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Geography, development, and power: Parliament leaders and local clientelism

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ABSTRACT

While formal institutions are considered rather stable in Western countries, the same cannot be said of those in Latin America and the Caribbean (LAC). In LAC, these institutions are superseded by nonformalized but deeply embedded practices—especially of political favoritism. Accordingly, this paper explores how members of parliament in LAC favor their birth regions by providing clientelistic goods and services to their constituents. The paper shows that the development of subnational regions is affected by their proximity to parliament leaders' birthplaces. We collect data on 366 political leaders' birth locations over 1992–2016 and construct 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 enabled by the patterns of formal institutional weakness, and de jure plus de facto influence given to the parliament by the particularly unstable constitutions of LAC countries.

1. Introduction

Political favoritism has existed for as long as human societies have. The Roman historian Tacitus, for instance, mentions widespread favoritism as one of the main problems of the early empire under Augustus. In modern political systems, favoritism is often associated with the misuse of political power to benefit particular industries or particular regions. This refers specifically to the way in which some political leaders spend public funds in their birth region while they are in office to benefit their family and clan members, to favor their ethnic communities or to secure political support in their electoral stronghold.[1]

While political favoritism occurs at different levels and in different manifestations, it can take two basic forms. First, politicians favor specific regions or groups of voters with subsidies or other forms of policy concessions in order to buy votes in upcoming elections (Cox & McCubbins, 1986; Dahlberg & Johansson, 2002; Dixit & Londregan, 1996; Güneş-Ayata et al., 1994; Müller, 2017; Weitz-Shapiro, 2014), receive direct campaign or party support, or invite bribes or less direct forms of support (Berry, Burden, & Howell, 2010; Bertelli & Grose, 2009; Cox & McCubbins, 2007). Second, politicians can also engage in policies or projects that directly benefit their family, friends, and immediate network (Bates, 1974; Dahlberg, Folke, Martén, & Rickne, 2021; Harjunen, Saarimaa, & Tukiainen, 2021; Kramon & Posner, 2013).

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[1] For instance, these policies could take the form of the construction of big stadiums, museums, or international airports in their small birth communities. The asymmetric public goods provision of essential goods and services such as water or electricity, along with direct transfers, biased taxation, and even the provision of localized public employment schemes or the settlement of state–run enterprises. However, like other types of rent–seeking behavior, favoritism is often difficult to document. Without extensive data on lobbying, meeting activity or fine–grained economic outcomes, the consequences of such behavior are almost impossible to assess with any reasonable precision—see Aghion, Dewatripont, Hoxby, Mas-Colell, and Sapir (2010), Carozzi and Repetto (2016).

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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. In this sense, the seminal work by Hodler and Raschky (2014) looks at executive branch leaders of 126 countries, 21 of which are from the Americas. 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 that aid is being used as a specific channel of favoritism. Dreher et al. (2021) repeat the exercise using local level data of World Bank and Chinese aid instead. Focusing on inflows in African countries, they find substantial evidence that Chinese aid was diverted to leaders' home regions.[2]

In the case of Latin America and the Caribbean (LAC), the literature on political favoritism also focuses on the role of the president in enabling clientelistic networks and vote–buying practices. For instance, the literature on populism often finds a relation between the concentration of power in the executive and efforts of cementing an electoral base and political machine building (Cruzatti, 2023; Hochstetler, 2017; Issacharoff, 2023; Mouzelis, 1985; Müller, 2017; Penfold-Becerra, 2007; Urbinati, 2019). This is also the relation found in delegative democracies where the non–institutionalized features of LAC governments foster both populism and political favoritism (Auyero & Benzecry, 2017; Foa & Mounk, 2016; Helmke & Levitsky, 2004; Inglehart & Norris, 2016; Kaufman & Haggard, 2019; O'Donnell, 1993).[3] One can find similar explanations in the literature on presidentialism, where favoritism is associated with the way in which the president secures people's loyalty by relying on local or regional interest groups for support (Linz, 1990; Mainwaring, 1993).[4] In short, in these political explanations the negative features of political favoritism are mainly attributed to the leader of the executive.

Perhaps due to this attention on the role of the president in enabling these features, the role of parliament and parliament leaders is often overlooked. This is an unwarranted omission if one considers that the institutional weakness in LAC allows for an extensive use of discretionary power by the political elite.[5] In this sense, parliament leaders have at least the same incentives as the president for engaging in political favoritism. As their counterparts, they also have an interest in constructing and preserving clientelistic networks while they are in office since they often depend on their clientelist structures in cities and regions for political support and material gain. Particularly, this practice ranges from vote buying for re–election purposes to political constituency building with the purpose of strengthening support for their campaign platforms. This power of parliament leaders in building large political machines may imply that exercise of power cannot become entrenched just in the leader of the executive.

A great example of regional favoritism and clientelism in LAC is Rafaela Alburquerque. Between the presidencies of Leonel Fernández (1996–2000) and Hipólito Mejía (2000–2004), Rafaela Alburquerque acted as speaker of the lower house of the Dominican parliament from 1999 to 2002. The three individuals belonged to different political parties and did not share their region of birth. Nighttime light emissions in regions within roughly 11 km of Alburquerque's birthplace increased dramatically—32% growth—upon her arrival in office (1999) and shortly after she left office (2002) these numbers returned to pre-arrival levels. 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. Furthermore, they also show that immediately after leaving office it is common to notice a decrease in the region's light output, in line with our Dominican example, which we later explain in more detail.

Accordingly, in this paper we specifically ask if parliament leaders can channel resources to client regions in LAC to approximately the same degree as is usually found for heads of government or prime ministers in other parts of the world.

To do so, we collect and georeference data on Latin American and Caribbean leaders' birthplaces. We measure the resources and the level of development based on the levels in light intensity at night in leaders' birth regions. In contrast to developed regions, in LAC the accounts of data are often imprecise, and subnational accounts of development do not exist, which is why we use levels in light intensity at night.[6] Most of these data are from parliament leaders—from upper and lower houses—but we also collect information on executive leaders who are not included in the existing data.[7] 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 microregional 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) capturing aspects of the constitutional power allocation, which we then interact 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 control. 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.

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). The discretionary influence of parliament leaders is greater than that estimated for executive branch leaders, which tends to be insignificant. We also find that the effects for parliamentary leaders are larger when the constitution allocates comparatively more de jure power to the parliament. Similarly, our findings indicate that 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 a separate set of tests, we additionally find that favoritism is apparent in how World Bank (WB) aid is allocated. Our aid results support our main findings, as a significant increase (decrease)

[2] In the case of Africa, the study of Widmer and Zurlinder found that favoritism was not only prevalent in country leaders but also in the case of health ministers. In their results, they found a correlation between the birth region of the current health minister with lower infant mortality and increased healthcare access in their home regions (Widmer & Zurlinden, 2022).

[3] Delegative democracy (DD) is the concept that Guillermo O'Donnell developed in order to describe unconsolidated democracies of Latin America. Delegative democracy is defined as a "subtype of democracy" which although, on the one hand, meets the minimum criteria of Robert Dahl's definition of polyarchy, on the other, presents characteristics that prevent them from becoming representative or consolidated democracies (O'Donnell, 1993, 1994).

[4] According to this literature a presidential system is likely to "encourage populism and clientelism" as a way to cope with the problems of instability created by the separation of powers.

[5] 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.

[6] This is the mechanism that Hodler and Raschky (2014) also used in their seminal study of favoritism.

[7] Existing data was directly shared with us by Hodler and Raschky (2014).

of aid is visible in parliament leaders' birth regions located in countries with higher (low) levels of IPP.

Our findings are of political and economic relevance because they convey the usual forms of political 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. 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.

While our findings add to the literature on channels of favoritism by assessing the effects of political actors that are uniquely important to politics in LAC, we thereby also 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 (Acemoglu & Robinson, 2012; Prebisch, 2016; Robinson, Acemoglu, & Johnson, 2005). Furthermore, we add to the literature on channels of favoritism by assessing the effects of leaders' geographic characteristics on foreign aid (Hodler & Raschky, 2014; Dreher et al., 2019). Finally, our paper is also related to literature that recognizes the interplay between geography, institutions, and subnational development (Banerjee & Iyer, 2005; Cruzatti, 2024; Henderson, Shalizi, & Venables, 2001; Henderson, Squires, Storeygard, & Weil, 2018).

The rest of the paper is structured as follows. Section 2 outlines our data structure. Section 3 delineates the empirical strategy. Section 4 describes our findings, and finally, Section 5 concludes.

2. 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 since the return to democracy of most Latin American and Caribbean countries between 1992 and 2016 (Hochstetler, 2008; O'Donnell, 1994; Pérez-Liñán et al., 2008). 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 decisions.[8]

To account for regional favoritism, we rely on a common subnational measure of development (Vernon Henderson, Storeygard, & Weil, 2012; Hodler & Raschky, 2014; Donaldson & Storeygard, 2016; Weidmann & Schutte, 2017; Bruederle & 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 (NOAA), 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.[9]

We also replicate our main results using aid as the main dependent variable instead given the evidence highlighting foreign aid as an essential transmission channel of executive leader's favoritism (Dreher et al., 2019, 2021). We run regressions both on World Bank disbursed aid amounts $Aid_{i,c,t}$, and Chinese committed figures $China\ Aid_{i,c,t}$, as Chinese aid data does not include disbursement details. The data for $Aid_{i,c,t}$ and $China\ Aid_{i,c,t}$ come from the geocoded dataset developed by AidData (2017) and Bluhm et al. (2020). The dataset entails locations and disbursed aid amounts for all World Bank (WB) projects approved between 1995 and 2014, while the Chinese dataset covers the government–financed projects around the globe during 2000–2014.

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.[10] 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 LAC 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 power 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 powers (IPP). Based on the similar exercise in Bjørnskov and Voigt (2018), we construct an indicator capturing the constitutionally defined allocation of powers to parliament and the separation of competencies between parliament and other branches of government.

[8] In Table A.1 we assess the role of the distinction between upper and lower house leaders.

[9] Recently, Li, Zhou, Zhao, and Zhao (2020) extended the sample of night light emissions until the year 2020. We test whether such an extension modifies our main results in Table A.1.7 of the Online Appendix (columns 1 to 3). Thereby, we also test the extension in different analysis units. Columns 4 to 6 show results using clipped–to–ADM1 borders rectangular grids of 10 by 10 km covering a comparable area to the one of the regions used in the main analysis (circular areas), i.e., approximately 100 km^2. Finally, columns 7 to 9 show the results for grids (20 by 20 km) covering an area similar to the median LAC city (approx. 400 km^2). As can be seen, the results are qualitatively comparable to our main ones. Furthermore, in column 5 of Table A.1.6, 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, too, qualitatively comparable.

[10] 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.

We base our index on 15 variables available from the Comparative Constitutions Project (Elkins, Ginsburg, & Melton, 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 B.1 in the Online Appendix section details the 15 indicators included in our index; we choose the indicators of constitutionally defined parliamentary influence covered by the Comparative Constitutions Project for which there is actual variation within our sample of countries. 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: can parliament legislate, affect cabinet formation, override or block the executive branch, and act without impunity. 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 B.1, we code a score of 1 when the legislature has actual power, 0.5 if the provision is uncertain or regulated by statutory law (which can easily be changed), 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 B.1. We choose a simple average instead of other approaches for two reasons. First, while one might have reason to believe that some elements of the IPP are more essential or salient to decisions than others—for example that parliamentary powers to appoint cabinet members are more important than parliamentarians' immunity—we have no clear theoretical or empirical basis upon which to base any weighting scheme. Second, we refrain from using principal components analysis or similar methods to form the index, as such methods tend to group indicators that "go together" in some sense. Such methods are therefore sensitive to and can yield misleading measures when primary indicators capture policy options or institutional arrangements that are substitutes. For example, parliament can arguably exercise the same kind of power whether it can appoint or merely needs to approve cabinet members. Similarly, comparable de facto outcomes can be reached if parliament is allowed to either override an executive veto, dismiss the head of state (who has veto power), or investigate the activities of the executive branch. We therefore opt for transparently grouping these indicators into a single and simple IPP that yields interpretable estimates.

As illustrated in Fig. 1, the power 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 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 entirely new constitutions, not only reforms. In the Online 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 reported in the Online 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 directly and interact them with our leader dummy. In particular, we use the dummy labeled $Speaker_{c,t}$. 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 B.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; note that it is the availability of these data that restricts our sample period to 2015.[11] Finally, we additionally account for time–in-office–related mechanisms that could inform varying degrees of power redistribution. Using our 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 B.4 provides the sources and definitions for the variables used throughout this paper, while Table B.5 provides summary statistics for them.

3. 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 of Hodler and Raschky (2014) on favoritism. Our preferred observational units are circular–shaped micro–regions with a radius of 5 km uniformly and independently dispersed throughout all Latin American and Caribbean countries. The regions are clipped to coastal and ADM1 borders. We pick this spatial unit over more conventional units such as ADM1 or ADM2 regions to leverage the degree of precision of most of our data (e.g., night light data has a 1 by 1 km spatial resolution).[12] Thus, we compute the average night light emissions per micro–region and year as displayed in Fig. 2.

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.[13]

[11] 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.

[12] Moreover, while the use of circular spatial units is less conventional than say, the use of rectangular grids or ADM–defined regions, they are not absent in the literature (see for instance Hodler and Raschky (2014), table 4). Given that we show (directly in Table A.1.7) that the choice of rectangular or circular regions makes little difference, we believe this is useful information for future studies.

[13] In robustness specifications we use other plausible proxies of development that can be seen later in Table A.1. In Table A.1.6 we also run tests without including a presidential dummy or any other control. Results do not vary qualitatively.

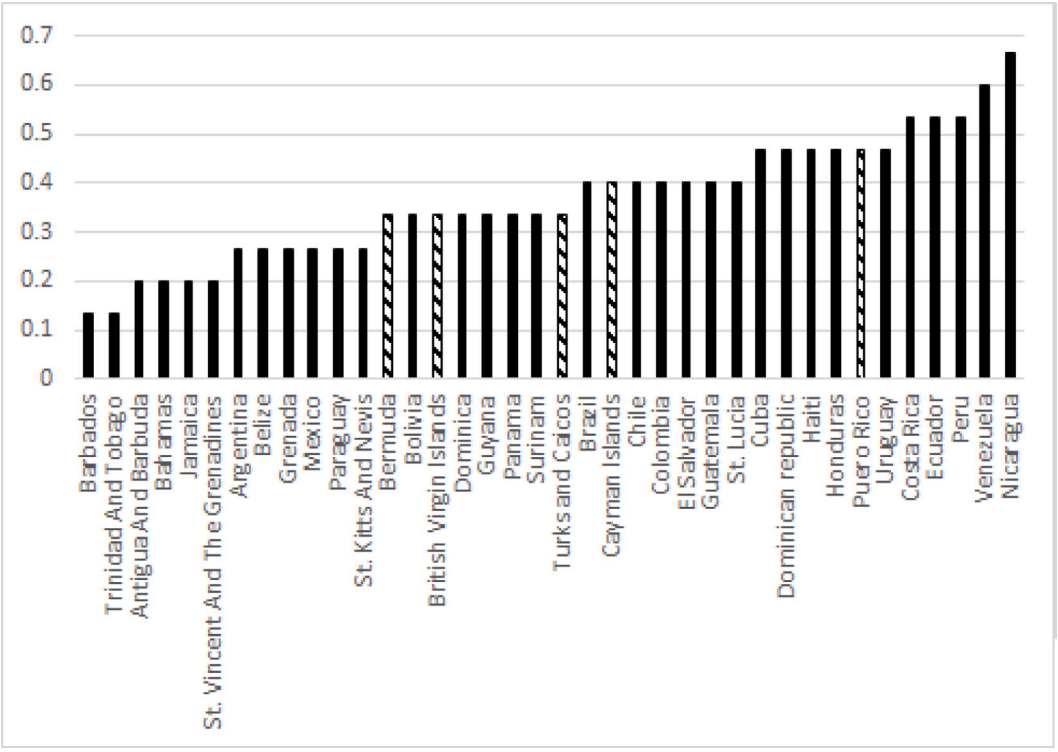


Fig. 1. Index of Parliamentary Powers, all included countries in 2015.

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).[14] 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. To account for potential geographically–related spill–overs, in our main Table 1 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.[15]

Fig. 3 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, 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, Fig. 1). The baseline effects of constitutional features are captured by the ADM1–year fixed effects of Eq. (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 Eq. (2), we include an interaction between our country–year level variables (e.g., IPP) 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:

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

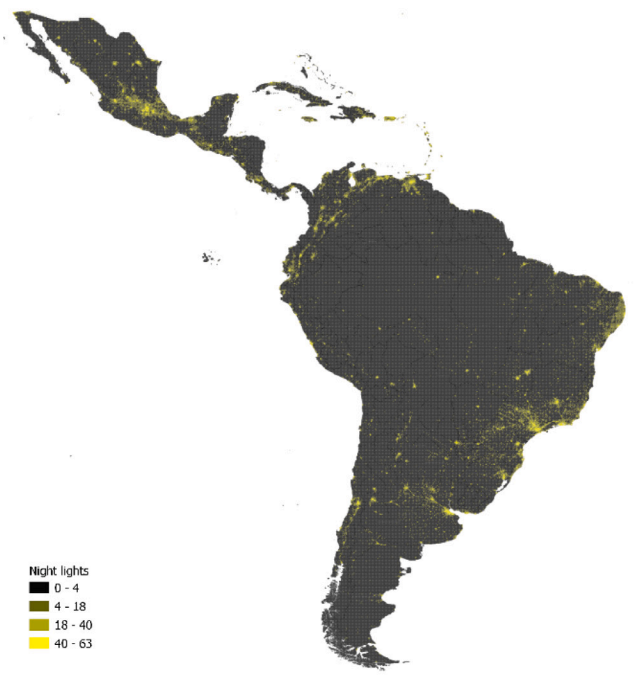
where $CYV_{i,c,t-1}$ represents any country–year level institutional variable (IPP, *AgeConstitution*, etc.). Adding this interaction term implies—depending on β_1—that the coefficient of $(LeaderBR \times CYV)_{i,c,t-1}$ will now measure the effect of being near a parliament leader's birth region on 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 Eq. (1).[16]

[14] 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.

[15] For completeness, we lag the clusters by one period, even though results with 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 A.1.6 in which, instead of clustering at the leader's level, we use the country level in the fashion of De Luca, Hodler, Raschky, and Valsecchi (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.

[16] Blackwell and Olson (2022) point to a complex problem of adding interactions to a specification, which they term an 'omitted interaction bias'

(a) 1992



(b) 2013

Fig. 2. Micro–regional night lights over time.
Notes: The micro–regions are circular regions with a 5 km–radius. The micro–regions are clipped to land, at the ADM1 level.

Fig. 3. Leaders' Birth Regions.
Notes: Gray points refer to the parliament leaders' birthplaces. Black points to prime ministers' (presidential) birth regions.

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.

4. 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. Fig. 4 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 illustrated in Fig. 4, 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 Fig. 4 for the

and which typically goes unnoticed in applied research. Over and above problems of getting marginal effects with proper conditional marginal standard errors, as outlined by Brambor, Clark, and Golder (2006), a single interaction can yield highly biased results if the efforts of more than one variable are systematically heterogeneous in the interacting variable. In an application as ours, it is unfortunately very difficult to do much about the problem, due to the high–precision level of fixed effects of our main specifications, which invalidates any attempts at estimating a fully moderated model. However, we note that there really are no good theoretical reasons to expect standard economic effects to vary with, e.g., our IPP measure. Although the problem outlined in Blackwell and Olson (2022) implies that we must be careful when interpreting the findings, from a theoretical perspective, omitted interaction bias appears as a minor problem.

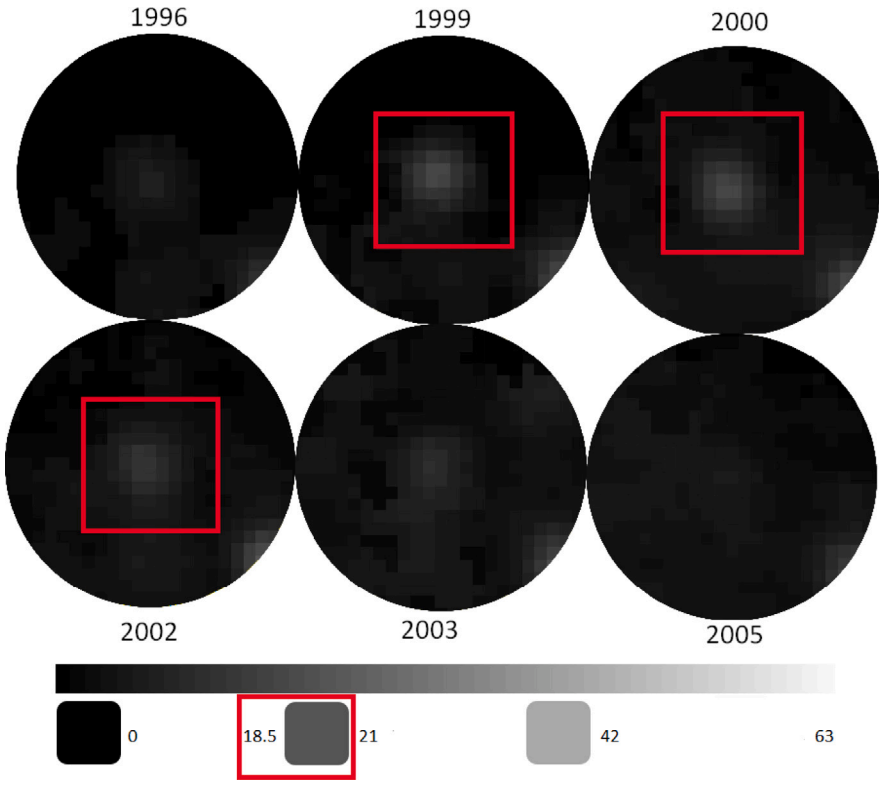


Fig. 4. Night lights in Alburquerque's birth region.
Notes: Images generated by authors that represent the change in night light emissions between 1996 and 2005 in regions within approx. 11 km Rafaela Alburquerque's birthplace. Rafaela Alburquerque acted as president of the Dominican Republic assembly 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.

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 Fig. 4.

4.1. Main results: Parliament's favoritism

Our baseline results for Eq. (1) are reported in Table 1. 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.[17] 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 1 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 1, 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 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.[18] 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

[17] 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 A.1.2, which is included in Online Appendix A.1. 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.

[18] In Figure B.1 in Online Appendix B, 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 × 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).

Table 1
Leader effects on Economic Activity.

	111 km			55 km			28 km			11 km		
	(1) Light	(2) Light	(3) Light	(4) Light	(5) Light	(6) Light	(7) Light	(8) Light	(9) Light	(10) Light	(11) Light	(12) 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	183 082	183 030	183 030	183 082	183 030	183 030	183 082	183 030	183 030	183 082	183 030	183 030

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.

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 A.1.3 in the Online Appendix A.1 by reestimating our main specifications 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 an 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.[19] These findings are consistent with our hypothesis on the existence of clientelistic networks and vote–buying practices 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 (De Luca et al., 2018; Dreher et al., 2019; Hodler & Raschky, 2014), we expand the analysis in Table 2 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 work. In column 1 we use the influential work of Hodler and Raschky (2014), in which 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 estimate of presidential favoritism. In column 2 we use our main model, as represented in Eq. (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 might strategically move funds from region to region.[20] Most pertinently, Seim, Jablonski, and Ahlbäck (2020) show that once elected politicians receive information on the places that have already received funds, they are less likely to channel funds to those places.[21] We thus generate a set of tests to analyze whether such mechanism might be taking place in LAC. Columns 3 to 5 use Eq. (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 ($PastPresidentBR_{t-1}$), a parliament leaders ($PastLeaderBR_{t-1}$), or either of the two ($PastAllLeadersBR_{t-1}$).

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, from the executive or the legislative, experience a decrease in their economic activity. These decreases range between −15.4% (column 3) and −22.4% (column 4) of the output of night light emissions. On the one hand, 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, the results also shed light on the relevance of signaling/information as it might very well drive the patterns of redistribution. In addition, Table 2 suggests that LAC executive leaders might not systematically favor specific regions but strategically allocate resources based on whether regions received resources in the past or not.

4.2. 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 3 we display the results for Eq. (2) using different, potentially relevant de jure and de facto variables as our Country–Year–Variable (CYV) of interest. The table divides results into 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, the 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

[19] Column 4 of Table A.1.3 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.

[20] See, for example, Cruzatti, Dreher, and Matzat (2023).

[21] 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.

Table 2
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	183 082	183 030	183 030	183030	183 030

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.

constitutional entrenchment might represent a strong source of de facto influence. Third, in columns 5–7, apart from combining interactions of our 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 Fig. 5—shows that parliamentary leader's favoritism is more evident in countries where parliamentary power (IPP) is larger. In column 1 we directly use the IPP, whereas for column 2 we created different categories by dividing observations into balanced terciles.[22] 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 occurs within one year in regions closest to the parliamentary leader's birthplace. In other words, once the parliament of a country is constitutionally capable of enacting almost half of the items listed in B.1, redistribution to their birthplaces takes place.

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 (Chasquetti, 2001; Hochstetler, 2008; Pérez-Liñán et al., 2008). An example of this tendency is the wave of constitutional assemblies enacted by left–wing populist governments since the start of the 2000's (Gidron & Bonikowski, 2013; Gordon-Burroughs & Piazza, 2015; Mouffe, 2016, 2020; Mudde & Kaltwasser, 2013).[23] 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.[24] One can start seeing the role of age for constitutions in Fig. 6. 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.[25] As seen, 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 been in place (*AgeConstitution*>0), however, such favoritism decreases (by 0.2%, at the 10% level). These estimates imply that the favoritism effects of a novel constitution are overcome once the constitution is old enough—approximately, 63 years old (0.127/0.002)

The results in columns 1 to 4 in Table 3 suggest that the influence defined by the constitution can be thought of as multidimensional: A formal (*de jure*) dimension is reflected in the power formally allocated

[22] 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 B.2 of the Online Appendix B. 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 3 and Fig. 5.

[23] Many of the governments of the so–called "pink tide" governments in Latin America promoted new constitutional frames and important institutional changes during their terms. These presidencies included the cases of Rafael Correa in Ecuador, Evo Morales in Bolivia, Cristina Fernandez in Argentina, Lula Da Silva in Brazil and Hugo Chavez in Venezuela, among others. During the first decade of the XXI century, these presidencies were cited as practical examples of the left–wing populism, according to the theoretical frameworks of Chantal Mouffe, Ernesto Laclau, Jan–Werner Muller, Gidron and Bonikowski, Cas Mudde, and others.

[24] We also test the role of the number of years since the last amendment to the constitution ($AgeAmend_{t-1}$) in Table A.1.4 in Online Appendix A.1. 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.

[25] *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 B.3 of the Online Appendix B.

Table 3
Mechanisms: *De jure* and *de facto* influence.

	De jure		*De facto*		*De jure and De facto*		
	(1) Light	(2) Light	(3) Light	(4) Light	(5) Light	(6) Light	(7) 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	182 205	182 205	182 221	182 221	182 205	183030	183 030

Notes: All specifications use the 11 km 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.

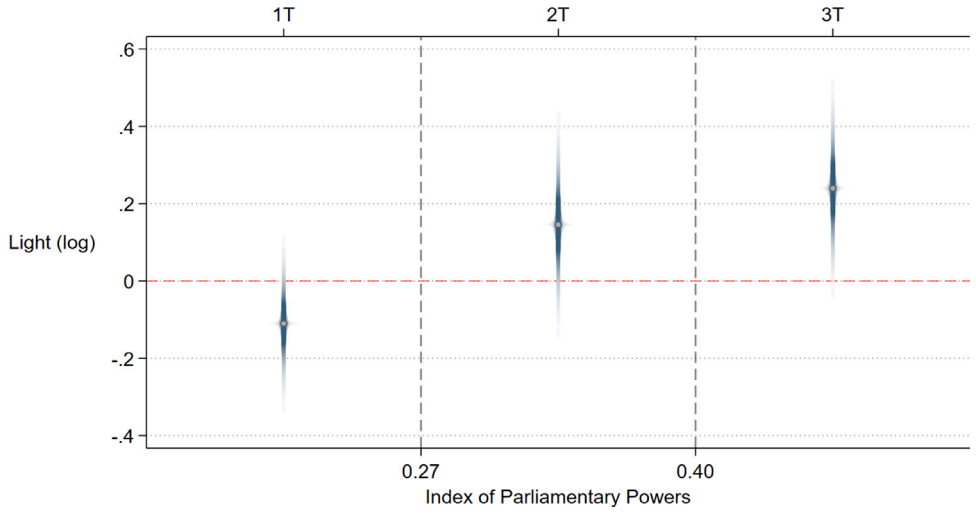


Fig. 5. Effects of given Parliamentary Power in Leader Regions.
Notes: The figure graphically shows the results of column 2, Table 3. 1T, 2T, and 3T on the top *x*-axis refer to each IPP tercile, as explained in footnote 22. The darkest blue shading represents the 90% confidence interval (CI), while the lighter blue indicates the 99% CI. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

to parliament in the constitution (i.e., *IPP*), and another informal dimension is defined by the (*de facto*) discretionary power allowed by less entrenched constitutions (i.e., *AgeConstitution*). As such, one might argue 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

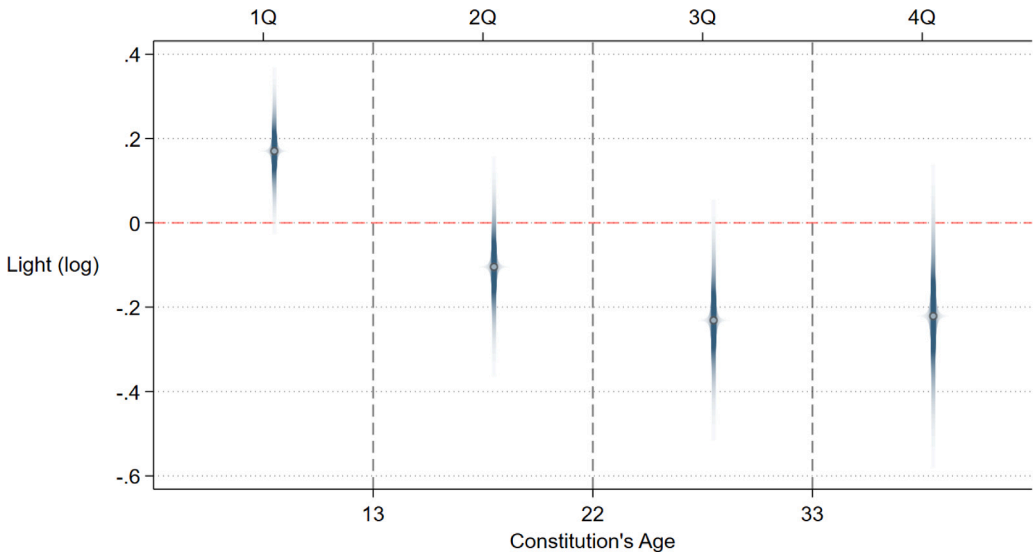


Fig. 6. Effects of Constitution's Age in Leader Regions.
Notes: The figure graphically shows the results of column 4, Table 3. 1Q, 2Q, 3Q, and 4Q on the top *x*-axis refer to each *AgeConstitution* quartile, as explained in footnote 25 and computed in Table 3, column 4. The darkest blue shading represents the 90% confidence interval (CI), while the lighter blue indicates the 99% CI. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

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 indicate that while parliament leaders enact favoritism when explicitly given bigger influence on matters of the state, such favoritism is constrained by how entrenched the constitution is.[26]

Leaders' incentives to take arbitrary action are, nevertheless, not only shaped by formal 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, Dasgupta, Dhillon, & Dutta, 2009; Baskaran & Hessami, 2017; Brollo & Nannicini, 2012; Curto-Grau, Solé-Ollé, & Sorribas-Navarro, 2018). Column 6 in Table 3 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 Eq. (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 3 reports the estimates of interacting an upper house leader's dummy $LeaderUpperHouse_{t-1}$ with our main variable of interest $LeaderBR_{t-1}$—as mentioned in the primary analysis, $LeaderBR_{t-1}$ refer to the leaders of the lower house only. As with the executive leaders, we do not find evidence pointing in this direction.

Overall, the evidence presented in Table 3 suggests at least three things. First, institutionalized sources of discretionary power, i.e., de jure influence, are relevant moderators 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.

4.3. 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 4. We use similar setups to those of Eqs. (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.[27] 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). We rely on data for 3,245 World Bank aid project locations between the years 1995–2014, and 137 China aid project locations between 2000–2014.[28]

[26] We test the role of several other proxies of institutional influence in Table A.1.5 of Online Appendix A.1. The table shows the country variables of Table B.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 we check more traditional sources of potential heterogeneity in Table A.1.8. 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.

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

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

On the one hand, as can be seen in column 1 of Table 4, our coefficient of interest for WB aid is insignificant, 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 3—with our usual dummy on leader regions. The interactions $LeaderBR_{t-1} \times IPP2T_{t-1}$ and $LeaderBR_{t-1} \times IPP3T_{t-1}$ show that leader regions only experience a statistically significant increase of aid when IPP is relatively high (IPP>0.27) too. These findings suggest that parliamentary leaders can indeed channel aid to their birth regions under particular institutional circumstances. However, a priori, our results in column 2 pose a puzzle: 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 3 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 2). One mechanism behind these decisions can relate to information on resources given to particular regions in the past (Table 2, 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 3—parliament regions receive less. However, 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).[29] 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 fewer constraints than World Bank policy, one would expect questionable practices (such as political favoritism) to be present in a larger number of individuals (Isaksson & Kotsadam, 2018) and thus less apparent in the elites we analyze in this study.

The results of Table 4, 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 types 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 a channel through which leaders can improve the economic performance of their birth regions.

In the Online Appendix we run several robustness tests. We examine the potential bias in identifying regional favoritism based on specific variables. Even when controlling for regional fixed effects and other potential controls, the primary identification remains consistent. The same applies to using other analysis units, or an extended time sample of night lights. One notable control tested is the use of night lights as a proxy for both economic development and agglomeration. This control is refined to distinguish between actual economic development and mere agglomeration by adding population and GDP per capita variables. Despite these refinements, the core findings about favoritism are not significantly affected.

We conduct time–related robustness tests to account for possible trends affecting the relationship between economic activity (as captured by night light) and the birth regions of parliament leaders. These tests solidify the main finding: the effects of favoritism align closely with the tenure of parliament leaders from specific regions. We also see that unobservable time trends do not influence the intensity of night light emissions in a leader's birth region. When accounting for the experience of the leader, the results remain consistent, indicating that the tenure or experience of parliament leaders do not influence their tendency to favor their home regions. Furthermore, we look at the influence of leadership roles on regional economic development. Tests considering other types of leadership, such as those from the legislative branch, are conducted but do not significantly alter the main results.

We also graph the redistributive decisions of leaders over time, showing a significant increase in night light emissions in the first year of the leader's term. In line with previous work, we show how this impact quickly wanes after the first year, suggesting that these leaders exert their influence in short bursts.

We show a comprehensive review of the various tests run throughout the study in Figure A.2, and the main result shows a positive and moderately significant effect of parliament leaders' favoritism across multiple specifications.

5. Conclusions

Recent studies have documented the phenomenon of presidents and prime ministers favoring their home regions by channeling resources to them. This phenomenon, known in developed democracies as a specific type of political favoritism, 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, in 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 had 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.

[29] 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.

Table 4
Favoritism and aid: World Bank vs. China.

	(1) WB Aid	(2) WB Aid	(3) WB Aid: Executive vs. Legislative	(4) China Aid	(5) China Aid	(6) 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	182 221	182 205	182 205	182 221	182 205	182 205
Countries	39	38	38	39	38	38

Notes: All specifications use the 11 km 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.

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 clientelistic exchanges and vote–buying practices 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, but especially when the constitution explicitly grants them high discretionary power and when less entrenched constitutions allow them more de facto influence.

CRediT authorship contribution statement

John Cruzatti C.: Conceptualization, Methodology, Software, Validation, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing review & editing, Visualization, Supervision, Project administration. **Christian Bjørnskov:** Conceptualization, Methodology, Investigation, Resources, Data curation, Validation, Writing – original draft, Writing – review & editing. **Andrea Sáenz de Viteri:** Conceptualization, Methodology, Software, Validation, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization. **Christian Cruzatti:** Conceptualization, Resources, Writing – original draft, Writing – review & editing.

Declaration of competing interest

Christian Bjørnskov acknowledges support from the Jan Wallander and Tom Hedelius Foundation (grant P23-0186). None of the coauthors have any particular conflict of interest to declare.

We affirm that this declaration accurately reflects our interests regarding the manuscript.

Data availability

Data will be made available on request.

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Appendix A. Supplementary data

Supplementary material related to this article can be found online at https://doi.org/10.1016/j.worlddev.2024.106706.

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