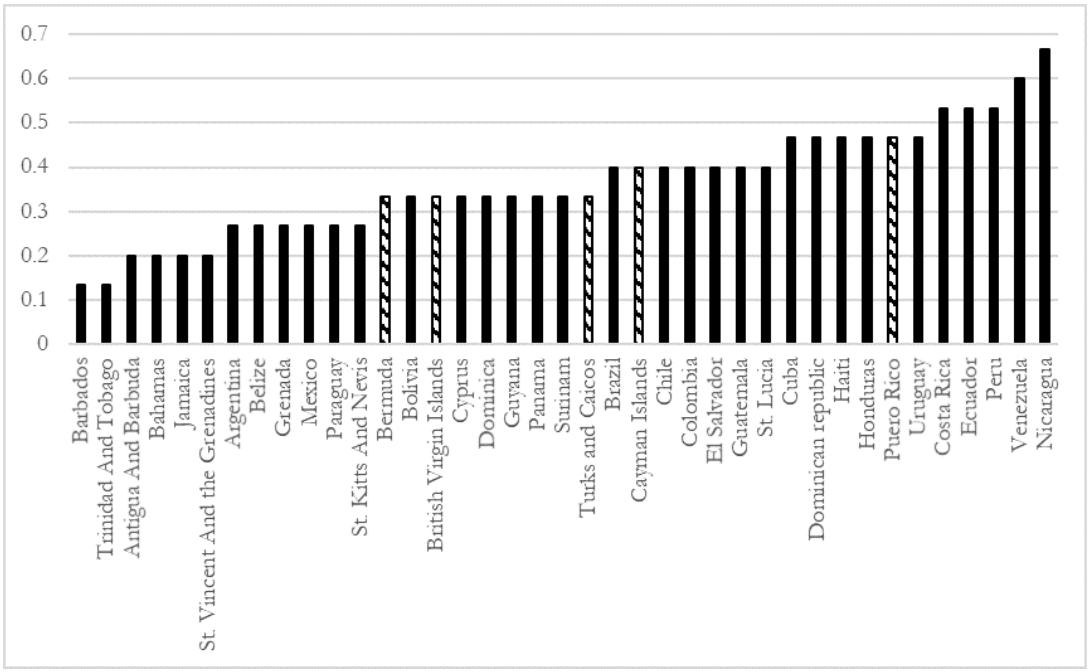
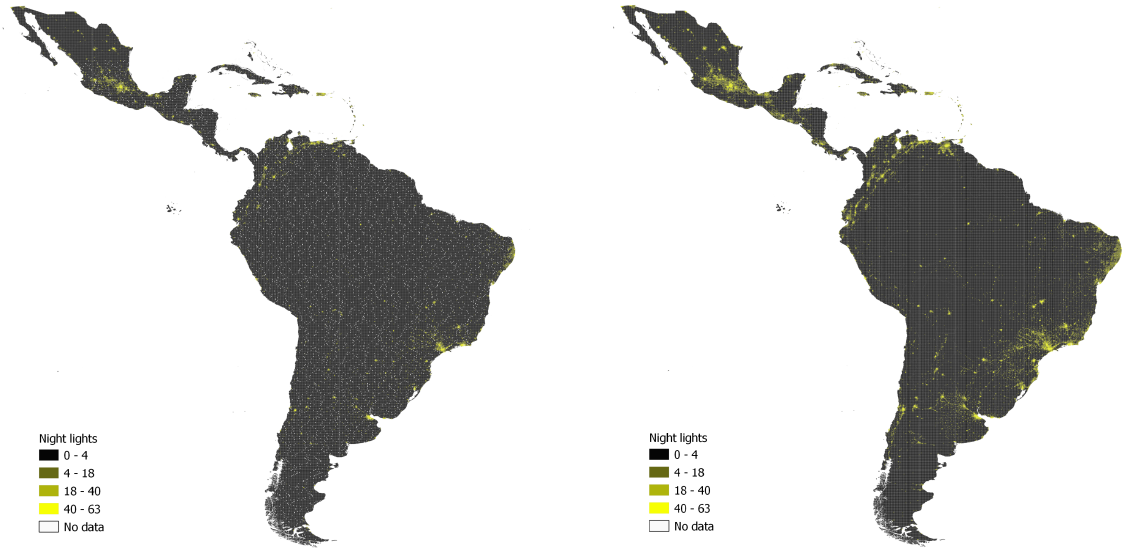


Figure I – Index of Parliamentary Powers, all included countries in 2015



(a) 1992 **(b)** 2013

Figure II – Micro-regional night lights over time

Notes: The micro-regions are buffers with a 5 km-radius. The micro-regions are clipped to land, at the ADM1 level.

Figure III – Leaders' Birth Regions

Notes: Gray points refer to the parliament leaders' birthplaces. Black points to prime ministers' (presidential) birth regions.

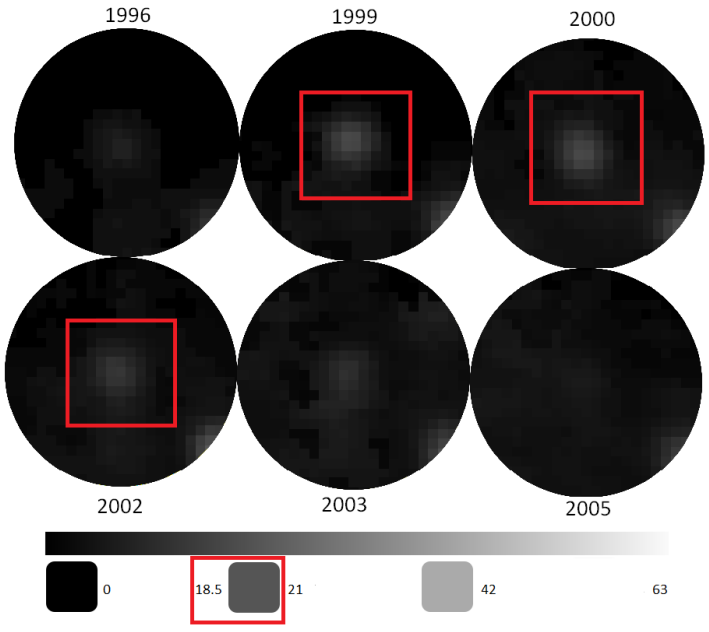


Figure IV – Night lights in Alburquerque's birth region

Notes: Images generated by authors that represent the change in night light emissions between 1996 and 2005 in regions within approx. 11 km Rafaela Alburquerque's birthplace. Rafaela Alburquerque acted as president of the Dominican Republic assembly between 1999 and 2002. The red squares are associated with Rafaela Alburquerque's time in office, the 18.5 night lights intensity level, and the regions closest to her birthplace.

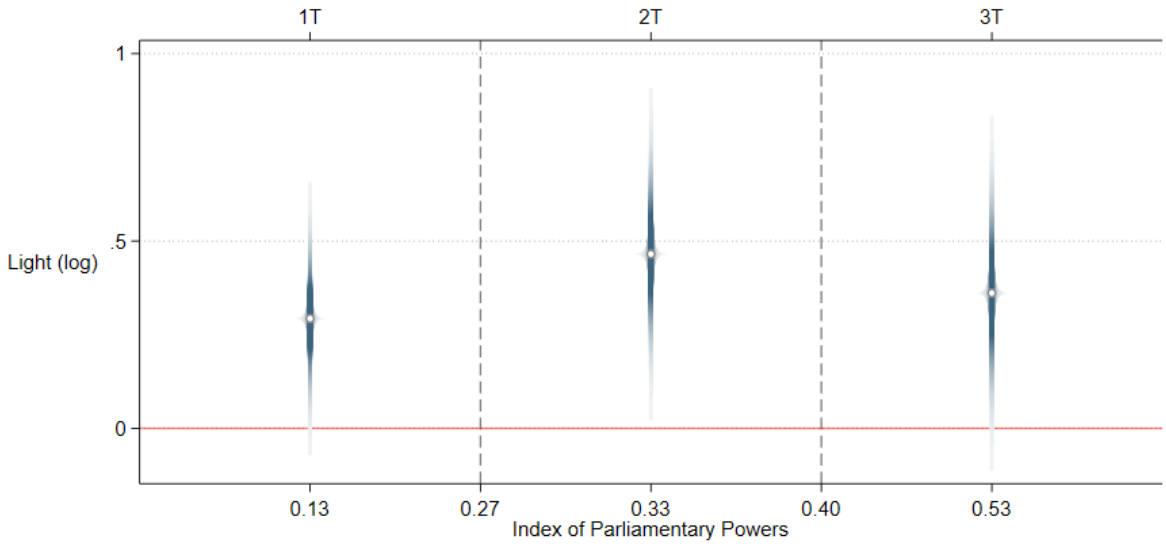


Figure V – Effects of given Parliamentary Power in Leader Regions

Notes: The figure shows the statistically significant (5% level) effects of $LeaderBR_{t-1} \times IPP_{t-1}$ on night lights when all interactions are included in the same specification. Outliers are excluded. 1T, 2T and 3T on the top x axis refer to each IPP tercile, as explained in footnote 16 and computed in Table III, column 2.

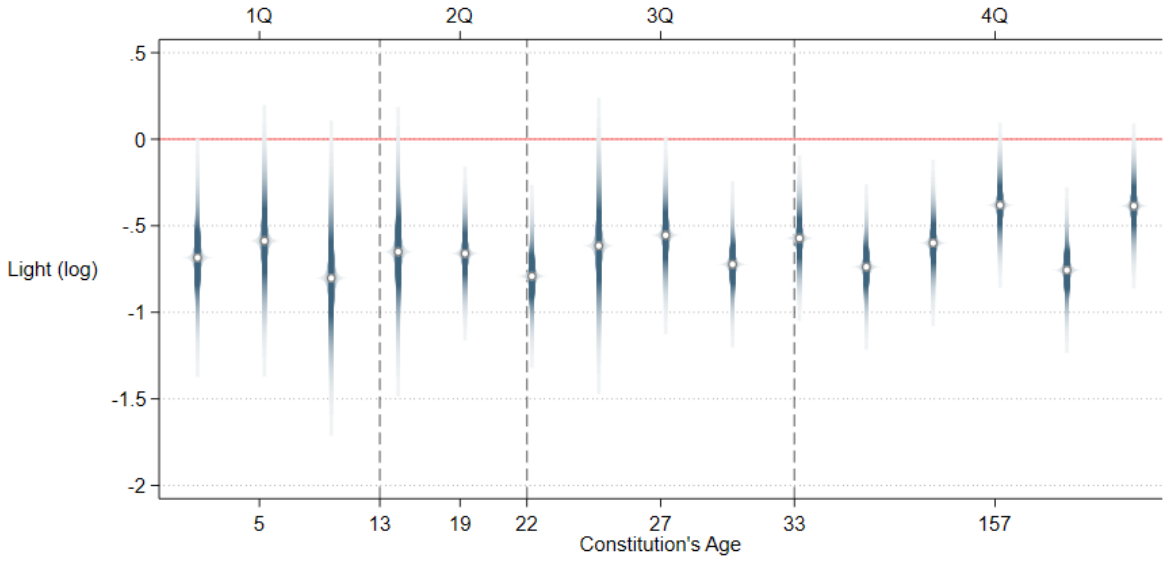
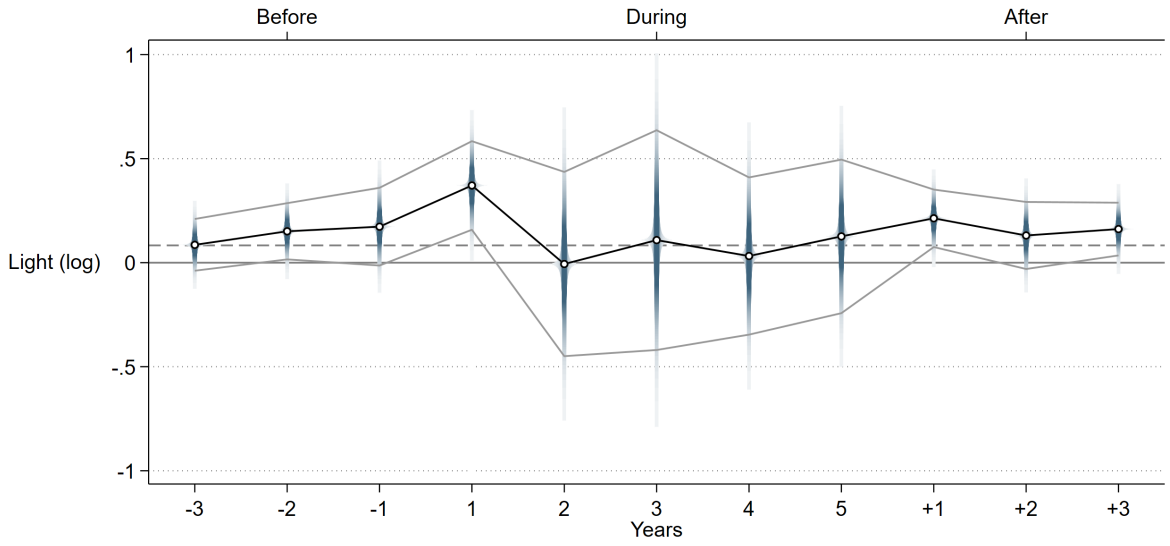


Figure VI – Effects of Constitution's Age in Leader Regions

Notes: The figure shows the statistically significant effects (5% level) of $LeaderBR_{t-1} \times AgeConstitution_{t-1}$ on night lights when all interactions are included in the same specification. Outliers are excluded. 1Q, 2Q, 3Q and 4Q on the top x axis refer to each AgeConstitution quartile, as explained in footnote 18 and computed in Table III, column 2.



Notes: The connected dots plot the coefficient estimates for each time variable, the dyed blue bars above and below the dots represent the confidence intervals, and the light gray lines indicate the upper and lower limits of the 90% confidence interval. We label the x axis as $-\tau$ if the the leader will come to office in τ years. Similarly, we code as as $+\tau$ if the leader's term ended τ years ago. We represent the number of τ years of leader's current incumbency by labeling the axis as τ (without signs). Finally, we code the axis as 5 if the leaders has been in office for 5 years or more. The horizontal dashed line indicates the coefficient estimate in our main specification (Table I, column 12).

Figure VII – Time dynamics of Parliament leaders' favoritism

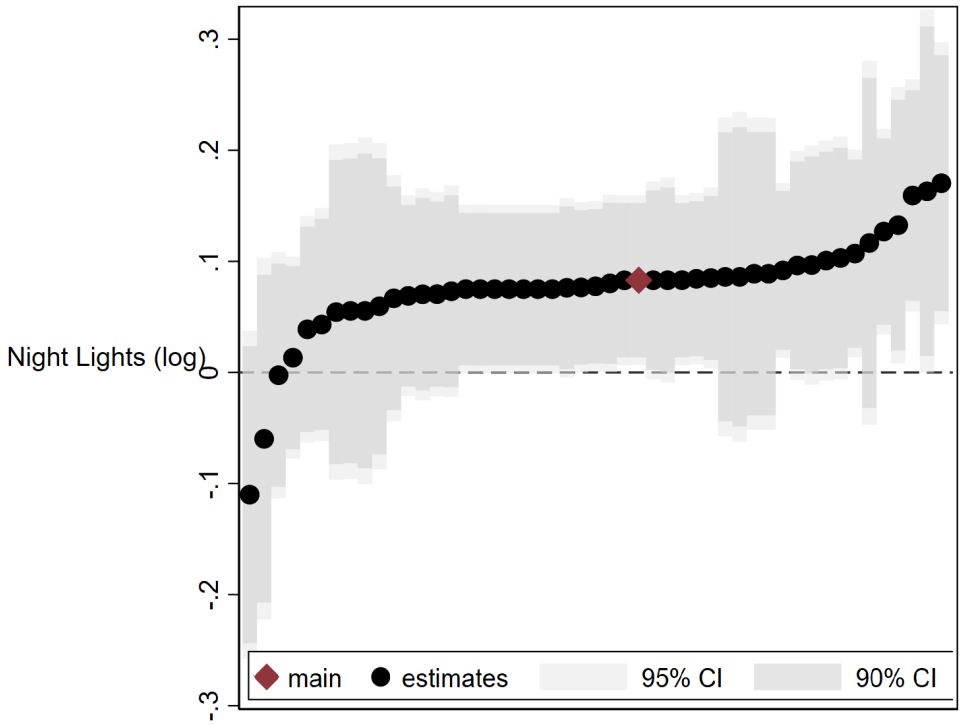


Figure VIII – Summary of coefficients

Notes: The figure portrays the different point estimates of the specifications explored in this study, for the relationship between between parliament Leaders and Night light emissions. The graph includes the estimations with their 90 (dark gray) and 95% (light gray) confidence intervals. The red dot refers to the point estimate of main equation (1), expressed in column 12 of Table I.

Table I – Leader effects on Economic Activity

	111 km			*55 km*			*28 km*			*11 km*		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Light	**Light**	**Light**	**Light**	**Light**	**Light**	**Light**	**Light**	**Light**	**Light**	**Light**	**Light**
$LeaderBR_{t-1}$	0.220***	0.119***	0.004	0.264***	0.146***	-0.029	0.360***	0.239***	-0.005	0.449***	0.330***	0.083**
	(0.042)	(0.029)	(0.025)	(0.065)	(0.045)	(0.036)	(0.070)	(0.058)	(0.045)	(0.055)	(0.054)	(0.042)
Observations	3,654,656	3,653,558	3,653,558	3,654,656	3,653,558	3,653,558	3,654,656	3,653,558	3,653,558	3,654,656	3,653,558	3,653,558
Adjusted R-squared	0.882	0.888	0.920	0.882	0.888	0.920	0.882	0.888	0.920	0.882	0.888	0.920
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
ADM1-Year FE	NO	YES	YES	NO	YES	YES	NO	YES	YES	NO	YES	YES
Micro-Region FE	NO	NO	YES	NO	NO	YES	NO	NO	YES	NO	NO	YES
Countries	45	45	45	45	45	45	45	45	45	45	45	45
Regions	183082	183030	183030	183082	183030	183030	183082	183030	183030	183082	183030	183030

Notes: The values for Light are in log form. All columns control for $Light_{t-1}$ and $PresidentialLeaderBR_{t-1}$. Leader clustered standard errors in parentheses; significance levels denoted *** p<0.01, ** p<0.05, * p<0.1.

Table II – Economic Activity: Legislative and Executive leaders

	(1) **H&R's main model**	(2) **Our model**	(3) **Executive and Past Executive**	(4) **Executive and Past Legislative**	(5) **Executive and Past Any**
$LeaderBR_{t-1}$	0.133*	0.083**	0.084*	0.073	0.081*
	(0.068)	(0.042)	(0.050)	(0.045)	(0.048)
$PresidentialLeaderBR_{t-1}$	-0.075	-0.108**	-0.066	-0.062	-0.040
	(0.057)	(0.042)	(0.046)	(0.045)	(0.049)
$PastPresidentBR_{t-1}$			0.036		
			(0.079)		
$PresidentialLeaderBR_{t-1} \times PastPresidentBR_{t-1}$			-0.154*		
			(0.092)		
$PastLeaderBR_{t-1}$				-0.028	
				(0.075)	
$PresidentialLeaderBR_{t-1} \times PastLeaderBR_{t-1}$				-0.224***	
				(0.070)	
$PastAllLeadersBR_{t-1}$					0.015
					(0.066)
$PresidentialLeaderBR_{t-1} \times PastAllLeadersBR_{t-1}$					-0.174**
					(0.081)
Observations	3,742,213	3,653,558	3,653,558	3,653,558	3,653,558
Adjusted R-squared	0.905	0.920	0.920	0.920	0.920
Controls	YES	YES	YES	YES	YES
Country-Year FE	YES	NO	NO	NO	NO
ADM1-Year FE	NO	YES	YES	YES	YES
Micro-Region FE	YES	YES	YES	YES	YES
Countries	45	45	45	45	45
Regions	183082	183030	183030	183030	183030

Notes: The dependent variable is night lights (log). All specifications use the 11 km distance cut-off. When specified, the controls include $Light_{t-1}$ (log). The p-value for $LeaderBR_{t-1}$ in column (4) is 0.104. Leader clustered standard errors in parentheses; significance levels denoted *** p<0.01, ** p<0.05, * p<0.1.

Table III – Mechanisms: *De jure* and *de facto* influence

	De jure		*De facto*		*De jure and De facto*		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Light	**Light**	**Light**	**Light**	**Light**	**Light**	**Light**
$LeaderBR_{t-1}$	-0.238	-0.110	0.127**	0.170**	-0.180	0.092**	0.083**
	(0.191)	(0.081)	(0.051)	(0.070)	(0.124)	(0.043)	(0.042)
$LeaderBR_{t-1} \times IPP_{t-1}$	0.702						
	(0.444)						
$LeaderBR_{t-1} \times IPP2T_{t-1}$		0.146			0.249		
		(0.103)			(0.185)		
$LeaderBR_{t-1} \times IPP3T_{t-1}$		0.240**			0.473***		
		(0.100)			(0.150)		
$LeaderBR_{t-1} \times AgeConstitution_{t-1}$			-0.002*		0.001		
			(0.001)		(0.001)		
$LeaderBR_{t-1} \times AgeConstitution2Q_{t-1}$				-0.104			
				(0.091)			
$LeaderBR_{t-1} \times AgeConstitution3Q_{t-1}$				-0.231**			
				(0.101)			
$LeaderBR_{t-1} \times AgeConstitution4Q_{t-1}$				-0.221*			
				(0.127)			
$LeaderBR_{t-1} \times IPP2T_{t-1} \times AgeConstitution_{t-1}$					-0.003		
					(0.007)		
$LeaderBR_{t-1} \times IPP3T_{t-1} \times AgeConstitution_{t-1}$					-0.011***		
					(0.003)		
$LeaderBR_{t-1} \times PresidentialLeaderBR_{t-1}$						-0.155	
						(0.106)	
$LeaderBR_{t-1} \times LeaderUpperHouseBR_{t-1}$							-0.077
							(0.057)
Observations	3,637,000	3,637,000	3,637,334	3,637,334	3,637,000	3,653,558	3,653,558
Adjusted R-squared	0.920	0.920	0.920	0.920	0.920	0.920	0.920
Controls	YES	YES	YES	YES	YES	YES	YES
ADM1-Year FE	YES	YES	YES	YES	YES	YES	YES
Micro-Region FE	YES	YES	YES	YES	YES	YES	YES
Countries	38	38	39	39	38	45	45
Regions	182205	182205	182221	182221	182205	183030	183030

Notes: All specifications use the 11km distance cut-off. The values for Light are in log form. All columns control for $Light_{t-1}$ and $PresidentialLeaderBR_{t-1}$. Column 8 also includes a dummy for Upper House leadership. Leader clustered standard errors in parentheses; significance levels denoted *** p<0.01, ** p<0.05, * p<0.1.

Table IV – Favoritism and Aid: World Bank vs. China

	(1)	(2)	(3)	(4)	(5)	(6)
	WB Aid	**WB Aid**	**WB Aid: Executive vs. Legislative**	**China Aid**	**China Aid**	**China Aid: Executive vs. Legislative**
$LeaderBR_{t-1}$	0.027	-0.189***	-0.210***	0.015	-0.116	-0.111
	(0.068)	(0.024)	(0.032)	(0.032)	(0.090)	(0.089)
$PresidentialLeaderBR_{t-1}$	-0.129	-0.129	0.193**	-0.047	-0.047	-0.130
	(0.091)	(0.091)	(0.086)	(0.046)	(0.046)	(0.109)
$LeaderBR_{t-1} \times IPP2T_{t-1}$		0.233**	0.250**		0.107	0.104
		(0.108)	(0.110)		(0.090)	(0.090)
$LeaderBR_{t-1} \times IPP3T_{t-1}$		0.229**	0.249**		0.177	0.173
		(0.102)	(0.103)		(0.114)	(0.114)
$PresidentialLeaderBR_{t-1} \times IPP2T_{t-1}$			-0.469***			0.160
			(0.161)			(0.124)
$PresidentialLeaderBR_{t-1} \times IPP3T_{t-1}$			-0.456**			0.067
			(0.196)			(0.129)
Observations	3,293,595	3,293,301	3,293,301	2,429,569	2,429,349	2,429,349
Adjusted R-squared	0.125	0.125	0.125	0.199	0.199	0.199
Controls	YES	YES	YES	YES	YES	YES
ADM1-Year FE	YES	YES	YES	YES	YES	YES
Micro-Region FE	YES	YES	YES	YES	YES	YES
Regions	182221	182205	182205	182221	182205	182205
Countries	39	38	38	39	38	38

Notes: All specifications use the 11km distance cut-off. The values for Light are in log form. All columns control for $Light_{t-1}$ and $PresidentialLeaderBR_{t-1}$. Leader clustered standard errors in parentheses; significance levels denoted *** p<0.01, ** p<0.05, * p<0.1.

Table V – Robustness: Other plausible controls

	(1) **Light**	(2) **Light**	(3) **Light**	(4) **Light**	(5) **Light**
$LeaderBR_{t-1}$	0.083**	0.078*	0.085*	0.083**	0.076*
	(0.042)	(0.042)	(0.045)	(0.042)	(0.044)
$PresidentialLeaderBR_{t-1}$	-0.108**	-0.107**	-0.112***	-0.108**	-0.108**
	(0.042)	(0.042)	(0.043)	(0.042)	(0.043)
$Light_{t-1}$	0.346***	0.346***	0.346***	0.346***	0.345***
	(0.013)	(0.014)	(0.014)	(0.013)	(0.014)
$Population(log)_{t-1}$		0.031**			0.031**
		(0.013)			(0.014)
$GDPpc(log)_{t-1}$			-0.028		-0.029
			(0.030)		(0.029)
$LeaderUpperHouseBR_{t-1}$				-0.055	-0.064
				(0.057)	(0.062)
Observations	3,653,558	3,622,813	3,524,325	3,653,558	3,507,866
Adjusted R-squared	0.920	0.920	0.920	0.920	0.920
Controls	YES	YES	YES	YES	YES
ADM1-Year FE	YES	YES	YES	YES	YES
Micro-Region FE	YES	YES	YES	YES	YES
Countries	45	42	43	45	41
Regions	183030	181535	182211	183030	181396

Notes: All specifications use the 11km distance cut-off. Leader clustered standard errors in parentheses; significance levels denoted *** p<0.01, ** p<0.05, * p<0.1

Table VI – Time Robustness Tests

	(1)	(2)	(3)	(4)	(5)
	Light	**Light**	**Light**	**Light**	**Light**
$LeaderBR_{t-1}$	0.080*	0.069	0.070	0.107**	0.096*
	(0.044)	(0.049)	(0.050)	(0.051)	(0.057)
	[0.069]	[0.165]	[0.163]	[0.038]	[0.090]
$Future1_{t-1}$	-0.087		0.008		0.011
	(0.081)		(0.062)		(0.063)
	[0.281]		[0.901]		[0.859]
$Past1_{t-1}$	0.038		0.038		0.037
	(0.087)		(0.079)		(0.080)
	[0.661]		[0.633]		[0.643]
$Pretrend_{t-1}$		-0.033	-0.034		-0.036
		(0.028)	(0.031)		(0.032)
		[0.249]	[0.279]		[0.260]
$Posttrend_{t-1}$		-0.001	-0.003		-0.004
		(0.027)	(0.025)		(0.025)
		[0.969]	[0.894]		[0.867]
$LeaderBR_{t-1} \times Experience_{t-1}$				-0.029	-0.032
				(0.022)	(0.022)
				[0.196]	[0.146]
Observations	3,653,558	3,653,558	3,653,558	3,653,558	3,653,558
Adjusted R-squared	0.920	0.920	0.920	0.920	0.920
Controls	YES	YES	YES	YES	YES
ADM1-Year FE	YES	YES	YES	YES	YES
Micro-Region FE	YES	YES	YES	YES	YES
Countries	45	45	45	45	45
Regions	183030	183030	183030	183030	183030

Notes: All specifications use the 11km distance cut-off. The values for Light are in log form. All columns control for $Light_{t-1}$ and $PresidentialLeaderBR_{t-1}$. Leader clustered standard errors in parentheses; significance levels denoted *** p<0.01, ** p<0.05, * p<0.1.

Appendix

A Descriptives

Table A.1 – Elements in the Index of Parliamentary Powers

Variable	Variable in CCP
Who presides over the legislature? Coded as 1 if the constitution defines a 'Speaker' or similar official leader of the legislature	LHLEAD
Is the first (or only) chamber of the legislature given the power to legislate?	LHLEGIS
Do members of the legislature have immunity?	IMMUNITY
Does the legislature have the power to interpellate members of the executive branch	INTEXEC
Does the legislature have the power to investigate the activities of the executive branch?	INVEXE
Can members of the legislature initiate legislation?	LEG_IN_5
Can the legislature approve / reject legislation?	LEGAPP
Can the legislature override executive vetos?	OVERWHO
Can the legislature propose amendments to the constitution?	AMNDPROP_4
Can the legislature approve amendments to the constitution?	AMNDAPPR_4
Can the legislature dismiss the head of state?	HOSPDISS_2
Can the legislature approve a dismissal of the head of state?	HOSADISS_2
Does the legislature appoint the cabinet?	CABAPPT_3
Does the legislature need to approve the cabinet?	CABAPPR_3
Can the legislature dismiss the cabinet?	CABDISS_3

Table A.2 – Countries per IPP tercile

IPP1T (0-0.27)	*IPP2T (0.271-0.40)*	*IPP3T (0.401-0.733)*	
Antigua and Barbuda	Bermuda	Suriname	Costa Rica
Argentina	Bolivia	Turks and Caicos Islands	Cuba
Bahamas	Brazil		Dominican Republic
Barbados	British Virgin Islands		Ecuador
Belize	Cayman Islands		Haiti
Cayman Islands	Chile		Honduras
Dominican Republic	Colombia		Nicaragua
Grenada	Dominica		Peru
Guyana	Dominican Republic		Puerto Rico
Jamaica	Ecuador		Uruguay
Mexico	El Salvador		Venezuela
Paraguay	Guatemala		
Saint Kitts and Nevis	Guyana		
Saint Vincent and the Grenadines	Nicaragua		
Trinidad and Tobago	Panama		
Turks and Caicos Islands	Saint Lucia		

Table A.3 – Countries per *AgeConstitution* quartile

AgeConstitution1Q	*AgeConstitution2Q*		*AgeConstitution3Q*		*AgeConstitution4Q*
Antigua and Barbuda	Antigua and Barbuda	Trinidad and Tobago	Antigua and Barbuda	Suriname	Argentina
Belize	Bahamas	Turks and Caicos Islands	Bahamas	Trinidad and Tobago	Bahamas
Bolivia	Belize	Uruguay	Barbados	Uruguay	Barbados
Brazil	Brazil	Venezuela	Belize	Venezuela	Bermuda
British Virgin Islands	British Virgin Islands		Bermuda		Bolivia
Cayman Islands	Cayman Islands		Bolivia		Cayman Islands
Chile	Chile		Brazil		Costa Rica
Colombia	Colombia		British Virgin Islands		Cuba
Dominican Republic	Cuba		Cayman Islands		Dominica
Ecuador	Dominica		Chile		Jamaica
El Salvador	El Salvador		Cuba		Mexico
Grenada	Grenada		Dominica		Panama
Guatemala	Guatemala		Dominican Republic		Puerto Rico
Guyana	Guyana		El Salvador		Saint Lucia
Haiti	Haiti		Guatemala		Saint Vincent and the Grenadines
Honduras	Honduras		Guyana		Trinidad and Tobago
Nicaragua	Nicaragua		Haiti		Venezuela
Paraguay	Panama		Honduras		Virgin Islands, U.S.
Peru	Paraguay		Jamaica		
Saint Kitts and Nevis	Peru		Nicaragua		
Suriname	Saint Kitts and Nevis		Panama		
Turks and Caicos Islands	Saint Lucia		Saint Kitts and Nevis		
Uruguay	Saint Vincent and the Grenadines		Saint Lucia		
Venezuela	Suriname		Saint Vincent and the Grenadines		

Table A.4 – Sources and Definitions

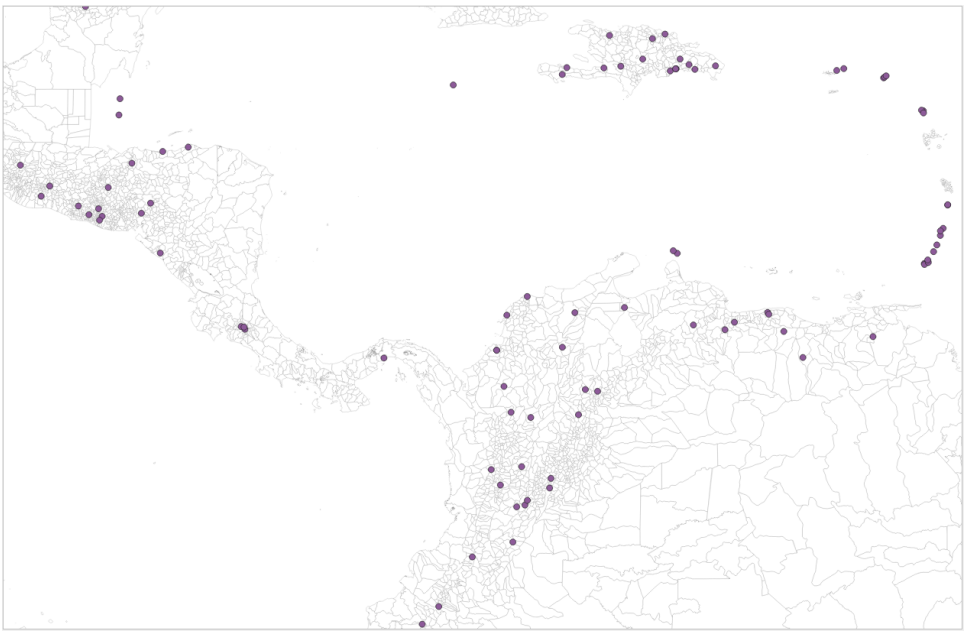
Variable	Definition	Source
Light	The logarithm yearly average of nighttime luminosity within micro-region *i*.	NOAA (2015)
Light (IHS)	The inverse hyperbolic sine of the yearly average of nighttime luminosity within micro-region *i*.	NOAA (2015)
LeaderBR	Dummy=1 if micro-region *i* is within 11, 28, 55 or 111 km from the parliament leader's birthplace.	Own construction
PresidentialLeaderBR	Dummy=1 if micro-region *i* is within 11, 28, 55 or 111 km from the presidential leader's birthplace.	Own construction based on Hodler and Raschky (2014)
PastLeaderBR	Dummy=1 if micro-region *i* has been a LeaderBR before *t*.	Own construction based on Hodler and Raschky (2014)
PastPresidentBR	Dummy=1 if micro-region *i* has been a PresidentialLeaderBR before *t*.	Own construction based on Hodler and Raschky (2014)
PastAllLeadersBR	Dummy=1 if micro-region *i* has been a LeaderBR or PresidentialLeaderBR before *t*.	Own construction based on Hodler and Raschky (2014)
LeaderUpperHouseBR	Dummy=1 if micro-region *i* is within 11, 28, 55 or 111 km from the parliament, upper house leader's birthplace.	own construction
Experience	Number of years the incumbent Parliament leader near micro-region *i* has been in power until year *t*.	Own construction based on Hodler and Raschky (2014)
Tenure	Total number of years the incumbent Parliament leader near micro-region *i* has been in power between 1992 and 2015.	Own construction based on Hodler and Raschky (2014)
Future1	Dummy=1 if micro-region *i* becomes a parliament-leader region in *t+1*	Own construction based on Hodler and Raschky (2014)
Past1	Dummy=1 if micro-region *i* became a parliament-leader region in *t-1*	Own construction based on Hodler and Raschky (2014)
Posttrend	Time trend between *t* and *t+3* in micro-regions that stopped being a leader region in *t*.	Own construction based on Hodler and Raschky (2014)
Pretrend	Time trend between *t-3* and *t* in micro-regions that will become a leader region in *t*.	Own construction based on Hodler and Raschky (2014)
WB Aid	The logarithm of the total, yearly amount of World Bank aid disbursed within micro-region *i*.	AidData (2017)
China Aid	The logarithm of the total, yearly amount of Chinese aid committed within micro-region *i*.	Bluhm et al. (2020)
IPP	Yearly average across the 15 components of Table A.1 in country *c*.	Own construction based on Bjørnskov and Voigt (2018)
IPP1T	IPP between 0 and 0.27.	Own construction based on Bjørnskov and Voigt (2018)
IPP2T	IPP between 0.271 and 0.40.	Own construction based on Bjørnskov and Voigt (2018)
IPP3T	IPP between 0.401 and 0.733.	Own construction based on Bjørnskov and Voigt (2018)
AgeConstitution	Number of years since the adoption of a new Constitution in country *c*.	Own construction based on Elkins et al. (2009)
AgeConstitution1Q	AgeConstitution between 0 and 13 years.	Own construction based on Elkins et al. (2009)
AgeConstitution2Q	AgeConstitution between 14 and 22 years.	Own construction based on Elkins et al. (2009)
AgeConstitution3Q	AgeConstitution between 23 and 33 years.	Own construction based on Elkins et al. (2009)
AgeConstitution4Q	AgeConstitution between 34 and 163 years.	Own construction based on Elkins et al. (2009)
AgeAmend	Number of years since the last amend was introduced to the Constitution in country *c*.	Own construction based on Elkins et al. (2009)
SharedPower	Yearly average across components of Table A.1 that portray shared/ambiguous attributions between the executive and legislative in country *c*.	Own construction based on Bjørnskov and Voigt (2018)
Independent	Dummy=1 if country *c* is fully autonomous.	Own construction based on Elkins et al. (2009)
Speaker	Dummy=1 if LHLEAD of Table A.1 is coded as 1.	Own construction based on Elkins et al. (2009)
GDPpc (log)	The logarithm of the average gross domestic product per capita within micro-region *i*. surrounding region *i* in year *t*. .	Kummu et al. (2018)
Population (log)	The logarithm of the number of people within micro-region *i* in year *t*.	Goldewijk et al. (2010, 2011)

Table A.5 – Descriptive Statistics

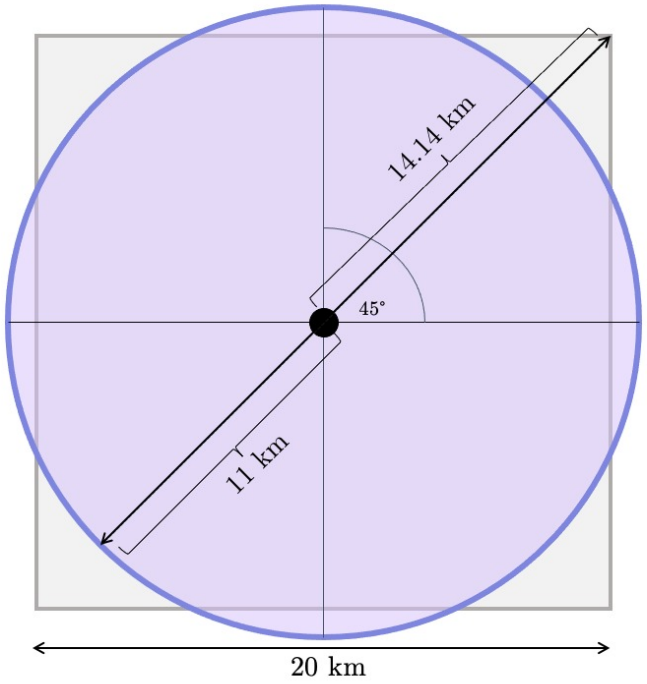
	N	Mean	SD	Min	Max
Light	3.654e+06	-7.004	4.066	-9.210	4.143
Light (IHS)	3.654e+06	0.322	0.808	0	4.836
LeaderBR	3.654e+06	0.000287	0.0169	0	1
PresidentialLeaderBR	3.654e+06	0.000920	0.0303	0	1
PastLeaderBR	3.654e+06	0.00186	0.0431	0	1
PastPresidentBR	3.654e+06	0.00108	0.0329	0	1
PastAllLeadersBR	3.654e+06	0.00270	0.0519	0	1
LeaderUpperHouseBR	3.654e+06	0.000162	0.0127	0	1
Experience	3.654e+06	0.000264	0.0323	0	12
Tenure	3.654e+06	0.000728	0.0513	0	7
Future1	3.654e+06	0.000178	0.0133	0	1
Past1	3.654e+06	0.000178	0.0133	0	1
Posttrend	3.654e+06	0.00113	0.0575	0	8
Pretrend	3.654e+06	0.00115	0.0570	0	8
WB Aid	3.737e+06	-9.195	0.586	-9.210	20.17
Aid China	3.737e+06	-9.210	0.103	-9.210	21.52
IPP	3.637e+06	0.376	0.0851	0	0.733
IPP1T	3.637e+06	0.282	0.450	0	1
IPP2T	3.637e+06	0.570	0.495	0	1
IPP3T	3.637e+06	0.147	0.354	0	1
AgeConstitution	3.637e+06	43.90	50.76	0	160
AgeConstitution1Q	3.637e+06	0.317	0.465	0	1
AgeConstitution2Q	3.637e+06	0.261	0.439	0	1
AgeConstitution3Q	3.637e+06	0.131	0.337	0	1
AgeConstitution4Q	3.637e+06	0.291	0.454	0	1
Ageamended	3.637e+06	2.220	4.312	0	58
SharedPower	3.637e+06	0.539	0.0727	0.182	0.909
Independent	3.637e+06	0.999	0.0310	0	1
Speaker	3.637e+06	0.611	0.487	0	1

Table A.5 – Descriptive Statistics (continued)

	N	mean	sd	min	max
lhlegis	3.637e+06	0.999	0.0264	0	1
immunity	3.637e+06	0.0228	0.149	0	1
intexec	3.637e+06	0.981	0.137	0	1
invexe	3.637e+06	0.924	0.266	0	1
leg_in_5	3.637e+06	0.999	0.0274	0	1
legapp	3.637e+06	0.00338	0.0580	0	1
overwho	3.637e+06	0.0923	0.289	0	1
amndprop_4	3.637e+06	0.714	0.452	0	1
amndappr_4	3.637e+06	0.145	0.352	0	1
hospdiss_2	3.637e+06	0	0	0	0
hosadiss_2	3.637e+06	0	0	0	0
cabappt_3	3.637e+06	0.000241	0.0155	0	1
cabappr_3	3.637e+06	0.0193	0.138	0	1
cabdiss_3	3.637e+06	0.124	0.329	0	1
GDPpc (log)	3.533e+06	9.165	0.643	6.367	11.90
Population (log)	3.623e+06	4.514	2.707	0	14.23



(a) Regions within 11 km in LAC



(b) Regions within 11 km in grid

Figure A.1 – Regions within 11 km from leaders' birth regions

Notes: Both maps display regions within 11 km from leaders' birthplaces. The figure above shows an overview of the regions near leaders' birth regions in LAC. The figure below zooms in into one of these regions and illustrates the extension of the leaders' potential impact.

B Additional Tables

Table B.1 – Leader effects on Economic Activity: without lagged dependent variable $Light_{t-1}$

		111 km			*55 km*			*28 km*			*11 km*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Light	**Light**	**Light**	**Light**	**Light**	**Light**	**Light**	**Light**	**Light**	**Light**	**Light**	**Light**
$LeaderBR_{t-1}$	3.170***	1.377***	0.008	4.160***	1.929***	-0.031	5.563***	2.823***	-0.016	7.169***	3.738***	0.101*
	(0.443)	(0.228)	(0.029)	(0.423)	(0.229)	(0.035)	(0.429)	(0.247)	(0.048)	(0.407)	(0.345)	(0.059)
Observations	3,742,213	3,741,120	3,741,120	3,742,213	3,741,120	3,741,120	3,742,213	3,741,120	3,741,120	3,742,213	3,741,120	3,741,120
Adjusted R-squared	0.033	0.358	0.908	0.018	0.358	0.908	0.010	0.358	0.908	0.005	0.357	0.908
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
ADM1-Year FE	NO	YES	YES	NO	YES	YES	NO	YES	YES	NO	YES	YES
Micro-Region FE	NO	NO	YES	NO	NO	YES	NO	NO	YES	NO	NO	YES
Countries	45	45	45	45	45	45	45	45	45	45	45	45
Regions	183082	183030	183030	183082	183030	183030	183082	183030	183030	183082	183030	183030

Notes: The values on Light are on log form. All columns control for $PresidentialLeaderBR_{t-1}$. Leader clustered standard errors in parentheses; significance levels denoted *** p<0.01, ** p<0.05, * p<0.1.

Table B.2 – Robustness: Median size of LAC cities

	(1) **Light 111km**	(2) **Light 55km**	(3) **Light 28km**	(4) **ADM2**
$LeaderBR_{t-1}$	0.003	-0.036	-0.032	0.214***
	(0.025)	(0.036)	(0.048)	(0.075)
$LeaderBR_{t-1} \times SmallCities_i$	0.084*	0.107	0.113*	
	(0.048)	(0.066)	(0.067)	
Observations	3,653,558	3,653,558	3,653,558	253,470
Adjusted R-squared	0.920	0.920	0.920	0.881
Controls	YES	YES	YES	YES
ADM1-Year FE	YES	YES	YES	YES
Micro-Region FE	YES	YES	YES	YES
Countries	45	45	45	26
Regions	183030	183030	183030	432

Notes: The values for Light are in log form. All columns control for $Light_{t-1}$ and $PresidentialLeaderBR_{t-1}$. Columns 1-3 use ADM1-Year and Micro-Region fixed effects. Column 4 uses Country-Year and Province fixed effects. P-value for $LeaderBR_{t-1} \times SmallCities_i$ in column 2, is 0.105. Leader clustered standard errors in parentheses. Significance levels denoted *** p<0.01, ** p<0.05, * p<0.1

Table B.3 – Other sources of influence I

	(1) **Light**	(2) **Light**	(3) **Light**	(4) **Light**
$LeaderBR_{t-1}$	0.043	-0.238	0.067	0.089
	(0.057)	(0.269)	(0.061)	(0.077)
$LeaderBR_{t-1} \times Speaker_{t-1}$	0.042			
	(0.079)			
$LeaderBR_{t-1} \times SharedPower_{t-1}$		0.597		
		(0.509)		
$LeaderBR_{t-1} \times AgeAmended_{t-1}$			0.005	
			(0.015)	
$LeaderBR_{t-1} \times Tenure_{t-1}$				-0.002
				(0.021)
Observations	3,637,000	3,637,000	3,637,334	3,653,558
Adjusted R-squared	0.920	0.920	0.920	0.920
Controls	YES	YES	YES	YES
ADM1-Year FE	YES	YES	YES	YES
Micro-Region FE	YES	YES	YES	YES
Countries	38	38	39	45
Regions	182205	182205	182221	183030

Notes: All specifications include a lagged night-light (log), and a lagged Presidential leader dummy as controls. The values for Light are in log form. Leader clustered standard errors in parentheses; significance levels denoted *** p<0.01, ** p<0.05, * p<0.1.

Table B.4 – Other sources of influence II

	(1) Light	(2) Light	(3) Light	(4) Light	(5) Light	(6) Light	(7) Light	(8) Light	(9) Light
$LeaderBR_{t-1}$	0.117	0.159***	0.075*	0.039	-0.060	-0.002	0.075*	0.077*	0.013
	(0.090)	(0.057)	(0.042)	(0.056)	(0.089)	(0.061)	(0.041)	(0.042)	(0.050)
$LeaderBR_{t-1} \times intexec_{t-1}$	-0.043								
	(0.099)								
$LeaderBR_{t-1} \times invexe_{t-1}$		-0.129							
		(0.079)							
$LeaderBR_{t-1} \times legapp_{t-1}$			0.001						
			(0.044)						
$LeaderBR_{t-1} \times overwho_{t-1}$				0.084					
				(0.086)					
$LeaderBR_{t-1} \times amndprop\_4_{t-1}$					0.144				
					(0.100)				
$LeaderBR_{t-1} \times amndappr\_4_{t-1}$						0.149*			
						(0.085)			
$LeaderBR_{t-1} \times cabappt\_3_{t-1}$							0.025		
							(0.043)		
$LeaderBR_{t-1} \times cabappr\_3_{t-1}$								-0.035	
								(0.239)	
$LeaderBR_{t-1} \times cabdiss\_3_{t-1}$									0.172**
									(0.084)
Observations	3,637,000	3,637,000	3,637,000	3,637,000	3,637,000	3,637,000	3,637,000	3,637,000	3,637,000
Adjusted R-squared	0.920	0.920	0.920	0.920	0.920	0.920	0.920	0.920	0.920
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
ADM1-Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Micro-Region FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Countries	38	38	38	38	38	38	38	38	38
Regions	182205	182205	182205	182205	182205	182205	182205	182205	182205

Notes: When specified all specifications include a lagged night-light (log), and a lagged Presidential leader dummy as controls. The values for Light are in log form. Leader clustered standard errors in parentheses; significance levels denoted *** p<0.01, ** p<0.05, * p<0.1.

Table B.5 – Alternative specifications

	(1) **No controls**	(2) **No President dummy**	(3) **Country SE**	(4) **ADM1-Year and Region SE**	(5) **Light IHS**
$LeaderBR_{t-1}$	0.103*	0.084**	0.083	0.083*	0.021*
	(0.060)	(0.042)	(0.050)	(0.049)	(0.012)
Observations	3,741,120	3,653,558	3,653,558	3,653,558	3,653,558
Adjusted R-squared	0.908	0.920	0.920	0.920	0.962
Controls	NO	YES	YES	YES	YES
ADM1-Year FE	YES	YES	YES	YES	YES
Micro-Region FE	YES	YES	YES	YES	YES
Countries	45	45	45	45	45
Regions	183030	183030	183030	183030	183030

Notes: When specified all specifications include a lagged night-light (log), and a lagged Presidential leader dummy as controls—with the exception of column 2. The values for Light are in log form. When not specified otherwise, computations show Leader clustered standard errors in parentheses; significance levels denoted *** p<0.01, ** p<0.05, * p<0.1.

Table B.6 – Heterogeneity Tests

	(1) **Budget Management**	(2) **Public Sector Management**	(3) **Transparency and Corruption**	(4) **Women in parliament**	(5) **GDPpc**
$LeaderBR_{t-1}$	0.937	0.438	-0.377	0.096	0.163*
	(1.235)	(0.997)	(0.478)	(0.083)	(0.090)
$LeaderBR_{t-1} \times Quality$	-0.121	0.014			
	(0.323)	(0.337)			
$LeaderBR_{t-1} \times Corruption$			0.307		
			(0.234)		
$LeaderBR_{t-1} \times GDPpc$					-0.009
					(0.000)
$LeaderBR_{t-1} \times ShareWomen$				-0.001	
				(0.004)	
Observations	102,852	102,852	102,852	2,552,846	3,524,325
Adjusted R-squared	0.896	0.896	0.896	0.927	0.920
Controls	YES	YES	YES	YES	YES
ADM1-Year FE	YES	YES	YES	YES	YES
Micro-Region FE	YES	YES	YES	YES	YES
Countries	7	7	7	29	43
Regions	13462	13462	13462	174195	182211

Notes: All specifications look into the effects on night lights. All columns include a lagged night-light, and a lagged Presidential leader dummy as controls. The values for Light are in log form. Leader clustered standard errors in parentheses; significance levels denoted *** p<0.01, ** p<0.05, * p<0.1.