Political Cycle in World Bank's Procurement Allocation

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This paper investigates the existence of a political cycle in World Bank's procurements contracts. Using a gravity model intended to predict the determinants of the number of procurement contracts won by a supplier firm in a given recipient country and year, our results suggest that more contracts are allocated around the election in the supplier firm's origin country. Firms would indeed win 14.8% more World Bank procurement contracts one year before and during the election year in their home country. Our findings thus support the existence of a domestic political cycle rather than a cross-country one. Additional results also provide strong hints of cronyism in the attribution of procurement contract.

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1 Introduction

Consider Colas, the French leader in road construction, part of the Bouygues conglomerate, winning a World Bank procurement contract for the construction of three bridges in Madagascar in 2011. See then Nagarjuna Limited, a large Indian public construction company who won two World Bank contracts for road construction in Tamil Nadu's state in 1995. At first sight, there is not so much in common between those two examples. Just two civil works contracts in developing countries and the comparison ends here. However, both situations happened one year before a national election in the firms' respective country of origin, France and India. Even if those illustrations appear to be isolated, they bring us to our main research question: Do firms win more World Bank procurement contract around election year? Before entering to the core description of our hypothesis, an overview of the World Bank procurement contract allocation process seems essential. At first, the bank agrees to fund a project in a given place. It is then the recipient country's duty to choose the firm in charge of the project's execution. The selection of the supplier can be conducted through several procedures.

The most common procurement allocation method, at least for the period that we cover (1995-2019) is the Quality and Cost Based Selection. According to the World Bank Procurement Regulations for Investment Project Financing Borrower (2016), it is a "competitive process among shortlisted firms under which the selection of the successful one takes into account the quality of the Proposal and the cost of the services". The highest combination of quality and cost is considered as the most advantageous proposal. This process is used exclusively for consultancy contracts. The second procurement allocation method is the International Competitive Bid. Here, the recipient government has to advertise the procurement opportunity. Firms from all over the world can candidate if they meet the World Bank's prequalification. This procedure is mainly used for goods and civil work contracts. The third procurement allocation method is the Single Source Selection where the choice of the supplier is at the discretion of the recipient government. Of course, this procedure lacks of transparency and the World Bank's Guideline for Selection and Employment of Consultant (2014) encourages using it only in exceptional circumstances. Yet, this method applies to 22% of the World Bank contract between 1995 and 2019. It has been mainly used for consultancy missions, but for some goods and civil work contracts as well. Finally, the forth procurement allocation method is the National Competitive Bid. It is similar to the international one, the main difference being that only firms coming from the recipient country can answer to the call for tender. Like its international equivalent, this method has been mainly used for civil work and goods contracts. There exist other procurement allocation methods, which remain marginal and do not enter in those four main categories. After choosing

the supplier through one of these methods, the World Bank funds are transferred to the selected firm and the project can start.

Our main hypothesis is that firms win more World Bank procurement contracts around their origin country election years. But one needs to distinguish whether the supplier firm comes from the recipient country or not, because it implies two different stories.

Let's first consider the case where the supplier does not come from the recipient country, but rather from a developed one (as most of recipient countries are developing economies). For an easier comprehension of the mechanism, we denote the supplier firm's origin country as s and the recipient as r. Let's assume an election is upcoming in country s and that the goal of the incumbent government is to be reelected (which does not seem to be an unrealistic assumption). In order to achieve this objective, the incumbent government is seeking funds for its campaign or party. One possible way to obtain such financial support would be to help a domestic firm winning a World Bank procurement contract in the country r. To this aim, s could use its economic or diplomatic influence over r's government, so they choose a supplier coming from s under one of the World Bank's procedures described above. In the end, the selected firm is grateful and accepts to fund the incumbent's campaign.

The case where the supplier comes from the recipient country is slightly different. The incumbent government has the same will to be reelected and is looking for funding as well. As the recipient government receives World Bank contract to distribute, it can "rig" the allocation process and select "friend" domestic firms that would accept to fund the campaign in exchange of a procurement contract.

Those two stories are different because the case where the supplier comes from the recipient does not involve a cross-country game of influence. However, both situations include crucial electoral motives to choose or push for a domestic firm to win a World Bank procurement contract, which implies a return of favor from the selected corporation to the government. Those two cases also denote a sub-optimal choice of the supplier firm. The chosen firm may indeed be the favorite for incumbent's interest, but not the best quality/price ratio to conduct a World Bank project.

There could be several limits to our mechanism presented previously. The quite independent choice of the contractors from the recipient, no matter what is the allocation method, is the main assumption to those stories. But the World Bank can review the choice of the supplier firm, especially for Quality and Costed Based Selection and International Competitive Bid, and put its veto if they see any irregularities. However, the existing literature comforts us in the probability of our mechanism to occur. Focusing on World Bank procurement contract in civil works and International Competitive Bid, Zhang and Gutman (2015) show that only 30% of the contracts are reviewed by the

World Bank. This limited audit combined with the existence of Single Source Selection allocation method makes therefore these stories likely to happen.

Our hypothesis also implies a relative shortcoming from the World Bank, especially on its procurement allocation process and review. It would not be the first time that World Bank contracts are not allocated through the optimal process imagined by the institution. First, Kaja and Werker (2010) found that a country receives more World Bank projects in year where it has a representative in the World Bank Board of Directors. McLean (2017) and Zhang and Gutman (2015) both identified the existence of a domestic preference for World Bank procurement contract while using the same dataset as us, more especially IBRD/IDA and civil works ones. In other words, the recipient country tends to take advantage of their dominant position in the supplier's choice to favor domestic bidders. Dreher et al. (2019) focus on the contracts from the International Finance Corporation, one of the four branches of the World Bank aiming to develop the private sectors of developing countries. Their results suggest that country's membership in the board of the IFC would influence the contract's allocation, as firms coming from developed countries with a member on the board would receive more loans. Considering the initial goal of this World Bank's branch, this can be considered as far from optimal.

The main limit to our cross-country story would be to consider that suppliers do not use their influence to get what they want from the recipient countries. This statement could be considered as naïve regarding the existing literature on aid. According to Kuziemko and Werker (2006), the amount of ODA received from the USA and the United Nations would significantly grow (by respectively 59% and 8%) in years were the recipient country has a representative in the Security Council of the UN. This result seems to depict a vote buying from the usual supplier to recipient countries through aid, as this gain is larger in key diplomatic years (i.e. when the Security Council's vote is crucial). Dreher et al. (2009) show a similar pattern for World Bank's aid, as the number of project received would be higher in years where the recipient has a member in the UN Security council. As it already exists for vote at the UN, we can consider that an influence from the supplier to the recipient about the choice of the contractor is likely to happen.

Another limit in both mechanisms could occur if we consider the incumbent government from r or s compliant with the principles of the World Bank. In other words, they would like to maximize the efficiency of multilateral aid and let the best firm win through the classical channels. However, findings in the political cycle literature can let us think that a given incumbent government is willing to act against the general interest out of electoral greed. For instance, Bracco (2018) and Bertoli and Grembi (2018) find respectively a lower and a greater occurrence for traffic tickets and road traffic accidents around local elections in Italy. In order to support their reelection, mayors (that are

head of the local police in Italy) are willing to reduce traffic tickets and road law enforcement around election years in order to attract the electors' sympathy, even if it implies a decline in law enforcement, leading to an increase in the accident rate.

Another strong assumption of our story is the existence of a solid connection between government and corporation, notably for the funding of candidates and political parties against procurement contract. The existence of such a return of favor has already been established in the literature. Titl and Geys (2019) evidence this kind of connection for public procurement contract in Czech Republic between 2007 and 2014. More precisely, firms donating 10% more to a political party gaining (losing) power would witness an increase (decrease) in the value of their public procurement contracts by 0.5–0.6%. Daniele and Bennedsen (2010) find similar results in what they describe as the world's least corrupt society: Denmark.

This return of favor relation between government and corporation is also expected be more pronounced around election years. Kapur and Vaishnav (2013) suggest that construction firms in India experience a short-term liquidity crunch around election year, which translates in a decrease of their cement's consumption. Those firms would encounter this situation because they spent their treasury in order to fund electoral campaigns. Mironov and Zhuravskaya (2016) observe an increase in tunneling around election years for firms with a procurement contract in Russia, which is an illegal practice where company insider directs company assets or future business to themselves for personal gain. In other words, it is an increase in corruption for the public procurement allocation around regional election years, as cash would go from firms to politicians in exchange of procurement contracts. Likewise, Goldman et al. (2013) identify that US companies connected to the winning (losing) party receives significantly more (less) procurement contract after the election. In a nutshell, these various results underline the idea of procurement as an object of trade between firms and politics in order to affect the outcome of upcoming election.

In the same vein, our paper enters this dimension of links between corporation and government regarding public contract. Despite the structure of our data which prevents us to have such concrete evidence of cronyism, we aim at contributing to both the literature about political cycles in procurement and the World Bank's procurement literature. To our knowledge, no previous research ever focused on the link between election and the choice of the World Bank's contractors. The novelty of our subject and the way we approach this question is therefore a contribution for both strands. We indeed resort to a gravity model in order to assess the impact of election on World Bank's procurement contract allocation. To the best of our knowledge, Waldemar and Mendes (upcoming), who look at the cross-country determinants of European Union's procurement contract, is the only other research that employ tri-dimensional data (a supplier, recipient and

time dimensions). Our paper also complements McLean (2017) and Zhang and Gutman (2015) approach, as we suggest the existence of a political cycle for the domestic preference they both identified. In other words, the recipient country would tend to favor local companies for the execution of World Bank contracts particularly around election year, which is a way for the incumbent government to get more financial support for the upcoming election.

Using both the World Bank's Contract Award Database and the Database on Political Institutions, we try to assess the potential political cycle in the World Bank procurement contract's allocation. Our results validate the existence of political cycle, as firms win significantly more World Bank contracts around election years in their origin countries. More precisely, they would obtain respectively 14.8% more contracts one year before and the year during the election in their home countries. This political cycle would mainly originate from cases where the supplier firms come from the recipient country, suggesting the existence of a domestic political cycle. Additional results also suggest the presence of cronyism, as this cycle would be more pronounced in political environment fertile for such situations. Our paper is organized as the following: section 2 introduces the data and the empirical strategy used in order to evaluate the political cycle in World Bank procurement contracts. Section 3 presents the main results, several robustness checks and an investigation of the political cycle's heterogeneity by types of contract. Section 4 explores the cronyism dimension of the observed political cycle by evaluating the intensity of the latter in environment favorable to such return of favors. Section 5 concludes.

2 Data and empirical strategy

2.1 Data

In line with McLean (2017) and Zhang and Gutman (2015), our paper builds on the World Bank's Contract Award Database [1]. The latter gives information for major contracts between the year 1993 and 2019. As the database seems rather incomplete for the year 1993 and 1994, we focus on the 1995-2019 period. The information present is highly detailed: name of the supplying firm, its country of origin, date of the contract's signature, contract's amount (in US$), recipient country, contract's category and allocation method are indeed available in this database. It also presents the second, third and fourth bidders' nationality for contracts awarded through International Competitive Bid. This information was however quite incomplete and we decided not to use it.

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[1]https://www.worldbank.org/en/projects-operations/products-and-services/brief/summary-and-detailed-borrower-procurement-reports

From this raw data, we constructed the number of World Bank contracts implemented in recipient country r and won in year t by firms coming from country s, which is our main dependent variable. This construction is quite similar to the left hand side variable of Waldemar and Mendes (upcming) who look at the cross-country determinant of European Union's procurement determinant and which have a very similar dataset structure. We could have used instead the number of firms coming from supplier s who won a WB procurement contracts in the recipient r in year t. We were however worried to miss essential information with his measure as one or two firms could have absorbed the majority of contracts won by their country of origin in a given recipient r and year t. Even though only 27% of the firms won more than one contract in a given recipient r and year t, we used the safest dependent variable. In overall, we have 179,187 World Bank's contracts won by 132,762 firms coming from 197 supplier countries for project located in 153 recipient countries between 1995 and 2019. We considered in the group of supplier (recipient) countries that won (received) at least one World Bank contract over the period, which explains why the number of supplier and recipient countries is different.

We constructed our set of four variables of interest from the World Bank's Database of Political Institutions. Institutional and electoral information such as "measures of checks and balances, tenure and stability of the government, identification of party affiliation and ideology, and fragmentation of opposition and government parties in the legislature" for 180 countries between 1975 and 2015 are available in this dataset. We built the election year (a dummy variable equal to one if there is an election in year t in the supplier country s) based on the number of years left in power for the incumbent government. When the latter is equal to one, it means that an election is happening. The election considered can be the legislative or the presidential election if the political system is respectively parliamentary or presidential. As the mean mandate length is 4.4 years, we decided to build four election variables going from two years before the election to one year after the election, so our set of dummies do not overlap between themselves.

Table 1 below presents some descriptive statistics for our five main variables.

Table 1: Descriptive Statistics - Main Variables

	Observations	Mean	sd	Min	Max
Number contracts	800,637	0.23	5.29	0	815
Year t-2	800,637	0.17	0.37	0	1
Year t-1	800,637	0.21	0.40	0	1
Election Year	800,637	0.21	0.40	1	1
Year t+1	800,637	0.20	0.40	0	1

2.2 Empirical Specification

In order to test our hypothesis, we resort to a gravity model estimated thanks to Poisson Pseudo Maximum Likelihood regression, as it is widely used in the literature about gravity models (Sun and Reed (2010), Gómez-Herrera (2013), Larch et al. (2019)).

$$Number_{s,r,t} = \alpha + \sum_{i \in -2,1} \beta_i Election_{i,s,t} + \delta X_{r,t} + \gamma W_{s,t} + \sigma H_{s,r,t} + \mu_t + \theta_s + \omega_r + \zeta_{s,r} + \varepsilon_{s,r,t}$$

The variable $Number_{s,r,t}$ denotes the number of World Bank procurement contracts implemented in recipient country r and won in year t by firms coming from country s. Bilateral combinations without any contracts are included to our dataset in order to maximize the sample size, get a counterfactual (i.e. cases where firms from a given country s do not win any procurement contracts in year t), and create a gravity dataset. A significant proportion (96%) of the $Number_{s,r,t}$ variable is thereby set to zero, which warrants the use of a PPML regression (Sun and Reed (2010), Gómez-Herrera (2013), Larch et al. (2019)).

Political cycles in supplier countries are captured thanks to a set of four dummy variables. They respectively takes the value one if the year t is two years before, one year before, the same year or one year after an election year in country s, which is the home country of the supplier firm. Those variables have been built thanks to information retrieved from the Database of Political Institution (DPI). Following the existing literature about political cycles' effects, we use the same dataset and kind of variables as in Kapur and Vaishnav (2013), Klein and Sakurai (2015) or Bracco (2018) [2]. We also gather information about the type of elections as they can differ according to the political system of the country s: legislative elections if the system is parliamentary or presidential elections in the context of presidential systems.

The use of gravity models does not prevent being subject to endogeneity concerns but do alleviate some important estimation biases. First, since election years are regular and set by the domestic constitution, the provision of several World Bank contracts in recipient countries r is unlikely to affect the date (i.e. the year) at which elections in supplier countries s take place (even if the supplier country is also the recipient country, i.e. winning and supplier firms come from the country allocating procurement contracts). Yet, one might express some doubts regarding this statement and think about cases where incumbent candidates would attempt to modify the domestic constitution (by changing the mandate duration, for instance) in order to move the election year

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[2]Since the Database of Political Institution ends in 2015 and do not include countries such as Kosovo, Montenegro or Serbia, missing years and countries have been added by the authors' contribution.

forward or backward and make it match with the year where the World Bank is providing procurement contracts to recipient countries r. But, again, this mechanism would be most likely in cases where the recipient country is also the supplier one and where constitution's safeguards are rather limited. Hence, we believe such behaviors remain far from being regular and as a consequence, do not threat our assumption formulated about the absence of reverse causality.

But, despite being relatively unexposed to reverse causality, other usual endogeneity threats arise such as the omitted variable bias. There might indeed be a tons of reasons explaining 1) the number of procurement contracts receive by country r, 2) the number of contracts won by firms from country s, and 3) why a firm from a country s would win a procurement contract in a country r, beside upcoming elections in the country s. In order to mitigate this bias we expand our specification with numerous control variables and a wide set of fixed-effects.

Tackling first time variant heterogeneity common to all countries over the study period, we add to our specification a set of year fixed effects (μ_t) which, to some extent, controls for factors affecting similarly sample countries such as World Bank's resources or its policy orientation that might determine the number of contracts funded over time.

Second, we attempt controlling for time invariant heterogeneity at either the supplier country (θ_s) and the recipient country level (ω_r). Supplier fixed effects thus aim at absorbing time invariant characteristics of country s that could explain why firms located in this country won a higher number of World Bank contracts (on average) between 1995 and 2019. For instance, the existence of a large construction sector (with an historical comparative advantage such as cheap but skilled labor force) absorbing a substantial share of World Bank civil works contracts would be hence controlled for thanks to the inclusion of supplier fixed effects. In the same vein, the inclusion of recipient fixed effects allows controlling for time invariant peculiarities that may explain, among other factors, disproportionate amounts of procurement funded in a given country r or a conducive ground for political cycles in procurement allocation.

Third, we enter to the specification a set of recipient-supplier pair fixed effects ($\zeta_{s,r}$) intended to handle any time invariant country-pairs characteristics that would explain a more intense relationship in terms of World Bank contracts between two countries. Colonial history, common language or geographic proximity are therefore accounted for into the specification thanks to these pairs fixed effects. Entering them to our specification were however much discussed between us. As we will see thereafter, the political cycle effect could stem from national political cycles rather than cross-country political cycles; in other words by cases where the supplier country (winning firms' home country) is also the recipient country (i.e. where $s = r$). The presence of pairs fixed effect would hence become useless as we already enter supplier fixed effects, which in this case

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would also consist in recipient fixed effects. We decided to keep it, as entering them into our specification do not affect the magnitude or the significance of our coefficients. Moreover, their presence within the model would secure cases where supplier countries differ from recipient ones.

Despite the inclusion of this large set of fixed effects, our estimates remain subject to the omitted variable bias as they do not tackle time varying heterogeneity at both the recipient and supplier level. We thereby try to reduce as much as we can such biases stemming by entering a significant number of control variables into our specification. Ideally, one would have controlled for time variant heterogeneity at those levels by imposing recipient-year and supplier-year fixed effects. While the latter cannot be added to the specification as it would capture the contribution of the political cycle in supplier countries, the former cannot be entered neither because of the nature of our data. Indeed, within the procurement dataset, 73% of the World Bank contracts are won by firms located in the recipient country. Consequently, for 7 out of 10 procurement contracts, recipient and supplier countries are similar ($s = r$). Therefore, variation within our variables of interest (the political cycle) mostly takes place at the recipient-year level and would be absorbed in the presence of recipient-year fixed effects. Consequently, in order to address time varying heterogeneity at both the recipient- and supplier level, we rely solely on the inclusion of time varying controls. Regarding recipient countries' heterogeneity over time, we first consider a set of variables ($X_{r,t}$) explaining recipient's propensity to receive more World Bank projects in year t. This set includes economic growth (in log), GDP per capita (in log), trade openness (measured as import plus export divided by the GDP), population (in log) [3] and the total aid received from multilateral agencies over GNI retrieved from the OECD's International Development Statistics. Given our inability of adding supplier fixed effects, we then add time varying supplier controls to our specification ($W_{s,t}$). They intend to grasp the supplier capacity to win a large number of World Bank contracts in a given year and encompass economic growth (in log), GDP per capita (in log), population (in log) and unemployment rate. [4,5]

In addition to these numerous controls and fixed effects, we finally enter a set of time varying bilateral controls ($H_{s,r,t}$), which tries to explain why a country pair would have a more intense relationship in terms of World Bank contracts in year t. Vote alignment at the United Nations assembly, military alliance (Correlates of War), Aid over GNI

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[3] Data for these four variables have been retrieved from the World Bank Development Indicators Database.

[4] All retrieved from the World Bank Development Indicators Database as well.

[5] The controls used are similar to the dependent variables used in the paper of McLean (2017) and Waldemar and Mendes (upcoming).

(OECD) and Trade (in log)[6] are thus also appended to the previous set of controls.

Lastly, and in order to tackle potential heteroskedasticity within country and over time, we impose a standard errors clustering at the supplier-year level. That way, the error term is corrected for potential correlation within those groups. In other words, we adjust standard errors for cases where the number of contracts won in year t by a firm located in country s would be correlated with the amount of contracts won the same year by the N-1 other firms, being also based in country s.

3   Results and robustness checks

3.1   Main regressions

The database on procurement contracts from the World Bank is very rich, hence providing a lot of information about each contract won such as the contract's allocation method, the sector to which this contract applies to, and the contract's amount. We make use of such information in the following sections of the paper in order to investigate potential heterogeneity in political cycles with respect to those characteristics but start by run regressions of our empirical specification exposed above. Table 2 display the results below. Focusing first on column (1), which provides estimate results over our entire sample of study, we observe that our intuitions about the existence of a political cycle in the allocation of World Bank procurement contracts appear as being confirmed, since coefficients associated with dummy variables capturing the years close to the election year are positive and statistically significant. These results indeed suggest that firms located in a supplier country s are (on average) more likely to win procurement contracts as their home country gets closer to the election year, and as compared to other (non-winning) firms located in non-supplier countries. Furthermore, we notice that the political cycle does not only materialize beforehand but also in the election year per se. Figure A1 illustrates the increasing likelihood of winning a procurement contract as years get closer to the election.

Yet, as explained above, among all procurement contracts reported in the database, more than 70% are won by firms located in recipient countries. One could thus legit wonder whether the political cycle observed in column (1) stems from cases where recipient and supplier countries are similar or from cases where they differ. In other word, we ask whether the observed political cycle in the procurement contract's allocation mostly takes place domestically or at the international-level (i.e. on a cross-country basis). To answer this question we re-run our specification by splitting the whole sample in two

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[6]CEPII BACI and UN Comtrade for some missing countries, such as the nations composing the Southern African Customs Union.

sub-samples: one where we only consider procurement contracts won by firms located in the recipient country (i.e. where the supplier country is also the recipient country), and the other one where supplier and recipient countries differ. Column (2) in Table 2 report results for the sub-sample where recipient countries are different from supplier countries while column (3) do it for the sub-sample considering similar recipient and supplier countries[7].

Results are unambiguous and do support the existence of a domestic political cycle in the procurement contracts' allocation rather than a cross-country one, as positive and significant correlations observed across the whole sample in column (1) are mainly driven by results from the sub-sample where recipient and supplier countries are identical. Furthermore, results from the interacted model, which accounts for the fact that supplier controls are similar to recipient controls when procurement contracts are won by domestic firms, reassess sub-sample results (column (4)).

Overall, this first set of results suggests that (on average) firms located in a given country are more likely to win a significantly higher number of World Bank procurement contracts when the country they are located in get closer to an election, especially the year before and the election year. More precisely, firms coming from a given country win 14.8% more contracts one year before and during the election year in their origin country [8]. However, the effect seems to vanish as election year goes away (in $t + 1$). Extrapolating a bit onward, these findings suggest elections' competitors potentially guiding the procurement contracts' allocation process in favor of national companies that may help them win the upcoming election. We next challenge our main findings through several robustness checks before investigating the potential mechanisms driving the political cycle of the allocation of World Bank procurement contracts.

3.2   Robustness Checks

3.2.1   Alternative dependent variable

We start challenging our main estimates by using different dependent variables. So far, the $Number_{s,r,t}$ variable was capturing the number of contracts won in year t by firms located in a supplier country s and allocated by recipient country r. But, such definition implies that most (or all) of the contracts might be won by only one (or few) firm located in the supplier country. Such a situation would not completely threat the existence of

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[7]The number of observation in this column may appear contradictory to the previous information stating that cases where $s=r$ are majority. It is however logical as the regression are run with the gravity data set, where the bilateral relation with no contracts are included. $s=r$ are therefore not the larger part anymore, but they are still the majority of cases where the number of contracts is not zero

[8]Computed as follows: $(exp^{\beta} - 1) * 100$, which is line with the trade literature using gravity models (Baier and Bergstrand (2007), Larch et al. (2019)

Table 2: Political Cycle in World Bank procurement contract - Main results

Dep. var.: $Number_{s,r,t}$	(1) Whole Sample	(2) Supplier $\neq$ Recipient	(3) Supplier $=$ Recipient	(4) Interacted Model
Year t-2 $_{s,t}$	0.0856 (0.048)*	0.0380 (0.033)	0.0936 (0.059)	0.0380 (0.033)
Year t-1$_{s,t}$	0.1377 (0.045)***	0.0268 (0.029)	0.1659 (0.056)***	0.0268 (0.029)
Election Year$_{s,t}$	0.1385 (0.047)***	0.0410 (0.030)	0.1615 (0.059)***	0.0410 (0.030)
Year t+1 $_{s,t}$	0.0638 (0.044)	0.0114 (0.029)	0.0683 (0.055)	0.0114 (0.029)
Year t-2 $_{s,t}$ X Same country				0.0556 (0.067)
Year t-1$_{s,t}$ X Same country				0.1390 (0.063)**
Election Year$_{s,t}$ X Same country				0.1205 (0.068)*
Year t+1 $_{s,t}$ X Same country				0.0569 (0.063)
Observations	115,862	112,617	3,245	115,862
R^2	0.82	0.41	0.70	0.82
Year Fixed Effect	Yes	Yes	Yes	Yes
Supplier Fixed Effect	Yes	Yes	Yes	Yes
Recip Fixed Effect	Yes	Yes	No	Yes
Recip x Supp Fixed Effect	Yes	Yes	No	Yes
Supplier Controls	Yes	Yes	Yes	Yes
Recipient Controls	Yes	Yes	No	Yes
Bilateral Controls	Yes	Yes	No	Yes
Interacted Controls	No	No	No	Yes
Interacted Fixed Effect	No	No	No	Yes
N supplier year (clusters)	4,204	4,103	3,245	4,204

Note: Robust standard errors in parentheses clustered at the supplier-year level. *, **, *** denote significance at the 10, 5, and 1% level, respectively.

a political cycle in the procurement contracts allocation, but would raise some doubts about the identification of a genuine spread political cycle within the supplier country, as only one firm would benefit from it. Therefore, we suggest first replacing our initial dependent variable by another one capturing the number of firms coming from s winning a procurement contract in the recipient country r at year t, regardless of the number of contracts won by each winning firms.

Table 3 below report the results for both the main regression (in column (1) with the total number of contracts won by firms located in supplier countries as dependent variable) and the one with the number of winning firms in the supplier country as dependent variable (column (2)). Results from column (2) support the existence of a political cycle on the number of winning firms as much as with the number of contracts won. We next use another dependent variable, considering this time the average contract's amounts (in USD) won by firms located in supplier countries s in year t and allocated by r. Results in column (3) shows that, as elections are getting closer, firms are more likely of being granted bigger contracts which also goes in the sense of a political cycle as bigger "favor" are more likely to secure campaign supports. Two years before, on year before and during the election year in the origin country, the mean amount of contracts won by firms would rise by respectively 41%, 33% and 37% on average, which translates by an increase of 30.900$, 24.800$ and 27.600$. Table 3 thus show that our main findings remain unaltered by the choice of dependent variable and, more interestingly, suggest that political cycles in procurement contracts' allocation not only affects the number of contracts won, but also the number of winning firms and the average amounts of won contracts.

3.2.2 Sample dependence

Considering the above findings, dubious readers might still worry about the identified political cycle being actually driven by one or a small pool of countries, hence raising concerns about the identification of a genuine average political cycle across our sample. To address those concerns, we suggest running our main empirical specification, but dropping gradually the top supplier-year pairs in terms of number of contracts won. Table 4 display the top 15 number of contracts won in a supplier country s in a year t and inform about the distance of that year with respect to the country's election year. First, one can notice that all of the top 15 pairs display identical supplier and recipient countries. Second, one might also fear that figures about the number of contracts in the top 15 could indeed be seen as pulling coefficients from the main estimates and explain the domestic political cycle identified beforehand. For instance, Indian firms won 815 procurement contracts in 1998, so one year before the election year. To what extent such figures influence our main regression is the question we try answer to. Looking first at Table A1 in the appendix, column (1), one can notice that results are unaltered when excluding figures for India in 1998. We then keep on the analysis by successively dropping the top 2 to 5 observations in Table A1, the top 6 to 10 in Table A2, and the top 11 to 15 in Table A3. Coefficients associated in the years prior to the election year and the election year remain positive and statistically significant, even under our most

Table 3: Political Cycle in World Bank procurement contract - Alternative dependent variable

Dep. var.$_{s,r,t}$:	(1) Number of contracts	(2) Number of firms	(3) Mean amount/contract
Year t-2$_{s,t}$	0.0856 (0.048)*	0.0865 (0.048)*	0.3441 (0.158)**
Year t-1$_{s,t}$	0.1377 (0.045)***	0.1434 (0.046)***	0.2845 (0.121)**
Election Year$_{s,t}$	0.1385 (0.047)***	0.1182 (0.047)**	0.3124 (0.176)*
Year t+1$_{s,t}$	0.0638 (0.044)	0.0512 (0.044)	0.2159 (0.169)
Observations	115,862	115,862	115,799
R^2	0.82	0.82	0.53
Year Fixed Effect	Yes	Yes	Yes
Supplier Fixed Effect	Yes	Yes	Yes
Recip Fixed Effect	Yes	Yes	Yes
Recip x Supp Fixed Effect	Yes	Yes	Yes
Supplier Controls	Yes	Yes	Yes
Recipient Controls	Yes	Yes	Yes
Bilateral Controls	Yes	Yes	Yes
N supplier year (clusters)	4,204	4,204	4,204

Note: Robust standard errors in parentheses clustered at the supplier-year level. *, **, *** denote significance at the 10, 5, and 1% level, respectively.

conservative sample selection where we drop the top 15 observations (around 4.5% of the dependent variable's sum). This second set of results thus reassures us about the existence of a genuine average effect among the various countries having seen one or more of their firms winning World Bank procurement contracts.

But other doubts might stemmed out from the fact that political cycles in procurement contracts only occur in a particular region, and would thus be driven by regional characteristics (though such peculiarities should be captured by recipient or supplier fixed effects). To ensure the identification of a genuine average effect across the different regions of our sample, we re-run our main estimates on regional sub-samples. Table A4 in the appendix show that the political cycle effects materialize in almost all regions of our sample, beside in Latin American countries.

Table 4: Top 15 Supplier-Recipient pairs in number of contracts won

N contracts	Supplier	Recipient	Year				
				t-2	t-1	Election	t+1
815	India	India	1998	0	1	0	0
755	Vietnam	Vietnam	2010	0	1	0	0
746	India	India	1999	0	0	1	0
740	Vietnam	Vietnam	2009	1	0	0	0
565	Vietnam	Vietnam	2011	0	0	1	0
554	Afghanistan	Afghanistan	2010	0	0	0	1
532	China	China	2000	0	0	0	0
529	Vietnam	Vietnam	2013	0	0	0	0
502	Vietnam	Vietnam	2012	0	0	0	1
501	Bolivia	Bolivia	1997	0	0	1	0
488	India	India	2000	0	0	0	1
487	China	China	1998	0	0	1	0
485	Argentina	Argentina	1995	0	0	1	0
478	Afghanistan	Afghanistan	2013	0	1	0	0
478	China	China	2002	0	1	0	0

8,655 (4.64% of the total contracts)

3.3 Contracts characteristics and heterogeneity in political cycles

Building on the stability of our main findings, and thanks to the information relative to procurement contracts provided by the World Bank Procurement Database, we next investigate what type of procurement contracts are the most subject to political cycle effects.

We first start by assessing the existence of a political cycle with respect to the contracts allocation's method. According to our results in Table 2, which highlight that the political cycle mostly occurs domestically, we expect the overall effect being mainly driven by contracts allocated through processes that may easily favor domestic companies. Among the various allocation procedures exposed within the introduction, we hence assume most of the effect steming from contracts allocated through National Competitive Bid (NCB), Single Source Selection (SSS) or potentially Quality and Cost Based Selection (QCBS), rather than International Competitive Bid. Indeed, we believe worldwide competition would make cronyism more difficult to implement as compared to domestic allocation processes where recipient country can choose between national companies (NCB) or even select its favored one (SSS). As a result, given the domestic nature of the political cycle in procurement contracts, the ones allocated through an

International Competitive Bidding should be less likely to drive the correlation identified so far.

In order to identify whether one particular kind of allocation method concentrate the political cycle effects, we run regression on sub-samples where only one type of allocation method contracts are considered (the other contracts based on different allocation methods behind omitted from the analyses). We favor sub-sample regressions rather than estimates with interaction terms as, in the latter, coefficients' sign and significance would be read with respect to the reference category (in terms of allocation methods), hence making the interpretation more complex and less relevant. Resorting to sub-sample regressions has the advantage of keeping the reference category (i.e. the absence of contracts) similar for each types of allocation methods. Table 5 display the results for either the main estimate and the sub-sample regressions according to the type of contracts' allocation method.

Table 5: Political Cycle in World Bank procurement contract - Subsample on allocation method

	(1)	(2)	(3)	(4)	(5)	(6)
Dep. var.:	Whole		Allocation method:			Total
$Number_{s,r,t}$	sample	QCBS	ICB	SSS	NCB	Subsample
Year t-2$_{s,r,t}$	0.0856	0.0706	0.0056	0.1105	0.1013	0.0843
	(0.048)*	(0.053)	(0.063)	(0.054)**	(0.102)	(0.047)*
Year t-1$_{s,r,t}$	0.1377	0.0967	0.0127	0.1382	0.2562	0.1382
	(0.045)***	(0.052)*	(0.054)	(0.051)***	(0.085)***	(0.045)***
Election Year$_{s,r,t}$	0.1385	0.1217	0.0653	0.1460	0.1371	0.1393
	(0.047)***	(0.058)**	(0.060)	(0.054)***	(0.091)	(0.047)***
Year t+1$_{s,r,t}$	0.0638	0.0137	-0.0128	0.1023	0.0802	0.0623
	(0.044)	(0.050)	(0.052)	(0.054)*	(0.088)	(0.044)
Observations	115,862	75,124	63,366	61,526	13,713	114,832
R^2	0.82	0.68	0.71	0.77	0.81	0.82
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Supplier Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Recip Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Recip x Supp Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Supplier Controls	Yes	Yes	Yes	Yes	Yes	Yes
Recipient Controls	Yes	Yes	Yes	Yes	Yes	Yes
Bilateral Controls	Yes	Yes	Yes	Yes	Yes	Yes
N supplier year (clusters)	4,204	4,116	4,088	4,114	3,815	4,204

Note: Robust standard errors in parentheses clustered at the supplier-year level. *, **, ***
denote significance at the 10, 5, and 1% level, respectively.

As expected in the presence of a domestic political cycle in the procurement contracts' allocation, we observe that most of the political cycle in World Bank procurement contracts stem from contracts that are allocated through Single Source Selection (SSS)

or National Competitive Bidding (NCB).

Next, we focus on the sectors to which these procurement contracts apply to. Thanks to the information available within the database, we gather procurement contracts in three broad categories or sectors: Consultancy, Goods, and Civil Works. Based on our previous results and robustness checks conducted with the average USD amounts per contracts as dependent variable from Table 3, we could logically think political cycle effects mostly apply to contracts within the more lucrative sectors, i.e. where biggest contracts are granted. Figure A3 in the appendix would hence suggest some political cycles in the allocation of civil works procurement contracts as they are (on average) larger than those granted in the two other sectors (Goods, and consultancy). As for the heterogeneity analysis with respect to the allocation procedure, sub-sample analysis helps having a common baseline to which coefficients' sign and significance can be compared to, without dropping one of the category as benchmark. At first, our intuition seems to be verified, as the number of civil work contracts increases around election years. Results are reported in Table 6 below.

Estimate results from columns (2) to (4) suggest that political cycle effects in the allocation of procurement contracts affects mainly consultancy and civil works. Indeed, the statistical significance and magnitude of coefficients associated with years before the election year are rather strong in consultancy and civil work sub-sample estimates. Conversely, while we cannot completely rule out the existence of a political cycle in procurement contracts on goods, the coefficient associated with the election year is however marginally significant, albeit the p-value is closer to 0.05 rather than 0.10.

4   Cronyism: Investigating the transmission channels

Based on the above results, our initial assumption about the existence of a political cycle in the allocation of World Bank procurement contracts seems to mainly materialize at the domestic level. Such results thus suggest the prevalence of cronyism around election years, which has already been evidenced in the existing literature, yet at different levels and on different types of contracts or financing methods. Unfortunately, we do not have much information on winning firms characteristics, which prevents us conducting an in depth networks analysis between politics and firms that would help in investigating accurately cronyism in procurement allocation. Consequently, in what follows, we are taking on back roads in order to assess the existence of cronyism in procurement allocation methods by investigating the conditions favoring such political cycles.

Table 6: Political Cycle in World Bank procurement contract - Subsample on contract category

Dep. var.:	(1) Whole	(2)	(3)	(4)	(5) Total
		Contracts' sector			
$Number_{s,r,t}$	sample	Consultancy	Goods	Civil Works	subsample
Year t-2$_{s,t}$	0.0856	0.1137	0.0186	0.1255	0.0842
	(0.048)*	(0.050)**	(0.063)	(0.088)	(0.047)*
Year t-1$_{s,t}$	0.1377	0.1394	0.0777	0.2201	0.1378
	(0.045)***	(0.047)***	(0.054)	(0.075)***	(0.045)***
Election Year$_{s,t}$	0.1385	0.1452	0.1089	0.1539	0.1389
	(0.047)***	(0.051)***	(0.058)*	(0.077)**	(0.047)***
Year t+1$_{s,t}$	0.0638	0.0685	0.0472	0.0516	0.0623
	(0.044)	(0.048)	(0.053)	(0.075)	(0.044)
Observations	115,862	92,091	62,574	27,859	115,526
R^2	0.82	0.75	0.72	0.79	0.82
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes
Supplier Fixed Effect	Yes	Yes	Yes	Yes	Yes
Recip Fixed Effect	Yes	Yes	Yes	Yes	Yes
Recip x Supp Fixed Effect	Yes	Yes	Yes	Yes	Yes
Supplier Controls	Yes	Yes	Yes	Yes	Yes
Recipient Controls	Yes	Yes	Yes	Yes	Yes
Bilateral Controls	Yes	Yes	Yes	Yes	Yes
N supplier year (clusters)	4,204	4,204	4,054	3,951	4,204

Note: Robust standard errors in parentheses clustered at the supplier-year level. *, **, *** denote significance at the 10, 5, and 1% level, respectively.

4.1 Political environment

4.1.1 Democracies, anocracies, autocracies

In our context, cronyism is suspected to be implemented by politicians in order to finance their campaign (and ultimately buy votes). One of the first necessary condition for the realization of cronyism is therefore the existence of elections and the possibility of loosing power. Indeed, in countries where incumbents or ruling parties are sure to remain in power, there would be no need to interfere in procurement contracts allocation in order to look for national firms' support. We thus do not expect finding political cycles being driven by supplier countries without proper elections, and where the head of state is proclaimed on a discretionary basis, i.e. in autocracies.

In order to empirically investigate such assumption, we resort to Polity IV database and define three different categories of supplier countries according to their Polity IV scores. This scores goes from -10 up to +10. The Polity IV database next define countries as autocracies when this score is inferior or equal to -5, while countries are considered as anocracies when the score varies in a range from -5 up to +5. Lastly, each supplier

country with a Polity IV score above +5 is defined as a democracy. Conducting estimates of our main specification on these three sub-samples denoting the level of democracy, we hence attempt to see whether political cycles in procurement contracts allocation in supplier countries where there is a need for and an interest in cronyism. Table 7 below display the results.

One can notice that, in line with our intuitions, there is no political cycle in the allocation of procurement contracts within autocracies, which seems rather trivial as the power is already secured for ruling elites, who therefore do not need to find political supports among the private sector. According to these results, political cycles mainly took place within anocracies and democracies, while the timing of such political cycle is rather different from one sample to another. Results of column (3) indeed suggest that more contracts are won by firms around the two years preceding the election year in anocracies while firms have a larger probability of winning more contracts one year before and during the election year in countries considered as democracies. This difference in the timing of political cycles is pretty complex to explain as we do not really see what features might drive such results, beside the election year in anocracies being maybe more scrutinized and supervised in order to avoid fails in the democratic process.

Overall, these results, and especially the absence of political cycles in procurement contracts allocation within anocracies, pave the way for empirical support in our assumption of cronyism, motivating the investigation of the differentiated effects of elections years on procurement allocation with respect to alternative measures of political environment, intended to highlight the various channels allowing and fostering political cycles.

4.1.2 Political system and competitiveness

In the same vein as sub-sample estimates based on Polity IV scores, when next assess the existence of political cycles in procurement contracts allocation with respect to the political system of the supplier country. As already exposed, political cycle effects are essentially identified on a domestic basis and not on a cross-country basis. Consequently, and according to the above results, we also expect finding political cycle effects in countries where political system allow enough room and incentives for politicians to buy support from private companies through the allocation of procurement contracts.

To do so, we run our main estimates on various sub-samples, this time defined according to their type of political system. Using information from the Database on Political Institutions (DPI), we consider three different political systems; parliamentary, presidential, and assembly-elected[9], among which the latter would be less prone to cronyism

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[9]As defined by Beck et al. (2001), a politcal system is considered as assembly-elected if the executive

Table 7: Political Cycle in World Bank procurement contract - Subsample on Polity IV score

Dep. var.:	(1) Whole	(2)	(3)	(4)
		Polity IV category:		
$Number_{s,r,t}$	sample	Autocracy	Anocracy	Democracy
Year t-2$_{s,t}$	0.0856	-0.0242	0.1713	0.0662
	(0.048)*	(0.124)	(0.065)***	(0.051)
Year t-1$_{s,t}$	0.1377	0.0651	0.1896	0.1121
	(0.045)***	(0.101)	(0.066)***	(0.049)**
Election Year$_{s,t}$	0.1385	0.0763	0.0754	0.1424
	(0.047)***	(0.099)	(0.065)	(0.054)***
Year t+1$_{s,t}$	0.0638	-0.0435	0.0885	0.0528
	(0.044)	(0.118)	(0.067)	(0.048)
Observations	115,862	7,490	15,446	84,174
R^2	0.82	0.91	0.86	0.79
Year Fixed Effect	Yes	Yes	Yes	Yes
Supplier Fixed Effect	Yes	Yes	Yes	Yes
Recip Fixed Effect	Yes	Yes	Yes	Yes
Recip x Supp Fixed Effect	Yes	Yes	Yes	Yes
Supplier Controls	Yes	Yes	Yes	Yes
Recipient Controls	Yes	Yes	Yes	Yes
Bilateral Controls	Yes	Yes	Yes	Yes
N supplier year (clusters)	4,204	549	1,226	2,131

Note: Robust standard errors in parentheses clustered at the supplier-year level. *, **, *** denote significance at the 10, 5, and 1% level, respectively.

in procurement contracts allocation. We indeed see the assembly-elected system as being less subject to this kind of favoritism since gaining votes and support would mainly operate among political peers (i.e. from assembly members). Procurement contracts would thus be of little importance for competitors as they try buying support from assembly members for whom such contracts would be of little interest as they could not directly benefit from them. Yet, procurement contracts could be of importance for assembly-members (and therefore, for presidential competitors) in the case where 1) presidential competitors would transfer (in an indirect way) procurement contracts'

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is elected by an assembly rather than popular vote, and if the same assembly needs two third of the votes in order to impeach the executive, or if the assembly requires to dissolves itself in order to force out the executive. From the same paper, a system is considered as presidential if a single executive is elected by popular vote and if the president can veto legislation; or if not possible, the president can dismiss the cabinet and the assembly. Are considered as parliamentary systems where the president cannot veto a legislation and cannot dismiss the cabinet and assembly.

allocation decision to assembly members in order to gain their support and 2) where assembly members would seek for political support towards private companies in order to be re-elected. Incentive for incumbents to seek for private funding in order to be re-elected seems nevertheless more important for presidential and parliamentary systems. The results from Table 8 below confirms our intuition, since political cycles are only observed when supplier countries' political system are either presidential or parliamentary. Moreover, coefficients' estimates do not seem to really differ from column (3) to column (4), hence suggesting an equally strong political cycle in the allocation of World bank procurement contracts in these to types of countries.

Table 8: Political Cycle in World Bank procurement contract - Subsample with political system

Dep. var.: $Number_{s,r,t}$	(1) Whole sample	(2) Assembly elected	(3) President.	(4) Parliament.
Year t-2$_{s,t}$	0.0856 (0.048)*	-0.0649 (0.126)	0.0996 (0.057)*	0.1170 (0.067)*
Year t-1$_{s,t}$	0.1377 (0.045)***	0.0522 (0.106)	0.1439 (0.056)***	0.1560 (0.063)**
Election Year$_{s,t}$	0.1385 (0.047)***	0.0569 (0.094)	0.1345 (0.058)**	0.1765 (0.071)**
Year t+1$_{s,t}$	0.0638 (0.044)	-0.0708 (0.105)	0.0605 (0.055)	0.0883 (0.060)
Observations	115,862	7,356	44,857	61,640
R^2	0.82	0.91	0.85	0.71
Year Fixed Effect	Yes	Yes	Yes	Yes
Supplier Fixed Effect	Yes	Yes	Yes	Yes
Recip Fixed Effect	Yes	Yes	Yes	Yes
Recip x Supp Fixed Effect	Yes	Yes	Yes	Yes
Supplier Controls	Yes	Yes	Yes	Yes
Recipient Controls	Yes	Yes	Yes	Yes
Bilateral Controls	Yes	Yes	Yes	Yes
N supplier year (clusters)	4,204	365	2,398	1,466

Note: Robust standard errors in parentheses clustered at the supplier-year level. *, **, *** denote significance at the 10, 5, and 1% level, respectively.

We next turn to the effect of election years on procurement contracts allocation according to political competition of the last presidential election. We suspect past election competition influencing cronyism in the prospect of winning the upcoming election. Indeed, in countries pretty polarized in terms of political parties, we expect that a party

winning the past election by a thin margin would deploy additional efforts to secure its win in next election, by for instance, resorting more intensively to cronyism. Following Dubois (2016), Bracco (2018), and using data on presidential election results, we define competitive elections as elections where a candidate won by a margin equal or inferior to 5 percentage points of the votes. Building on this measure of competitive election, we then run our estimates on a sub-sample of supplier countries and years where the last election was considered as closely fought. Columns (1) and (2) in Table 9 display the estimate results for sub-sample of competitive elections and not competitive ones, respectively.

Table 9: Political Cycle in World Bank procurement contract - Subsample on competitive election and incumbent

	(1)	(2)	(3)	(4)
Dep. var.:	**Competitive Election**		**Compet. & Incumbent**	
$Number_{s,r,t}$	Yes	No	Yes	No
Year t-2$_{s,t}$	0.2077	0.0703	0.1994	0.1006
	(0.087)**	(0.051)	(0.090)**	(0.065)
Year t-1$_{s,t}$	0.1811	0.1371	0.2143	0.2069
	(0.074)**	(0.048)***	(0.077)***	(0.064)***
Election Year$_{s,t}$	0.2319	0.1225	0.2148	0.1316
	(0.080)***	(0.048)**	(0.083)***	(0.066)**
Year t+1$_{s,t}$	0.1661	0.0572	0.1744	0.0333
	(0.075)**	(0.047)	(0.071)**	(0.058)
Observations	26,138	72,691	18,077	25,026
R^2	0.76	0.84	0.76	0.86
Year Fixed Effect	Yes	Yes	Yes	Yes
Supplier Fixed Effect	Yes	Yes	Yes	Yes
Recip Fixed Effect	Yes	Yes	Yes	Yes
Recip x Supp Fixed Effect	Yes	Yes	Yes	Yes
Supplier Controls	Yes	Yes	Yes	Yes
Recipient Controls	Yes	Yes	Yes	Yes
Bilateral Controls	Yes	Yes	Yes	Yes
N supplier year (clusters)	807	3,373	562	1,710

Note: Robust standard errors in parentheses clustered at the supplier-year level. *, **, *** denote significance at the 10, 5, and 1% level, respectively.

We first notice that both sub-sample estimates display positive and significant co-efficients for years around election years, hence supporting the existence of a political cycles in procurement contracts allocation. At first sight, it therefore seems that election competitiveness does not really affect the existence of such political cycles. But, when comparing coefficients associated in year T-2 with respect to the election year

from column (1) and (2), we only observe statistical significance for the former one. The same is true for the coefficient associated with the year following the election year. This suggest a potentially longer political cycles when prior elections were tight, as compared to the length of political cycles when past elections' results were unequivocal. One explanation for such result might be that, given the significant competition encountered during the last election, candidates to the upcoming election, and especially these from the incumbent party, would try to avoid another tight election by entering in cronyism soon enough and buy support from private companies over a longer period, which would allow "recruiting" more supporters.

This explanation finds some empirical support from the results in column (3) and (4) of Table 9. Indeed, among the sub-sample of competitive elections, when differentiating elections with the incumbent and these with new candidates, estimates results show that the political cycle is longer for competitive elections where the incumbent is running for remaining in power. Thanks to its political and economic networks formerly established and its position that grants enough power to interfere in the allocation of procurement contracts, the incumbent should be more able to start cronyism earlier as compared with a new candidate that would not have such decision powers and connections.

4.2 Donations' rules: cronyism when is it allowed?

We think the set of results discussed so far in section 4 provide some evidence that the effect of elections on the allocation of World bank procurement contracts is far from being spurious. Indeed, the differentiated impacts of election years with respect to the extent of democracy, the political system, and the election competitiveness represent a first breach in the identification of cronyism in the allocation of this particular type of official assistance. In this last sub-section, we investigate this kind of cronyism in a more straightforward manner by differentiating the effect of election years with respect to the rules on corporate donations to political parties and candidates.

Building on data from the Political Finance Database, we identified supplier countries where companies can legally provide financial support to candidate or political parties. As we previously saw, political cycle effects in procurement allocation identified so far take place domestically, meaning that domestic firms benefit from elections in their home country since they won more procurement contracts as we get closer to the upcoming election. Given this domestic feature in political cycles, one would expect to find the effect of years around elections on the likelihood of winning more contracts to be accentuated in countries where companies are allowed to finance parties or candidates' campaigns.

The Political Finance Database draws up an inventory of donation rules on corporate

donations to political parties and candidates for a significant proportion of our sampled countries. Yet, these data are only available for one years (last update in 2018) hence preventing to get a time-variation within these rules. We hence make the assumption that countries nowadays allowing corporate donations to parties and candidate were already doing it in their early days, while countries that currently forbid such donations were strictly scrutinizing this type of financing over the past years, hence expressing some concerns about it. Looking first at Figure A4 in the appendix, we first notice that most of the countries where companies are allowed to provide financial support to candidates and parties are mainly developing countries, especially African and Eurasian countries. But, this kind of political financing should not be considered as a "development peculiarity" since some high-income countries such as Australia, New Zealand, Spain, Germany, the United Kingdom, and Italy also do allow corporate donations to candidates or parties. Given the significant cross-countries variation, we next estimate our main specification on four different sub-samples. The first one only consider supplier countries allowing donations to candidate, while the second does not. The third one encompasses supplier countries allowing corporate donations to parties while the fourth one does not. Table 10 display sub-sample estimates' results.

Focusing first on column (1) and (2) where the whole sample is split according to the rule about donations to candidate, we observe that the political cycle in the World Bank procurement contracts allocation only materializes in countries where companies legally can provide support to candidates. The magnitude of the coefficients associated with years around the election year is pretty high and suggests a rather long political cycle that seems to start two years before the election years (the political cycle intensifying itself as we get closer to the election).

The same is to be observed when applying as splitting criteria the rule about donation to political parties. Indeed, column (3) results suggest a more pronounced political cycle in countries allowing their companies to finance political parties, while the political cycles is much more scarce in countries that banned these corporate donations (column (4)). Lastly, we define another sub-sample, still thanks to the data from the Political Finance Database, considering countries that this time allow their companies to donate to candidate, parties, without any amounts limitation and where candidates do not have to disclose their finance. These countries are reported in the Figure A5 in the appendix. Based on the results of Table 10 and in a trivial manner, political cycle effects in the allocation of procurement contracts are expected to be mainly observed in this type of countries. Table A5 in the appendix report the results of estimates conducted on this sub-sample (column (1)) as well as on a sub-sample of countries banning this most extreme type of political financing (column (2)). Without any surprise, the political cycle in the allocation of World bank procurement contracts only takes place in countries allowing

Table 10: Political Cycle in World Bank procurement contract - Subsample on corporate donations rules

	(1)	(2)	(3)	(4)
Dep. var.:	Authorized Corporate's donations to			
$Numbers_{s,r,t}$	**Candidate**		**Party**	
	Yes	No	Yes	No
Year t-2$_{s,t}$	0.1283	0.0708	0.1284	0.0976
	(0.056)**	(0.068)	(0.056)**	(0.063)
Year t-1$_{s,t}$	0.2035	0.1001	0.2154	0.0640
	(0.054)***	(0.061)	(0.053)***	(0.059)
Election Year$_{s,t}$	0.1874	0.0746	0.1955	0.1127
	(0.059)***	(0.064)	(0.058)***	(0.058)*
Year t+1$_{s,t}$	0.1058	0.0541	0.1069	0.0493
	(0.054)*	(0.064)	(0.053)**	(0.059)
Observations	72,309	33,444	68,804	39,911
R^2	0.80	0.79	0.81	0.80
Year Fixed Effect	Yes	Yes	Yes	Yes
Supplier Fixed Effect	Yes	Yes	Yes	Yes
Recip. Fixed Effect	Yes	Yes	Yes	Yes
Recip. x Supp Fixed Effect	Yes	Yes	Yes	Yes
Supplier Controls	Yes	Yes	Yes	Yes
Recipient Controls	Yes	Yes	Yes	Yes
Bilateral Controls	Yes	Yes	Yes	Yes
N supplier year (clusters)	2,670	937	2,669	1,038

Note: Robust standard errors in parentheses clustered at the supplier-year level. *, **, *** denote significance at the 10, 5, and 1% level, respectively.

their companies to finance, in a pretty substantial extent, political parties and candidate.

This final set of results provide a more direct evidence of potential cronyism in the allocation of World Bank procurement contracts. Our findings indeed show that such political cycles occur in countries having no legal restriction regarding corporate donations to political entities. They thus suggest that domestic companies display a higher likelihood of winning more procurement contracts when approaching the next election, even more when such companies were allowed to provide financial support to political parties and candidates, hence highlighting World Bank procurement contracts as an object of trade between political and private spheres.

5 Conclusion

Building a gravity model mobilizing data from the World Bank's Contract Award Database and the Database of Political Institutions, we put forward the occurrence of a domestic political cycle for World Bank procurement contracts. More precisely, our results suggest that firms coming from a given recipient country would win significantly more World Bank contracts around their home country's election years. On average, they would win 14.8% more contracts one year before and during the election year in their origin countries. We conduct multiple robustness checks to show that those findings are robust to alternative dependent variable and are not driven by isolated events. Heterogeneity investigation then support the idea that political cycles in World Bank procurement contracts would particularly arise for civil works contracts allocated through National Competitive Bidding or Single Source Selection, i.e. contracts concerning largest amounts operations that can easily be attributed to the domestic firms of the incumbent's choice. We also find hints of cronyism for World Bank procurement contracts, as the political cycle appears being stronger in countries where elections are relatively free, i.e. where the incumbent has a possibility to lose power and consequently a reason to look for private sector's support, and where corporations are authorized to fund candidates and political parties. World Bank procurement contracts are therefore very likely to be used as the object of an arrangement between private companies and government: procurement contracts against financial support for the upcoming election. Yet, our findings only consist in indications of cronyism. Future research on this subject should thus lower the analysis down to the firm-level, in order to see whether politically connected firms are indeed those benefiting the most from such political cycle.
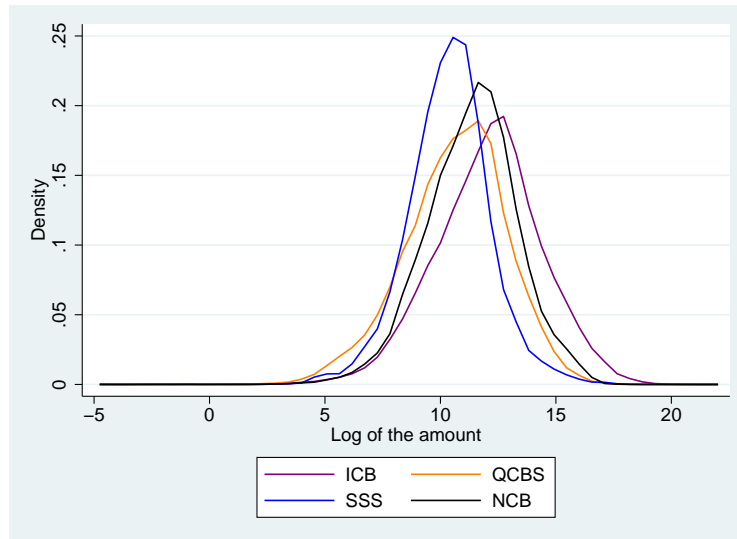
Appendix

Figure A1:   Estimate's coefficients for dummy variables capturing years around the election year: Evidence of political cycles in the World Bank procurement contracts allocation
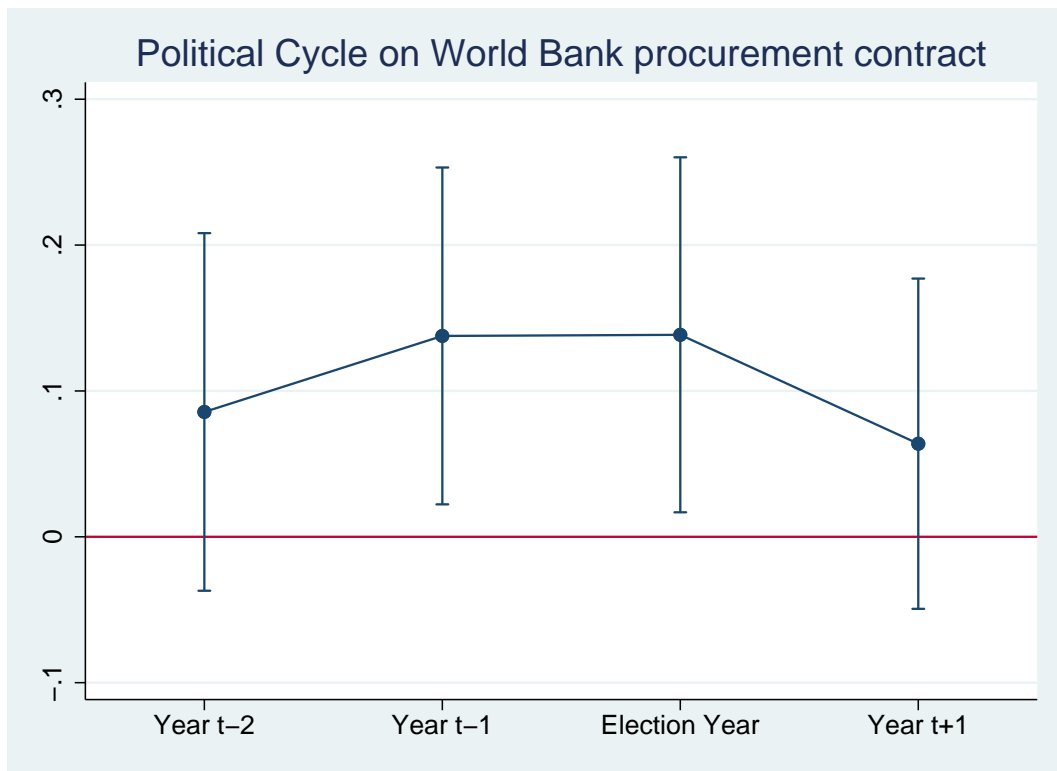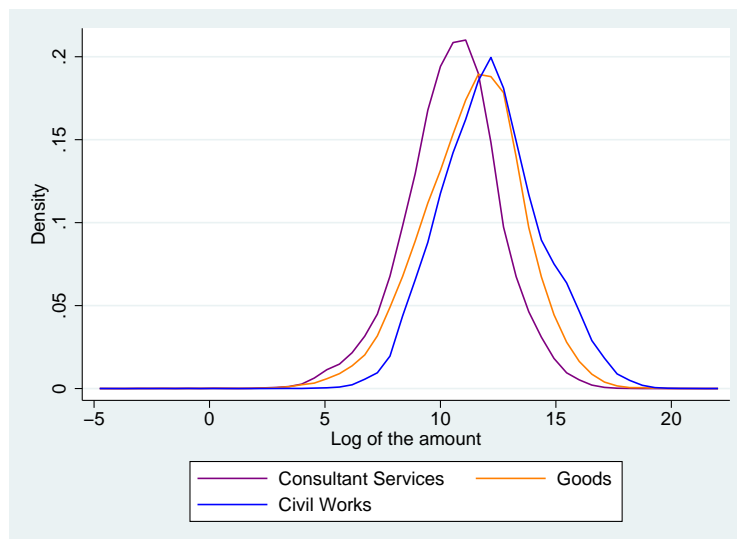

Source: Authors' calculation.

Figure A2: Density function of USD amounts per contract with respect to contract's allocation methods

Source: Authors' calculation.

Figure A3: Density function of USD amounts per contract with respect to contract's category

Source: Authors' calculation.

Table A1: Political Cycle in World Bank procurement contract - Dropping outliers

Dep. var.: Number$_{s,r,t}$					
Dropped obs.:	Top 1	Top 2	Top 3	Top 4	Top 5
Year t-2$_{s,t}$	0.0739	0.0740	0.0609	0.0453	0.0448
	(0.047)	(0.047)	(0.046)	(0.044)	(0.044)
Year t-1$_{s,t}$	0.1187	0.1080	0.0973	0.0959	0.0948
	(0.043)***	(0.042)**	(0.042)**	(0.042)**	(0.042)**
Election Year$_{s,t}$	0.1193	0.1190	0.0973	0.0976	0.0905
	(0.046)**	(0.046)**	(0.044)**	(0.044)**	(0.043)**
Year t+1$_{s,t}$	0.0550	0.0558	0.0348	0.0348	0.0342
	(0.044)	(0.044)	(0.042)	(0.042)	(0.042)
Observations	115,861	115,860	115,859	115,858	115,857
R^2	0.82	0.82	0.82	0.82	0.82
N supp year (clusters)	4,204	4,204	4,204	4,204	4,204

Note: All regressions include year, supplier, recipient, and recipient × supplier fixed effects, as well as controls at the recipient-, supplier-, and bilateral-level. Robust standard errors in parentheses clustered at the supplier-year level. *, **, *** denote significance at the 10, 5, and 1% level, respectively.

Table A2: Political Cycle in World Bank procurement contract - Dropping outliers - continued

Dep. var.: Number$_{s,r,t}$					
Dropped obs.:	Top 6	Top 7	Top 8	Top 9	Top 10
Year t-2$_{s,t}$	0.0447	0.0538	0.0638	0.0657	0.0669
	(0.044)	(0.043)	(0.042)	(0.042)	(0.042)
Year t-1$_{s,t}$	0.0948	0.1037	0.1134	0.1146	0.1161
	(0.042)**	(0.041)**	(0.040)***	(0.040)***	(0.040)***
Election Year$_{s,t}$	0.0904	0.0998	0.1094	0.1101	0.1032
	(0.043)**	(0.043)**	(0.042)***	(0.042)***	(0.042)**
Year t+1$_{s,t}$	0.0254	0.0344	0.0437	0.0382	0.0402
	(0.041)	(0.041)	(0.040)	(0.040)	(0.040)
Observations	115,856	115,855	115,854	115,853	115,852
R^2	0.82	0.81	0.81	0.81	0.81
N supp year (clusters)	4,204	4,204	4,204	4,204	4,204

Note: All regressions include year, supplier, recipient, and recipient × supplier fixed effects, as well as controls at the recipient-, supplier-, and bilateral-level. Robust standard errors in parentheses clustered at the supplier-year level. *, **, *** denote significance at the 10, 5, and 1% level, respectively.

Table A3: Political Cycle in World Bank procurement contract - Dropping outliers - continued

Dep. var.: Number$_{s,r,t}$					
Dropped obs.:	Top 11	Top 12	Top 13	Top 14	Top 15
Year t-2$_{s,t}$	0.0678	0.0665	0.0688	0.0691	0.0681
	(0.042)	(0.042)	(0.042)	(0.043)	(0.043)
Year t-1$_{s,t}$	0.1173	0.1167	0.1184	0.1133	0.1069
	(0.041)***	(0.041)***	(0.041)***	(0.041)***	(0.040)***
Election Year$_{s,t}$	0.1042	0.0986	0.0912	0.0917	0.0909
	(0.042)**	(0.042)**	(0.041)**	(0.041)**	(0.042)**
Year t+1$_{s,t}$	0.0347	0.0342	0.0357	0.0356	0.0349
	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)
Observations	115,851	115,850	115,849	115,848	115,847
R^2	0.81	0.81	0.81	0.81	0.81
N supp year (clusters)	4,204	4,204	4,204	4,204	4,204

Note: All regressions include year, supplier, recipient, and recipient × supplier fixed effects, as well as controls at the recipient-, supplier-, and bilateral-level. Robust standard errors in parentheses clustered at the supplier-year level. *, **, *** denote significance at the 10, 5, and 1% level, respectively.

Table A4: Political Cycle on World Bank procurement contract - Subsample on recipient's region

Dep. var.: Number$_{s,r,t}$	Whole Sample	South-East Asia	Europe & Central Asia	Africa	Latin America
Year t-2$_{s,t}$	0.0856	0.1394	0.2109	0.0782	-0.0970
	(0.048)*	(0.101)	(0.067)***	(0.053)	(0.100)
Year t-1$_{s,t}$	0.1377	0.2049	0.1875	0.1324	0.0189
	(0.045)***	(0.090)**	(0.061)***	(0.052)**	(0.092)
Election Year$_{s,t}$	0.1385	0.2051	0.1561	0.1227	0.0884
	(0.047)***	(0.088)**	(0.060)***	(0.054)**	(0.101)
Year t+1$_{s,t}$	0.0638	0.1226	0.1749	0.0411	-0.0997
	(0.044)	(0.084)	(0.061)***	(0.050)	(0.095)
Observations	115,862	21,223	34,042	42,416	18,181
% of whole sample	100%	18.3%	29.3%	36.6%	15.6%
R^2	0.82	0.88	0.78	0.74	0.87
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes
Supplier Fixed Effect	Yes	Yes	Yes	Yes	Yes
Recip Fixed Effect	Yes	Yes	Yes	Yes	Yes
Recip x Supp Fixed Effect	Yes	Yes	Yes	Yes	Yes
Supplier Controls	Yes	Yes	Yes	Yes	Yes
Recipient Controls	Yes	Yes	Yes	Yes	Yes
Bilateral Controls	Yes	Yes	Yes	Yes	Yes
N supplier year (clusters)	4,204	3,129	3,362	3,673	2,486

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.010$

Table A5: Political Cycle in World Bank procurement contract - Subsample on countries where corporation can donate to candidate, parties, candidates do not have to report their finance, and there is no limitation to donation and spending of candidate and parties

Dep. var.: $\text{Number}_{s,r,t}$	Unlimited Corporate Donations	
	Yes	No
Year t-2	0.0236	0.0130
	(0.108)	(0.113)
Year t-1	0.2216	0.0377
	(0.113)**	(0.105)
Election Year	0.2622	0.0199
	(0.109)**	(0.109)
Year t+1	0.1511	0.0093
	(0.109)	(0.117)
Observations	11,900	16,024
R^2	0.76	0.79
N supplier year (clusters)	488	307

Note: All regressions include year, supplier, recipient, and recipient $\times$ supplier fixed effects, as well as controls at the recipient-, supplier-, and bilateral-level. Robust standard errors in parentheses clustered at the supplier-year level. *, **, *** denote significance at the 10, 5, and 1% level, respectively.

Figure A4: Map of countries authorizing/banning corporate donations to candidate
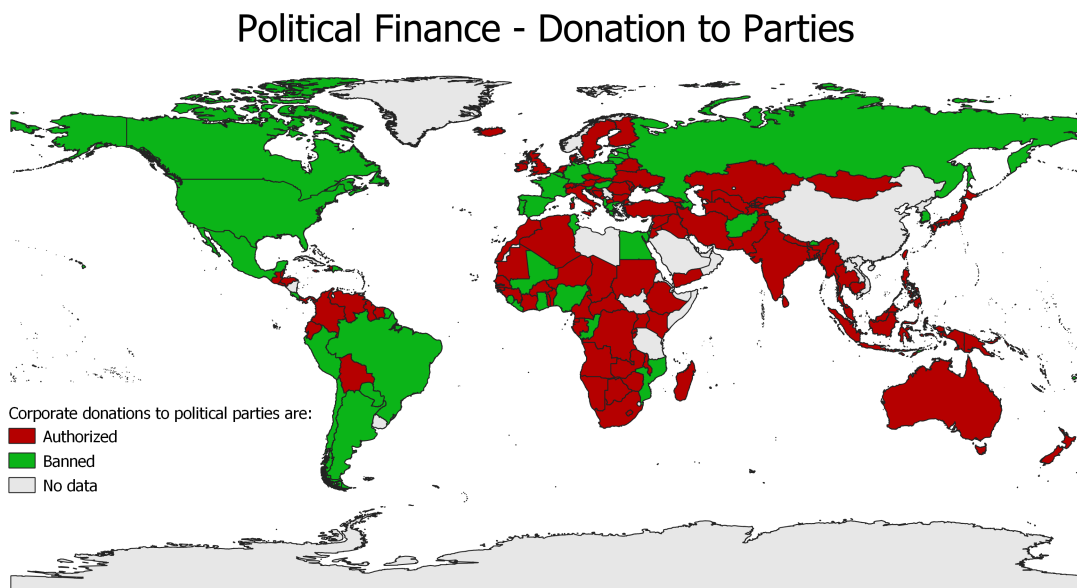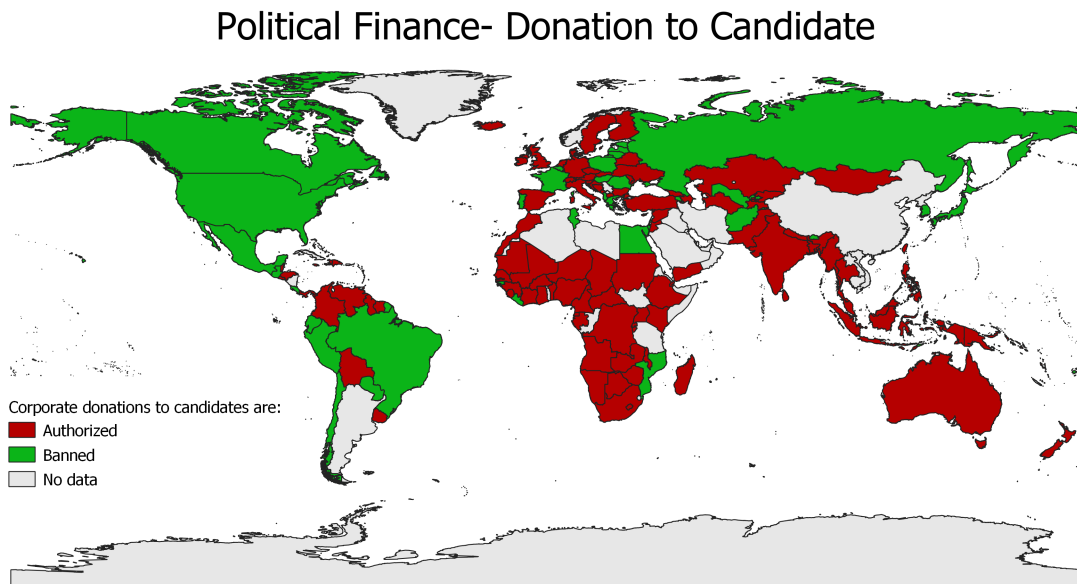

Political Finance- Donation to Candidate

Corporate donations to candidates are:
- Authorized
- Banned
- No data

Political Finance - Donation to Parties

Corporate donations to political parties are:
- Authorized
- Banned
- No data

Source: Political Finance Database

Figure A5: Map of countries without limit to election financing

Political Finance - Donation to candidate, parties, no report of campaign spending and no limit for donation and candidate/parties spending
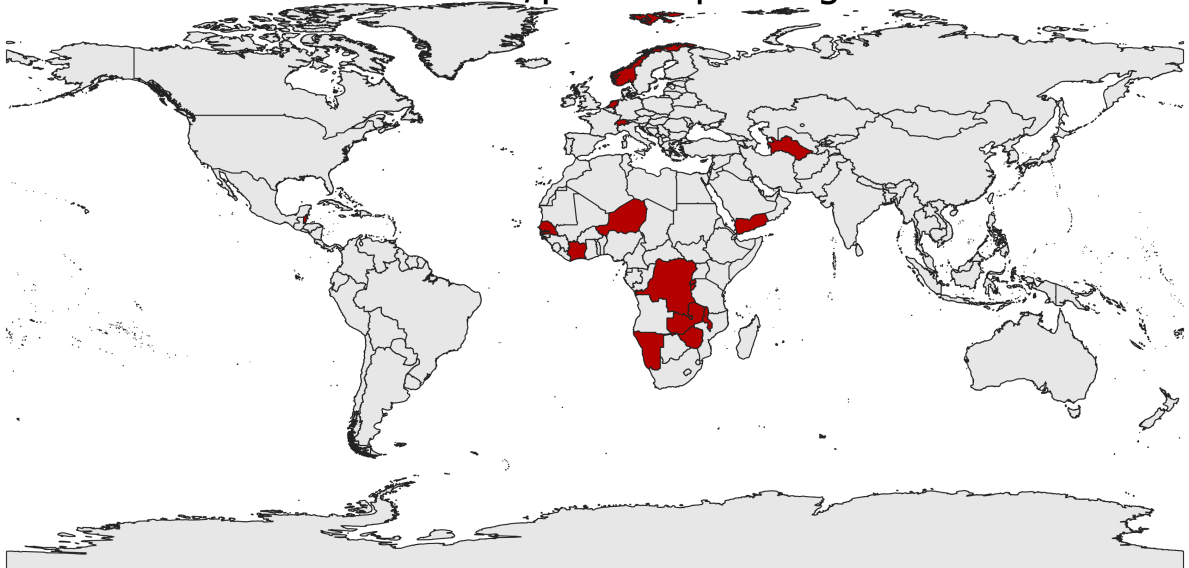
Source: Political Finance Database

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