European Development Banks and the Political Cycle

Abstract

This paper investigates whether the lending activity of European development banks is affected by opportunistic political behavior, by looking at the change in loans extended by these entities in election years. The empirical analysis leverages on a unique manually collected dataset that includes all the development banks headquartered in Europe, for the period 2002-2015.

A comparison with the rest of the European banking system reveals that while the *political view* of development banks cannot be supported as a general rule, it finds empirical evidence in flawed democracies, where large development banks actually tend to increase their lending activity in election years.

1. Introduction

The aim of this paper is to investigate whether the lending activity of development banks headquartered in Europe is affected by political influences. The topic is of utmost relevance given the strategic role that contemporary development banks are playing in Europe, coupled with the ancestral fear that these public subjects may distort the allocation of resources.

Development banks are "legal entities carrying out financial activities on a professional basis which are given a mandate by a member state or a member state's entity at central, regional or local level, to carry out development or promotional activities" (European Commission, 2015b). While there is a general consensus on the role of development banks in mitigating market failures (De Olloqui et al., 2013; de Luna-Martinez and Vicente, 2012; Foray et al., 2012; Yeyati et al., 2004; Gutierrez et al., 2011), the issue traditionally raised is whether this positive contribution is more than offset by misallocation of resources and destruction of value due to political interference and inefficiencies.

As a matter of fact, according to the so-called *political view* of government bank ownership, perverse effects due to political motivations may prevail on the desirable contribution of government ownership to promote socially valuable projects (Hart et al., 1997; Kornai, 1979; La Porta et al., 2002; Shleifer and Vishny, 1994, 1997). While state-owned, non-financial enterprises can be used by politicians to provide jobs and direct resources to friends and supporters, state-owned banks can be induced by the incumbent policymakers to finance favored enterprises (Sapienza, 2004; La Porta et al., 2002) and, more generally, to increase their lending activity during election periods in order to seek and retain the favor of the voters (Dinc, 2005).

This may result in misallocation of funding motivated by two main hypotheses: the "soft-budget constraints hypothesis" and the "rent-seeking hypothesis." The "soft-budget constraints hypothesis" (Kornai, 1979; Lin and Tan, 1999) suggests that abundant and lenient capital from the state increase the likelihood that state-owned banks may approve bad investments and use public funds to bail out companies that would otherwise fail. Slightly differently, the "rent-seeking hypothesis" (Ades and Di Tella, 1997; Claessens et al. 2008) argues that funds are channeled to politically connected industrialists, who indeed receive substantially preferential treatment in terms of interest rates and access to credit even though they do not need subsidized capital. In both cases, firms will obtain capital for reasons other than the inherent financial potential of their own project, resulting in economically inefficient uses of public resources (Dinc, 2005; Micco et al., 2007; Lazzarini et al., 2015; Khwaja and Mian, 2005). It is just to prevent these negative side effects and the misallocation of resources that the European Commission itself underlines the need for development banks to adopt proper policies and best practices (European Commission, 2015b; European Parliament, 2016).

Extant empirical literature has already analyzed the lending behavior of state-owned banks with the aim of assessing whether their activity is influenced by political considerations, with results that generally support the political view of government bank ownership. In particular, Sapienza (2004) finds that the lending behavior of state-owned banks in Italy is affected by the electoral results of the party affiliated with the banks' top executives. Khwaja and Mian (2005) observe that state-owned banks in Pakistan tend to lend more to firms with politically connected directors. Dinc (2005) empirically analyzes government-owned banks in 43 countries across the world and finds that the lending activity within developing countries is influenced by politics,

while this is not the case in developed economies. Similar results are shown in Micco et al. (2007), where the authors observe that state-owned banks located in developing countries increase loans during election years, while state-owned banks in developed countries do not.[1]

However, all these studies focus on government-owned financial institutions, while development banks are rather a different type of financial institution (although they are also owned by the government (see Section 2.1)), with consequences in terms of political distortion that are largely unexplored as of yet.

So far, the only empirical paper directly testing the political view on development banks is Lazzarini et al. (2015), who concentrate on the Brasilian Development Bank (BNDES) and analyze the performances of firms receiving its financial support. While confirming that political influences matter, they find that the BNDES does not appear to systematically channel funds to underperforming firms, although targets do not display any consequent beneficial effect in terms of performance and investment.

We adopt a distinctive perspective from Lazzarini et al. (2015), since we focus on European countries (including both developed countries and economies in transition) and we investigate how the lending activity of development banks changes around elections compared to other financial institutions. The empirical analysis leverages on a unique, manually collected dataset that includes all the development banks

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[1] There is also a larger body of empirical literature – beyond the scope of our paper - that analyzes the relationship between ownership, bank performance and financial development (among them: La Porta et al., 2002; Barth et al., 1999; Beck and Levine, 2002; Berger et al., 2005; Yeyati et al., 2007; Cornett et al., 2010; Chakravarty and Williams, 2006; Altunbas and Marques, 2008; Yildirim and Philippatos, 2007; Iannotta et al., 2007).

headquartered in Europe. Financial information is benchmarked with a selected sample of more than 4,200 financial institutions for the period 2002-2015.

Results show that the *political view* of development banks is not supported as a general rule. In particular, in full democracies no empirical evidence is found of opportunistic manipulation of development banks' activity for electoral purposes. By contrast, there is evidence of politically motivated lending from development banks in European countries with weaker political institutions, in the form of increased lending in election years relative to the rest of the banking system.

A battery of robustness tests confirms our results. The adoption of alternative measures for the main variables of our interest and the recourse to alternative econometric approaches produce very consistent findings.

The remainder of the paper is organized as follows. Section 2 illustrates the specificities of development banks and introduces the hypotheses. Section 3 describes our sample and the dataset. Section 4 defines the methodology. Section 5 discusses results and Section 6 presents a battery of robustness checks. Section 7 concludes.

2 The framework

2.1 Development banks

Development banks are public sector or government-invested legal entities with an explicit policy mandate to promote socio-economic goals in a region, sector or specific market segment (de Luna-Martinez and Vicente, 2012).[2]

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[2] In the Introduction, we used the more recent definition from the European Commission. Alternative definitions of development banks, also referred to as *development financial institutions, state investment banks, promotional banks* include: "institutions to promote and finance enterprise in the private sector" (Diamond, 1957); "government-sponsored financial institutions concerned primarily with the provision

Existing empirical literature typically considers all public financial institutions as though they belong to the same type. However, development banks have specific goals and market failures they set out to redress that deserve specific attention, and they are becoming increasingly important in light of their growing relevance in Europe.

Development banks typically fund projects with high risk, which is usually the case of high-tech or new industries, start-up and R&D investments, by providing direct or indirect loans, credit guarantees and equity tools such as venture capital, private equity, seed capital financing or mezzanine financing to enable firms to access the capital necessary for growth (Musacchio et al., 2017; Mazzuccato and Penna, 2016; Bleda and Del Rio, 2013). They also provide long-term "patient" capital to promote strategic investments for economic development (e.g. infrastructure projects, export, housing, etc.) or for socially challenging projects (e.g. climate finance, renewable and environmental-friendly energy, food security initiatives) (Foray et al., 2012; Eslava and Freixas, 2016; De Olloqui, 2013; Yeyati et al., 2007). In addition, development banks play a counter-cyclical role in time of crises, by sustaining growth and employment during periods of recession, when banks typically disintermediate their credit activity because of deteriorating asset quality, capital shortages, deleveraging and higher risk aversion (Gutierrez et al., 2011; Yeyati et al., 2007; Luna-Martinez and Vicente, 2012).

More recently, in the aftermath of the economic and financial global crisis, development banks have been called on by European policy makers to share the management of EU financial instruments and to play a primary role in restructuring the

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of long-term capital to industry" (De Aghion, 1999); "financial institutions that are primarily concerned with offering long-term capital finance to projects that are deemed to generate positive externalities and hence would be underfinanced by private creditors" (Yeyati et al., 2004).

economy, channeling leveraged funds into the market, boosting innovation, supporting socio-economic and environmental challenges, and implementing financial instruments and programs set up to reverse the low level of investment by EU firms, in particular start-ups and SMEs (European Commission, 2014, 2015a; Mertens and Thiemann, 2019; Clifton, Diaz-Fuente and Gomez, 2018). Accordingly, in recent years development banks have significantly increased their assets, co-financed a rising number of projects and investment platforms, fostered the growth of venture capital across Europe and enlarged the business volume in resource efficiency, digital infrastructure and innovation.[3]

On the whole, development banks have specific industry- and firm-level targets, are involved in complex and large-scale projects and present clear differences in terms of business models and types of activity compared to other types of public financial institutions, such as state-owned commercial banks like Crédits municipaux in France, cajas de ahorros in Spain, Landesbanken and Sparkassen in Germany, cantonal banks in Switzerland and Regionalbanken "Hypo" in Austria.

Indeed, state-owned commercial banks, like private commercial banks, are primarily involved in retail banking activities, such as bank accounts, payment services, insurance products and loans to households and enterprises, and their liabilities are mainly represented by retail deposits. By contrast, development banks are not allowed to directly take retail deposits and typically depend on market financing, budget transfers from the government and European programs. Historically, state-owned commercial banks have been established in the form of cooperative or saving banks with the mission

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[3] See Mertens and Thiemann, 2019; KfW et al., 2016; Bertoni and Tykvová, 2015; and annual reports from development banks such as the European Investment Bank, Kreditanstalt fuer Wiederaufbau KfW, Caisse des Depots et Consignations, Istituto de Credito Oficial, Cassa Depositi e Prestiti.

to supply retail banking services to the masses and to favor their financial inclusion both geographically (providing access to financial services in remote areas) and socially (providing basic banking services to all, regardless of their financial attractiveness). Nowadays most of them are joint-stock companies, because of changes in regulation and/or privatization, and, in some countries, they are no longer government-owned.

So far, only a few papers acknowledge the extant differences between development banks and state-owned banks (Bacchiocchi et al., 2017; de Luna-Martinez and Vicente, 2012; Lazzarini et al., 2015; Yeyati et al., 2004). Schmit et al. (2011) provide a rationale for a classification of state-owned banks based on an extensive analysis of the missions and roles of public financial institutions and clearly highlight differences between development banks and other public financial institutions.

More generally, little is known about development banks, and apart from theoretical contributions discussing their growing importance and role in Europe, empirical studies on their firm-level characteristics and on the impact of their activity are scant and mainly focused on single multi-lateral institutions, such as the European Investment Bank (Clifton et al., 2014; Tuijnman, 2009; Griffith-Jones and Tyson, 2013).

2.2 Our hypotheses

The above-mentioned specificities of development banks may have consequences in terms of potential political distortion that are largely unexplored as of yet. Specifically, some factors may reduce the pressure of politics in the case of development banks and may serve to break the tight meshes that traditionally linked state-owned banks' decisions to politics.

For example, the investment cycle of a development bank is typically much longer compared to the electoral cycle. There is usually a long distance between the decision

of financing a project, its physical implementation and the consequent financial returns and economic and social benefits (World Bank, 2018). Therefore, the convenience to pursue political objectives through the lending activity of development banks is more indirect and blurred. Besides, development banks interventions are frequently targeted to *a priori* identified sectors, industries or geographical areas where the financing gap from the private sector is stronger (e.g. new infrastructures and societal challenges that need patient and risky capital; European Commission, 2015b), thus reducing political opportunities to misallocate resources. Finally, development banks also act as catalysts for private finance and means of mobilizing resources and skills and channeling them as investments in the private sector (European Commission, 2018; OECD, 2018). Again, such private co-financing reduces the possibility of politically motivated lending to non-viable projects that would not be co-financed by the private sector.

According to this, if development banks operate within their mandate, there is no reason why their lending activity should differ from the lending activity of other (non-development) banks *just* in electoral years (except for differences controlled for with other explanatory variables). Therefore, our baseline prediction is that the amount of loans supplied by development banks is not influenced by the electoral cycle:

Hypothesis 1. The electoral cycle does not affect the lending activity of the development banks to a different extent than it does for the rest of the banking system.

However, we are aware that at least in some countries, the degree of formal and informal influence exerted by the government may actually affect the activity of development banks. In fact, our analysis on the lending behavior of development banks during pre-election periods intersects the existing literature on political business cycles,

i.e. on political determinants of macroeconomic cycles (Nordhaus, 1975). According to the theory on political business cycles, an opportunistic incumbent policymaker may try to manipulate monetary and fiscal policies in order to induce economic expansions before the elections and, consequently, to influence the voting (and his/her probability of re-election) through economic performance. In this context, the review of Drazen (2000) reports clear evidence of pre-electoral increases in fiscal policy instruments, especially in developing countries.[4] In particular, several studies suggest that opportunistic pre-electoral manipulation is more likely to materialize in countries with lower degrees of democracy, lower transparency and a weaker institutional set of checks and balances, since the power of the incumbent is less constrained (Schuknecht, 1996; Gonzalez, 1999; Shi and Svensson, 2002).

However, explicit fiscal rules and high debt burdens tend to restrict government spending and the possibility of manipulating fiscal policy to affect election outcomes. In this context, the credit supplied by development banks may offer an alternative tool to boost the economy or support specific borrowers (and projects) just before the next election. If development banks are not sufficiently free from outside control of the central government, their activity may be influenced and used by the executive power in order to help the re-election of the incumbent. Indeed, we may expect that in flawed democracies development banks do not fully operate within their mandates and support short-term political objectives of the incumbent policymaker. This would affect their

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[4] According to Drazen (2000), the existing literature on political business cycles reveals that explanations based on fiscal policy as a driving force of the political business cycle provide a more convincing story than explanations based on manipulation of the monetary policy. The latter are even less realistic when considering countries where central banks are sufficiently independent from the central government and the monetary policy is not under the direct control of the incumbent policymakers.

lending behavior especially in election years.

Consequently, we want to test whether development banks may play a role in opportunistic pre-electoral manipulation in those countries characterized by weaker political institutions and lower constraints on the executive power. Following this logic, we formulate the following:

> *Hypothesis 2. Development banks located in countries with flawed democracies are more likely to increase lending in election years relative to the rest of the banking system.*

3. The data

3.1 Bank-level characteristics

Our empirical analysis begins with an accurate taxonomy of development banks in Europe, since there is not a universally recognized and readily available scheme (or classification) for these financial intermediaries. We start the identification and mapping of European development banks by referring to the banks' classification available within the Orbis Bank Focus database, produced by Bureau van Dijk (BvD). Specifically, the majority of European development banks are identified among those institutions classified as *Specialized governmental credit institutions.*[5]

Secondly, other development banks are identified thanks to the available information on banks' characteristics and their textual descriptions in Orbis Bank Focus. Lastly, we devoted considerable effort to refining the initial selection of European development

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[5] *Multi-lateral governmental banks*, such as the European Investment Bank, are excluded from our empirical analysis because of the questionable identification of electoral years at a supranational level.

banks through manual inspection, online research and a general review of annual reports and publicly available information.[6]

After excluding three development banks that had no financial data available in Orbis Bank Focus, we finally identified 73 development banks, including national development banks (e.g. the German Kreditanstalt fur Wiederaufbau KfW, the Italian Cassa Depositi e Prestiti CDP and the French Caisse des Dépôts et Consignations CDC), and smaller regional promotional banks (e.g. Hamburgische Investitions- und Foerderbank, Institut Catala de Finances, and Banca Mediocredito del Friuli Venezia Giulia Spa), located in 27 European countries.

For the purposes of our study, the lending behavior of development banks is benchmarked with that of a selected sample of non-development banks headquartered in Europe. In particular, we exclude from our benchmark those banks with very specific specializations (e.g. central banks, Islamic banks, securities firms, micro-financing institutions, etc.). We also exclude banks from countries where no development banks have been detected. Finally, when the BvD database reports both consolidated and unconsolidated accounts, we use the consolidated ones. Accordingly, in order to avoid double counting, we exclude from the sample the subsidiaries of those parent companies whose accounts are consolidated.[7]

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[6] In particular, we also classify as development banks all those institutions that are members of specific European associations such as the European Development Financial Institutions (EDFI), an association of export credit agencies mainly focused on the development of private enterprises in developing and emerging economies with the mandate to foster growth in sustainable business, and the Network of European Financial Institutions for SMEs (NEFI), whose public mission is to facilitate access to finance growth and internationalization of SMEs by offering them financial services and expertise.

[7] Subsidiaries are only excluded when the ownership share is larger than 50%, approximately assuming this as the minimum percentage of ownership that is needed for consolidation.

Financial data are collected from the Orbis Bank Focus database (BvD). Since this dataset is currently restricted to only 3-5 years of data, we retrieve older financial data by accessing BvD Bankscope historic disks.[8] Notwithstanding available data starting from 1987, our empirical analysis focuses on the time interval 2002-2015 since we have very few available observations before this period. Indeed, available observations increase significantly after 2002, when they are still around 50 percent of the available observations in the most recent years.

Further data cleaning is carried out in order to prevent the analysis from being distorted by unwanted factors. First, we drop the top and bottom 2% of firm-year observations with respect to the Loans Growth variable (our main dependent variable of the regression model introduced in Section 4) since these observations are likely to be affected by M&As, de-mergers or other structural (non-operating) changes. We also clean the dataset by eliminating inconsistent information (e.g. negative values for financial items that are expected to be non-negative). Finally, we drop all firm-year observations with missing values for Loans Growth or one of the main control variables in our regression model, i.e. Total Assets (lagged value), Non-Interest Revenues over Total Assets (lagged value) or Shareholders' funds over Total Assets (lagged value). We remain with an unbalanced panel of 40,201 bank-year observations referring to 4,228 banks and 73 development banks.

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[8] The merging of historical and current financial information from BvD is complicated by the fact that the BvD ID number, by which BvD identifies each bank, may change over time. Therefore, before the merger, we had to replace the old IDs with the most recent ones. By referring to the *BvD ID Change Lookup* tool, it is possible to obtain the list of BvD ID changes that involved our sample of banks within the reference period. For a similar merging procedure on Orbis data, see also Kalemli-Ozcan et al. (2015).

Table A.1 of the Appendix presents the descriptive statistics for the main bank characteristics of our interest, comparing development banks with the rest of the banking system.[9] Data reveal interesting differences between development banks and the other (non-development) banks in our sample. On average, development banks are three times the size in terms of total assets (TA), they have higher capital ratios (CAP) and a lower incidence of the loan portfolio (LOANS), which is mainly due to the weight of their portfolio on equity investments, as suggested by inspection of individual data. Development banks also display a faster annual increase in loans relative to total assets (ΔLOANS), despite that the difference is statistically significant only in the subsample of "full democracies." Interestingly, in both the two subsamples, development banks also exhibit a statistically significant lower incidence of operating expenses (OPEX) compared to other financial intermediaries, due, among other things, to the significantly lower number of employees per asset volume and their wholesale business model.

Figure 1 compares the distribution by total assets of development banks and other (non-development) banks. After separating development banks at their median asset size (i.e. about 15.1 EUR thousands, in natural logarithms), we find that the larger development banks (shown darkly shaded in the figure) are placed above the 90th percentile of the distribution referred to non-development banks (dashed line), while the smaller development banks (shown lightly shaded in the figure) are placed between the 22nd and the 90th percentile. There are no development banks collocated below the

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[9] Descriptive statistics are obtained after winsorizing all the financial ratios, since they are shown to vary substantially within our sample. The winsorizing procedure replaces values above the 98th percentile and below the 2nd percentile respectively with the 98th percentile and the 2nd percentile. By contrast, our regressions are estimated without applying this winsorizing procedure, but we finally checked that the main results hold even after winsorizing.

22nd percentile (i.e. about 11.3 EUR thousands, in natural logarithms).

Figure 1 –Distribution of DBs and non-DBs by size
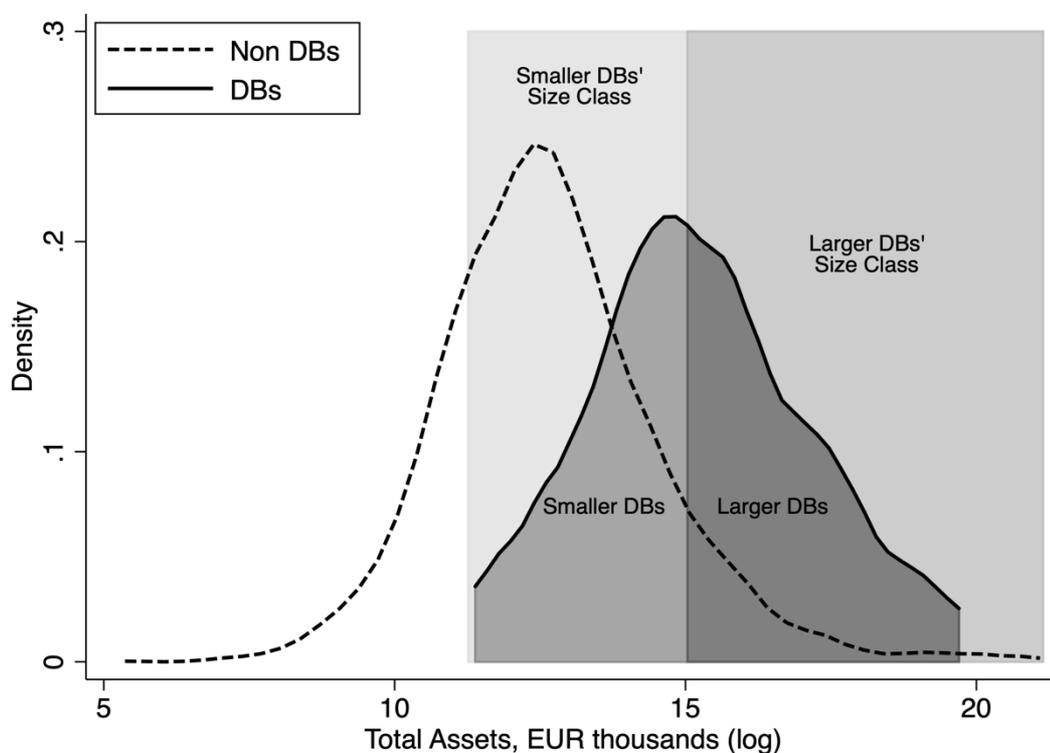
In the event that the coefficients of our model specifications depend on bank size, the different distribution of development banks and non-development banks will bias our estimates. For this reason, in the econometric analysis we also run all the regressions within separate size classes, so that *all* the coefficients are allowed to vary with asset size. In particular, we consider the following groups: (i) the *whole sample* includes all the available observations; (ii) the *smaller DB's size class* includes banks in the percentiles 22-90 by total assets; (iii) the *larger DBs' size class* includes banks above the 90th percentile. This setting allows to verify if (and how) the estimates are influenced by the relative size of development banks compared to other banks.

3.2 Democratic development

In order to consider the institutional characteristics of the different countries in

which development banks operate, we also collect data on institutional quality at the country level. Specifically, we refer to constitutional democratic development (DEMOC), measured by the Polity IV Project on a zero-to-ten scale, with zero indicating that there is no institutional democracy and 10 indicating "full" democracy. Indeed, in line with Delis et al., (2017), we consider "'*democratic development' as a general institutional umbrella that primarily encompasses changes in constitutional characteristics of democracy, such as a system of free elections, the evolution of checks and balances by independent political bodies, and the evolution of civil liberties.*" In Section 6 we also test the robustness of our main findings when considering specific subcomponents of the DEMOC indicator, such as the *Executive Constraints* (XCONST), or alternative country indexes, such as the Worldwide Governance Indicators (WGI).[10]

For the purpose of our study, we split the main sample in two macro-areas, based on the "maturity" of democracy in each country. Since most of the European countries in our sample are classified as "full democracies" (DEMOC=10), we compare the lending behavior of development banks and other banks in these countries with their peers in "flawed democracies" (DEMOC < 10). Countries are allowed to move from one group to another according to the annual value of DEMOC. The aforementioned table A.1 shows that in the time interval 2002-2015 development banks report a higher annual ΔLOANS in both the two subsamples, despite that the difference is statistically significant only in the subsample of "full democracies." The main objective of our study is to examine how this difference is affected by the electoral cycles after controlling for the business cycles.

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[10] Kaufmann et al (2010).

3.3 Electoral cycles and business cycles

Given our specific interest in the lending behavior of development banks over the electoral cycle, we also collect data on electoral years using the Database of Political Institutions 2017 (Cruz et al., 2018). We consider presidential elections in countries with a presidential system and legislative elections otherwise. In line with Dreher and Vaubel (2004, 2009), we build a continuous variable, $ELECT_{c,t}$, that is defined as the share of the year t that falls within the twelve months prior to a national election in country c.[11] By introducing this measure, we take into account that the time of the year in which the election takes place could be relevant for the timing of an eventual opportunistic behavior of development banks. Indeed, if elections take place early in the calendar year t, electoral incentives and politically-motivated lending are likely to realize in year *t-1*.

Finally, we recur to IMF databases in order to collect information on GDP growth, as a proxy for business cycles at the country level. Indeed, we mentioned before that according to the literature on the political business cycle, there may exist a correlation between the electoral cycles and the business cycles. Consequently, without controlling for GDP growth, our analysis on the different behavior of development banks and private banks in a pre-electoral period could be severely distorted by the lack of attention on the contemporaneous effects of the business cycle.[12] In addition, the

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[11] Following the example of Dreher and Vaubel (2009), 'if the election took place in February, the index would take the value of 2/12 in that year and 10/12 in the year before'.

[12] Micco et al. (2007) adopt a similar approach in order to analyze the different behavior of foreign and state-owned banks with respect to private domestic banks over both the electoral cycle and the business cycle.

analysis of differential reactions of development banks and private banks to the business cycle is also relevant by itself. Even if it is not the main focus of this paper, it adds a relevant piece of information on potential good features of development banks' activity. Indeed, if the empirical results revealed that the lending of development banks is more resilient than the lending of other banks to the business cycle, this would add an argument in favor of development banks' activity that could potentially compensate for, or even outweigh, the possible inefficiencies due to opportunistic political behavior.

Figure 2 shows the relationship between GDP growth (ΔGDP) and the change in loans (ΔLOANS) for each country-year. Specifically, we measure the aggregate measure of ΔLOANS for each country-year as the weighted average of the banks belonging to each country, with weights assigned according to total assets at the beginning of each year (end of previous year). The prediction lines and confidence intervals referring to the entire banking system reveal, as is reasonable to expect, a positive relationship between ΔGDP and ΔLOANS. However, the different slope of the prediction lines suggests counter-cyclical behavior of European development banks, with less sustained loan growth in boom years but greater resilience during downturns, when credit supply from other lenders typically slows down. This evidence offers a positive picture of the behavior of the development banks in terms of their beneficial support to the real economy and confirms that the omission of the ΔGDP variable would severely affect our next analysis on the different lending behavior of development banks over the electoral cycle relative to other banks.

Figure 2 – ΔLOANS and ΔGDP by Country-Year
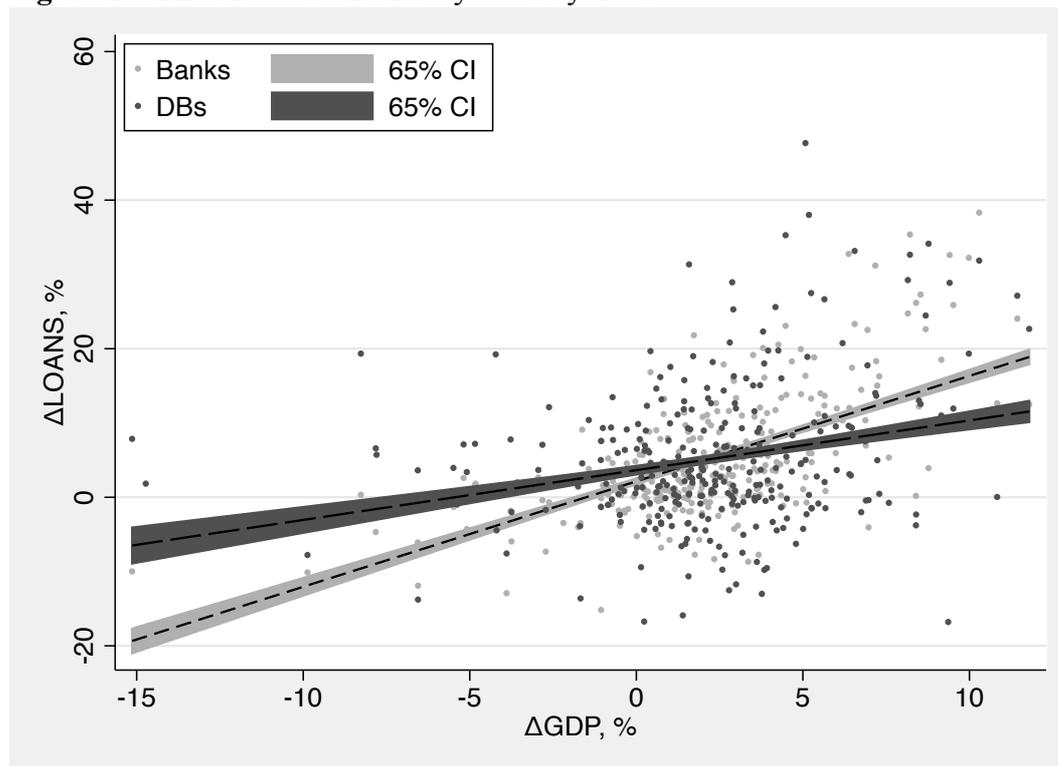
In the next section, we focus on econometrics with the aim of better disentangling the lending behavior of development banks from that of other financial institutions in the period before elections and to test the hypotheses formulated in Section 2.2.

4. The model

In order to meet the aim of this study, and therefore to assess whether the lending behavior of development banks is influenced by political considerations and opportunistic pre-electoral behavior, we investigate the different reactions of development banks to periods of political change, by interacting the election variable with a dummy that takes the value of one for development banks. As pointed out in Section 3.4, and in line with Micco et al. (2007), we also introduce GDP growth by country and year in order to control for the influence of the business cycle on loans growth and to take into account the possible correlation between electoral cycles and

business cycles.

Our regression model is the following:

$$Y_{i,c,t} = \sum_{k} \beta_k \cdot Z_{c,t}^{(k)} \cdot DB_i + \sum_{l} \delta_l \cdot X_{i,t-1}^{(l)} + \theta_{c,t} + \eta_i + \varepsilon_{i,c,t}$$

where $Y_{i,c,t}(\equiv \Delta LOANS_{i,c,t})$ is loans growth, DB_i is a dummy variable that takes value one if i is a development bank, $Z_{c,t}^{(k)}$ is a set of time-variant country-specific variables, and $X_{i,t-1}^{(l)}$ is a set of time-variant bank-specific characteristics as of year t-1. The model also incorporates bank fixed effects η_i and a set of country-year dummies $\theta_{c,t}$.

Following Dinc (2005) and Micco et al. (2007), we define loans growth $\left(Y_{i,c,t} \equiv \Delta LOANS_{i,c,t}\right)$ as the change in loans in year t divided by total assets in year t-1. The set of time-variant country-specific variables include the GDP growth rate of country c in year t $\left(Z_{c,t}^{(1)} \equiv \Delta GDP_{c,t}\right)$ and the election variable that measures to what extent year t in country c overlaps with an election season $\left(Z_{c,t}^{(2)} \equiv ELECT_{c,t}\right)$.

The coefficient β_1 on the interaction term $\Delta GDP_{c,t} \cdot DB_i$ measures the differential effect of GDP growth on the loans growth of development banks with respect to other banks in their same countries. Positive (negative) values of β_1 would signal a more (less) pro-cyclical lending behavior of development banks with respect to the rest of the banking system. The coefficient β_2 on the interaction term $ELECT_{c,t} \cdot DB_i$, which measures the differential effect induced by elections, is the coefficient of main interest for testing the hypotheses of Section 2.2. Indeed, a statistically significant coefficient would suggest that the electoral cycle affects the lending activity of the development banks to a different extent than it does for the other banks, consequently supporting a political view of development banks. In particular, we expect that β_2 is not significant in the whole sample (Hypothesis 1), while being positive and statistically significant in

the subsample of "flawed democracies" (Hypothesis 2).

Taking into account our descriptive statistics of Section 3, we also include bank-specific control variables targeted at capturing size (the logarithm of lagged total assets, $X_{i,t-1}^{(1)} \equiv LTA_{i,t-1}$) and capitalization (the lagged equity-to-assets ratio, $X_{i,t-1}^{(2)} \equiv CAP_{i,t-1}$) of bank i at time t-1. We also include non-interest income as a share of total assets ($X_{i,t-1}^{(3)} \equiv NONINT_{i,t-1}$), in order to control for the type of banking activity and the business model (Micco et al., 2007).

Bank fixed effects η_i allow us to control for all the time-invariant differences between banks in the sample, including time-independent differences between development banks and the rest of the banking system, and institutional differences across their home countries. At the same time, the set of dummies for country-year specific effects $\theta_{c,t}$ controls for the omission of time-varying country-level variables, such as the inflation rate, the interest rates or yearly changes in exchange rates. Consequently, the inclusion of country-year fixed effects permits the comparison of differences in loans growth between development banks and non-development banks after controlling for all the unobserved country characteristics that are allowed to vary over time.

The coefficients of the static panel data model can be estimated using standard fixed effects (FE) or random effects (RE) estimators. The RE is more efficient than the FE estimator, but it relies on the additional assumption of no correlation between η_i and $\varepsilon_{i,c,t}$. Since the Hausman test reveals a significant divergence between the FE and RE estimators,[13] we reject the null hypothesis that individual effects are random and,

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[13] The relevant value of the χ^2-test is $\chi^2_{(353)}$ = 2312.52, with a p-value = 0.0000. The number of degrees of freedom (df = 353) is shown in parentheses after the χ^2.

consequently, we adopt the FE approach.[14]

Finally, we recur to robust standard errors that account for possible heteroskedasticity or within-panel serial correlation in the idiosyncratic error term ε_{ict}.

5. Empirical results

5.1 Baseline estimations

Table 2 shows the coefficients estimated for the whole sample in order to test Hypothesis 1. The first regression (column 1) focuses on the responses of the lending behavior to changes in the bank-specific characteristics, without distinguishing between development banks and other banks.[15] The second regression (column 2) introduces a differential lending behavior of development banks over the business cycle by introducing the interaction term $\Delta GDP_{c,t} \cdot DB_i$. We find that the annual increase in loans relative to bank size is less sensitive to economic fluctuations for development banks than for the rest of the banking system, as indicated by the significant and negative coefficient on the interaction term. This lower sensitivity can be attributed to a more counter-cyclical stance of development banks with respect to other financial institutions, which is confirmed both in full and flawed democracies. Finally, the third regression (column 3) specifically tests the influence of the electoral cycle on the differential lending behavior of development banks, by introducing the interaction term $ELECT_{c,t} \cdot DB_i$ and still controlling for the effects of economic fluctuations.

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[14] Results obtained with RE did not lead to different conclusions (available upon request).

[15] As expected, the negative coefficients on LTA signal that higher bank size is accompanied by lower levels of loans growth (ΔLOANS).

For the overall sample, the coefficient on the interaction term is not significantly different from zero. This estimate shows that the lending activity of European development banks does not change during electoral years compared to that of other banks, thus providing no support for a political view of development banks.

Following the considerations of Section 3.1, we also rerun the regressions for different size classes: the smaller DBs' size class (columns 4-6), and the larger DBs' size class (columns 7-9). Interestingly, the coefficient on $\Delta GDP_{c,t} \cdot DB_i$ is more negative in the last subsample, thus suggesting that the counter-cyclical behavior of development banks is more relevant among larger banks. By contrast, the interaction term on $ELECT_{c,t} \cdot DB_i$ is not significant in all of the estimations, failing to reject hypothesis 1 independently from the bank size.

Table 2 – Elections and lending activity

Dependent variable: Change in Loans (ΔLOANS)

	Whole Sample			Smaller DBs' size class			Larger DBs' size class		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LTA	-3.64***	-3.65***	-3.65***	-4.78***	-4.79***	-4.79***	-4.40***	-4.43***	-4.43***
	[0.40]	[0.40]	[0.40]	[0.42]	[0.42]	[0.42]	[0.87]	[0.86]	[0.86]
NONINT	-0.00	-0.00	-0.00	0.01	0.01	0.01	0.08	0.09	0.09
	[0.01]	[0.01]	[0.01]	[0.02]	[0.02]	[0.02]	[0.14]	[0.14]	[0.14]
CAP	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.11*	-0.11*	-0.11*
	[0.02]	[0.02]	[0.02]	[0.03]	[0.03]	[0.03]	[0.06]	[0.06]	[0.06]
ΔGDP * DB		-0.37***	-0.37***		-0.38***	-0.38***		-0.60***	-0.60***
		[0.11]	[0.11]		[0.13]	[0.13]		[0.18]	[0.19]
ELECT * DB			0.11			0.14			-0.09
			[0.84]			[1.14]			[1.32]
Bank f.e.	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country-year f.e.	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	40,201	40,201	40,201	29,928	29,928	29,928	4,650	4,650	4,650
N. of countries	27	27	27	27	27	27	24	24	24
r2	0.27	0.27	0.27	0.30	0.30	0.30	0.45	0.46	0.46

The regression is run within separate size classes: (i) the whole sample (columns 1-3); (ii) the smaller DB's size class (columns 4-6), which includes banks in the percentiles 22-90 by total assets; (iii) the larger DBs' size class (columns 7-9), which includes banks above the 90th percentile (see Section 3.1 for details). The dependent variable ΔLOANS measures the change in total loans in year *t* as a share of total assets in year *t-1*. LTA is the logarithm of lagged total assets in EUR thousands. NONINT is the lagged share of non-interest income over average total assets (i.e. the average of total assets at the beginning of the year and at the year's end). CAP is the lagged share of total equity over total assets. ΔGDP is the GDP growth rate by country and year. ELECT is the share of the year *t* that falls within the twelve months prior to a national election in country *c*. DB is a dummy variable that takes the value of one for development banks. The reference period is 2002-2015. Robust standard errors in brackets. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

However, it could be still possible that development banks are more likely to increase lending in election years if they are located in countries with flawed democracies and lower constraints on the executive power. Therefore, in Table 3 we test Hypothesis 2 by running the same regressions for the subsamples of "full democracies" (DEMOC=10) and "flawed democracies" (DEMOC<10) respectively. When splitting the sample according to the level of constitutional democratic development of each country, the coefficient of the interaction term $ELECT_{c,t} \cdot DB_i$ is still non-significant for the "full democracies" subsample (columns 1-3), confirming no support for a political view of development banks in countries with the highest level of institutional quality.

By contrast, the coefficient of the interaction term $ELECT_{c,t} \cdot DB_i$ is significant at the five percent level and strongly positive for the subsample of "flawed democracies" when the analysis is limited to larger development banks and other banks of comparable size (column 9). This empirical evidence supports the Hypothesis 2 that before elections development banks located in countries with flawed democracies increase their lending activity relatively more than other banks in their same countries, thus revealing that their lending decisions are actually more exposed to the pre-electoral, opportunistic behavior of the incumbent policymaker. The fact that this evidence is only confirmed in larger banks makes perfect sense. Indeed, it is reasonable to expect that only larger development banks have the necessary firepower to affect specific segments of the economy in the short-term, thus increasing the chances of the incumbent to be re-elected. Then, it is just on larger development banks that policymakers eventually focus their opportunistic pressures. However, the subsample of larger development banks located in flawed democracies only includes few institutions, thus suggesting that

evidence of opportunistic pre-electoral behavior can only be reported for a very limited set of development banks.

Table 3 - Elections and lending activity: subsample regressions by DEMOC levels

Dependent variable: Change in Loans (ΔLOANS)

	Full democracies (DEMOC = 10)			Flawed democracies (DEMOC < 10)		
	Whole Sample	Smaller DBs' size class	Larger DBs' size class	Whole Sample	Smaller DBs' size class	Larger DBs' size class
	(1)	(2)	(3)	(4)	(5)	(6)
LTA	-4.11***	-4.98***	-3.95***	-3.11***	-4.39***	-6.29***
	[0.58]	[0.41]	[0.94]	[0.55]	[1.00]	[1.88]
NONINT	0.00	0.01	0.04	-0.00	0.01	0.20
	[0.02]	[0.01]	[0.13]	[0.01]	[0.03]	[0.31]
CAP	-0.05*	-0.06	-0.08	0.02	0.07	-0.19
	[0.03]	[0.04]	[0.06]	[0.03]	[0.05]	[0.17]
ΔGDP * DB	-0.47***	-0.41**	-0.45***	-0.27	-0.29*	-1.30***
	[0.14]	[0.19]	[0.17]	[0.18]	[0.17]	[0.44]
ELECT * DB	-1.19	-0.60	-1.03	2.84	1.34	7.40**
	[0.93]	[1.43]	[1.32]	[1.88]	[1.81]	[3.44]
Bank f.e.	YES	YES	YES	YES	YES	YES
Country-year f.e.	YES	YES	YES	YES	YES	YES
Observations	32,880	26,556	3,499	7,321	3,372	1,151
N. of countries	17	17	17	13	13	10
r2	0.25	0.26	0.37	0.29	0.35	0.62

The sample is split based the level of constitutional democratic development (DEMOC), measured by the Polity IV Project on a zero-to-ten scale, with ten indicating "full democracy" and lower levels indicating "flawed democracies". Countries are allowed to move from one group to another according to the annual value of DEMOC. The regression is run within separate size classes: (i) the whole sample (columns 1 and 4); (ii) the smaller DB's size class (columns 2 and 5), which includes banks in the percentiles 22-90 by total assets; (iii) the larger DBs' size class (columns 3 and 6), which includes banks above the 90th percentile (see Section 3.1 for details). The dependent variable ΔLOANS measures the change in total loans in year t as a share of total assets in year $t-1$. LTA is the logarithm of lagged total assets in EUR thousands. NONINT is the lagged share of non-interest income over average total assets (i.e. the average of total assets at the beginning of the year and at the year's end). CAP is the lagged share of total equity over total assets. ΔGDP is the GDP growth rate by country and year. ELECT is the share of the year t that falls within the twelve months prior to a national election in country c. DB is a dummy variable that takes the value of one for development banks. The reference period is 2002-2015. Robust standard errors in brackets.
Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

In Table 3, *all* the coefficients are allowed to vary across the two subsamples, since we run separate regressions for "full democracies" and "flawed democracies" respectively. Although our main interest is on the significance of the interaction term $ELECT_{c,t} \cdot DB_i$ *within* each group of countries, we are aware that separate regressions do not determine whether the coefficient on the interaction term is statistically different *across* the groups. By running a unique regression for the whole sample and adding a triple interaction term, we actually verified that the coefficient on $ELECT_{c,t} \cdot DB_i$ is

significantly higher in flawed democracies than in full democracies when considering

the size class of larger development banks (see Table A.2 in the Appendix).

Besides, we also verified that similar conclusions can be reached if we do not run

separate regressions by size classes and we adopt a weighting strategy. According to

Micco et al. (2007) and Yeyati and Micco (2003), adopting a weighting scheme that

assigns a higher weight to larger banks may produce more precise estimates if higher

bank size is associated with lower measurement errors. Furthermore, given the larger

weight assigned to larger banks, this weighting scheme may better reflect the

comparison of the lending behavior of development banks with that of the banking

industry at an aggregate level, implicitly presuming that the aggregate behavior of credit

demand and supply is more influenced by changes observed in largest banks.

Accordingly, we also rerun our baseline estimations weighting each bank-year

observation by the bank's share of lagged total assets within the whole dataset in the

same year, so that the weight for bank i at time t is given by $w_{i,t} = \frac{TA_{i,t-1}}{\sum_{j=1}^{N} TA_{j,t-1}}$.[16]

Estimations obtained after the adoption of the weighting scheme do not contradict our

main results (see Table A.3 of the Appendix), confirming that the lending activity of

European development banks does not change during electoral years compared to that

of other banks, with the exception of "flawed democracies" where the lending behavior

of development banks is more exposed to the pre-electoral, opportunistic behavior of

the incumbent policymaker (the coefficient on $ELECT_{c,t} \cdot DB_i$ is strongly positive and

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[16] Since the weighting scheme assigns higher weights to years with a lower number of observations (the

denominator $\sum_{j=1}^{N} TA_{j,t-1}$ tends to decrease with the number of available observations in year t-1), it may

also have the advantage of correcting the estimations for the different number of observations in different

years, since data availability in the dataset tend to increase over time.

significant at the 1 percent level in flawed democracies). Besides, the counter-cyclical behavior of development banks (i.e. the negative coefficient on $\Delta GDP_{c,t} \cdot DB_i$) is confirmed in both full and flawed democracies.

Overall, the results of this section may be regarded as in line with those obtained from Dinc (2005) and Micco et al. (2007) who did not find support for the political view of state-owned banks in industrial countries, while pointing out that the lending stance of state-owned banks in emerging countries becomes significantly more accommodating in election years. However, our investigation is specifically focused on contemporary development banks, which differ from other state-owned banks because of their distinctive mandates and targets (see Section 2.1).

5.2 Additional analyses

The behavior of development banks in flawed democracies over the electoral cycle deserves further investigation. Indeed, an increase in development banks' lending during election years may simply represent the response to higher demand for development banks' loans in pre-electoral months, rather than the effect of opportunistic behavior. The pattern of interest margins may provide some further explanation. Indeed, following the reasoning of Micco et al. (2007), the absence of a significant increase in interest income of development banks during election years would lead to excluding the possibility that the corresponding increase in development banks' lending simply represents the response to higher demand. Consequently, our next analysis focuses on the interest rate charged by banks (proxied by the ratio of interest income over earning assets, INTINC) as a dependent variable. Table 4 shows that no differential effects characterize the behavior of interest income over earning assets in development banks with respect to the rest of the banking system across the cycles (the coefficients on $ELECT_{c,t} \cdot DB_i$ are never statistically significant). This

evidence is confirmed in both full democracies and flawed democracies, independently from size class. Then, the positive change in loans extended by large development banks during election years in flawed democracies is more likely to reflect political influence on their activity and the will to finance businesses in exchange for higher electoral support.

Table 4 – Elections and interest margin

Dependent variable: INTINC

	All countries		Full democracies (DEMOC = 10)		Flawed democracies (DEMOC < 10)	
	Smaller DBs' size class (1)	Larger DBs' size class (2)	Smaller DBs' size class (3)	Larger DBs' size class (4)	Smaller DBs' size class (5)	Larger DBs' size class (6)
LTA	0.10	-0.03	0.03	-0.11	0.27	0.14
	[0.11]	[0.19]	[0.10]	[0.20]	[0.28]	[0.51]
NONINT	0.01	0.11	-0.00	0.14	0.01^{**}	-0.05
	[0.00]	[0.08]	[0.01]	[0.09]	[0.01]	[0.05]
CAP	0.02^{**}	0.01	0.02	-0.01	0.03^{**}	0.08^{**}
	[0.01]	[0.02]	[0.02]	[0.02]	[0.01]	[0.04]
ΔGDP * DB	0.10^{*}	0.01	-0.03	0.02	0.19^{***}	-0.10
	[0.05]	[0.05]	[0.09]	[0.02]	[0.07]	[0.15]
ELECT* DB	-0.74	0.27	-1.10	0.09	-0.36	1.97
	[0.58]	[0.26]	[0.75]	[0.16]	[0.95]	[1.45]
Bank f.e.	YES	YES	YES	YES	YES	YES
Country-year f.e.	YES	YES	YES	YES	YES	YES
Observations	29,799	4,622	26,467	3,483	3,332	1,139
N. of countries	27	24	17	17	13	10
r2	0.49	0.42	0.65	0.51	0.28	0.38

In columns 3-6, the sample is split based the level of constitutional democratic development (DEMOC), measured by the Polity IV Project on a zero-to-ten scale, with ten indicating "full democracy" and lower levels indicating "flawed democracies". Countries are allowed to move from one group to another according to the annual value of DEMOC. The regression is run within separate size classes: (i) the smaller DB's size class (columns 1, 3, and 5), which includes banks in the percentiles 22-90 by total assets; (ii) the larger DBs' size class (columns 2, 4, and 6), which includes banks above the 90th percentile (see Section 3.1 for details). The dependent variable INTINC measures interest income as a share of average interest earning assets (i.e. the average of earning assets at the beginning of the year and at the year's end). LTA is the logarithm of lagged total assets in EUR thousands. NONINT is the lagged share of non-interest income over average total assets (i.e. the average of total assets at the beginning of the year and at the year's end). CAP is the lagged share of total equity over total assets. ΔGDP is the GDP growth rate by country and year. ELECT is the share of the year *t* that falls within the twelve months prior to a national election in country *c*. DB is a dummy variable that takes the value of one for development banks. The reference period is 2002-2015. Robust standard errors in brackets.
Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

A similar regression (available on request) introducing operating expenditures over total assets (OPEX) as dependent variable reveals that cost efficiency depends on the bank size (negative coefficient on LTA) and the type of business model (positive coefficient on NONINT), but no differential effects are found for development banks

over the electoral cycles, apart from smaller development banks in flawed democracies (the coefficient on $ELECT_{c,t} \cdot DB_i$ is positive and significant at the 5 percent level in flawed democracies when considering the smaller development banks' size class). This evidence suggests that where the political view applies to development banks, it primarily applies through the lending channel, although we cannot completely exclude the existence of political pressures on smaller development banks in flawed democracies intended to increase the number of employees in exchange for political support.

6. Robustness checks

In this section, we test the robustness of our baseline findings on the behavior of loans growth ($\Delta LOANS$) over the cycles with respect to different measures for our electoral and institutional variables (Table 5 and 6) or different specifications of the regression model (Tables 7 and 8).

6.1 Alternative measures of electoral and institutional variables

Firstly, we repeat our estimations introducing different definitions of the election variable $ELECT_{c,t}$ with respect to the continuous measure presented in Section 3.3. Following the procedure adopted by Dinc (2005), we alternatively define $ELECT_{c,t}$ as a dummy variable that takes the value of one when elections take place. Year *t* is defined as an electoral year for country *c* if the elections are held between April of year *t* and March of year *t+1*. Again, the underlying assumption is that electoral incentives anticipate the elections themselves by some months.

Table 5 shows that the main findings of our baseline estimations are entirely confirmed when considering this alternative election variable. The coefficient on $ELECT_{c,t} \cdot DB_i$ is still positive and significant (at the 5 percent level) only in flawed

democracies when considering the size class of larger development banks. By contrast, in full democracies the *negative* coefficient becomes significant at the 1 percent level, providing no evidence of opportunistic pre-electoral behavior of development banks.

Table 5 – Elections and lending activity: timing of elections (April-March dummy)

Dependent variable: Change in Loans (ΔLOANS)

	All countries		Full democracies (DEMOC = 10)		Flawed democracies (DEMOC < 10)	
	Smaller DBs' size class (1)	Larger DBs' size class (2)	Smaller DBs' size class (3)	Larger DBs' size class (4)	Smaller DBs' size class (5)	Larger DBs' size class (6)
LTA	-4.79***	-4.43***	-4.97***	-3.95***	-4.39***	-6.35***
	[0.42]	[0.86]	[0.41]	[0.94]	[1.00]	[1.88]
NONINT	0.01	0.09	0.01	0.05	0.01	0.21
	[0.02]	[0.13]	[0.01]	[0.12]	[0.03]	[0.32]
CAP	-0.01	-0.11*	-0.06	-0.08	0.07	-0.19
	[0.03]	[0.06]	[0.04]	[0.06]	[0.05]	[0.17]
ΔGDP * DB	-0.37***	-0.60***	-0.39**	-0.46***	-0.29*	-1.23***
	[0.13]	[0.18]	[0.20]	[0.14]	[0.17]	[0.43]
ELECT* DB	0.42	-0.11	0.51	-1.32*	-0.02	6.50**
	[0.86]	[0.94]	[1.11]	[0.75]	[1.31]	[3.07]
Bank f.e.	YES	YES	YES	YES	YES	YES
Country-year f.e.	YES	YES	YES	YES	YES	YES
Observations	29,928	4,650	26,556	3,499	3,372	1,151
N. of countries	27	24	17	17	13	10
r2	0.30	0.46	0.26	0.37	0.35	0.62

In columns 3-6, the sample is split based the level of constitutional democratic development (DEMOC), measured by the Polity IV Project on a zero-to-ten scale, with ten indicating "full democracy" and lower levels indicating "flawed democracies". Countries are allowed to move from one group to another according to the annual value of DEMOC. The regression is run within separate size classes: (i) the smaller DB's size class (columns 1, 3, and 5), which includes banks in the percentiles 22-90 by total assets; (ii) the larger DBs' size class (columns 2, 4, and 6), which includes banks above the 90th percentile (see Section 3.1 for details). The dependent variable ΔLOANS measures the change in total loans in year *t* as a share of total assets in year *t-1*. LTA is the logarithm of lagged total assets in EUR thousands. NONINT is the lagged share of non-interest income over average total assets (i.e. the average of total assets at the beginning of the year and at the year's end). CAP is the lagged share of total equity over total assets. ΔGDP is the GDP growth rate by country and year. ELECT is a dummy variable that takes the value of one if elections in country *c* occurred between April of year *t* and March of year *t+1*. DB is a dummy variable that takes the value of one for development banks. The reference period is 2002-2015. Robust standard errors in brackets.

Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

One relevant identification assumption is that the lending activity of both development banks and non-development banks should follow parallel trends in non-election years, i.e. it should behave similarly in the two groups, once controlling for other relevant derminants. In order to check if the assumption of parallel trends is fulfilled, we performed a counterfactual analysis in which the post-election year is chosen as the event that identifies a NON-ELECT dummy, to be tested in alternative to

the ELECT dummy of Table 5. This counterfactual analysis found no differential effects in the lending patterns of large development banks in flawed democracies in the post-election year (results available upon request). This evidence increases our confidence that the differential effects obtained in the previous analyses are just due to the election event.

In addition, the positive coefficient on the interaction term for larger development banks in flawed democracies is also confirmed when simply considering [January, year *t*; December, year *t*] as the reference time window to identify the electoral year, instead of the convention [April, year *t*; March, year *t+1*]. Consequently, we can conclude that our main findings are not affected by the choice of the convention adopted to identify our electoral dummy.

Similarly, we are interested to know how our main results change when splitting the sample according to other country-level institutional variables rather than our indicator of constitutional democratic development (DEMOC). First, we repeated the analysis considering the distinct subcomponents of the DEMOC indicator, according to the measures provided by the Polity IV Project. Interestingly, the specific subcomponent that affects more the difference of estimates between "full democracies" and "flawed democracies" is the XCONST indicator. XCONST measures *Executive Constraints* on a zero-to-seven scale, where the higher values indicate stronger institutionalized constraints on the decision-making powers of chief executives. When we separately analyze countries with "full constraints on chief executive" (XCONST = 7) and countries with "flawed constraints on chief executive" (XCONST < 7), we find that the coefficient on $ELECT_{c,t} \cdot DB_i$ is not significant in countries with full constraints on chief executive, while it is positive and significant (at the 10 percent level) in countries with flawed constraints when considering larger banks. This evidence suggests that pre-

electoral, opportunistic pressures of the incumbent policymakers on development banks are less likely to occur in consolidated democracies where accountability groups (such as the legislature) have a relevant and effective authority in front of the executive power.

We also adopt alternative country indexes, such as the Worldwide Governance Indicators (WGI),[17] in order to test whether alternative measures of institutional quality have the same ability to isolate those countries where the *political view* of development banks is supported by empirical evidence. Table 6 shows the coefficients estimated on $\Delta GDP_{c,t} \cdot DB_i$ and $ELECT_{c,t} \cdot DB_i$ (the other coefficients are not reported for the sake of brevity) when splitting the sample based on two different Governance Indicators: "voice and accountability" (*VA*) and "regulatory quality" (*RQ*). We run separate estimations for countries with high and low levels of these indicators, where *high* levels correspond with the top tercile of countries and *low* levels include the remaining countries. Once again, the negative coefficient on $\Delta GDP_{c,t} \cdot DB_i$ confirms the counter-cyclical role played by development banks in almost all the subgroups. More importantly, the coefficient on $ELECT_{c,t} \cdot DB_i$ is still positive and significant at the 10 percent level in countries with lower institutional quality (i.e. low levels of VA and RQ).[18] Note also that two additional WGI indicators ("rule of law" and "control of

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[17] See Kaufmann et al. (2010).

[18] By contrast, the coefficient on the same interaction term is negative and significantly different from zero (at the 5 percent level) when considering the larger size classes in countries with high levels of VA and RQ (columns 3). Since this result is apparently counterintuitive (the coefficients would the expected to be non-significant), we also run the same regression without including country-year fixed effects and adding the non-interacted variables ELECT and GDP, in order to measure the specific effects of political elections and GDP growth on the lending behavior of non-development banks. We find that the negative interaction term on ELECT * DB is due to a significant increase in the lending activity of large non-development banks rather than to a decrease in the lending activity of large development banks. While several reasons may justify this empirical evidence for non-development banks (e.g. a different behavior

corruption") lead to identical results, since they imply the same sample split based on RQ. Overall, better legal and political institutions are confirmed to act as a defense against opportunistic political pressures and interferences on the lending activity of development banks.

Table 6 – Elections and lending activity: alternative country indexes

Dependent variable: Change in Loans (ΔLOANS)

	Sample split based on 'voice and accountability' (VA):					
	High levels of VA			*Low* levels of VA		
	Whole Sample	Smaller DBs' size class	Larger DBs' size class	Whole Sample	Smaller DBs' size class	Larger DBs' size class
Coefficients:	(1)	(2)	(3)	(4)	(5)	(6)
ΔGDP * DB	-0.47***	-0.40	-0.49***	-0.37***	-0.38***	-0.98***
	[0.12]	[0.31]	[0.15]	[0.14]	[0.14]	[0.33]
ELECT * DB	-0.66	-1.34	-2.28**	2.05	0.96	5.31*
	[0.85]	[1.71]	[0.97]	[1.37]	[1.48]	[2.77]

	Sample split based on 'regulatory quality' (RQ):					
	High levels of RQ			*Low* levels of RQ		
	Whole Sample	Smaller DBs' size class	Larger DBs' size class	Whole Sample	Smaller DBs' size class	Larger DBs' size class
Coefficients:	(1)	(2)	(3)	(4)	(5)	(6)
ΔGDP * DB	-0.47***	-0.37	-0.51***	-0.38**	-0.38***	-0.97***
	[0.12]	[0.30]	[0.15]	[0.15]	[0.14]	[0.37]
ELECT * DB	-0.66	-1.18	-2.15**	2.09	1.10	4.91*
	[0.85]	[1.61]	[0.96]	[1.43]	[1.54]	[2.70]

The sample is split based on alternative Worldwide Governance Indicators (WGI), and specifically: "voice and accountability" (VA) and "regulatory quality" (RQ). *High* levels include the top tercile of European countries ranked in terms of each indicator. *Low* levels include the remaining countries. The regression is run within separate size classes: (i) the whole sample (columns 1 and 4); (ii) the smaller DB's size class (columns 2 and 5), which includes banks in the percentiles 22-90 by total assets; (iii) the larger DBs' size class (columns 3 and 6), which includes banks above the 90th percentile (see Section 3.1 for details). The dependent variable ΔLOANS measures the change in total loans in year *t* as a share of total assets in year *t-1*. ΔGDP is the GDP growth rate by country and year. ELECT is the share of the year *t* that falls within the twelve months prior to a national election in country *c*. DB is a dummy variable that takes the value of one for development banks. The following explanatory variables are also included in the regressions, although the estimated coefficients are not reported for the sake of brevity: the logarithm of lagged total assets in EUR thousands (LTA); the lagged share of non-interest income over average total assets (NONINT); the lagged share of total equity over total assets (CAP). All the estimations include bank fixed effects and country-year fixed effects. The reference period is 2002-2015. Robust standard errors in brackets.

Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

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of credit demand around political elections, or a redistribution of credit supply from smaller banks to larger banks before elections), what is relevant for our analysis is that there is no evidence of development banks changing their lending behavior opportunistically before elections in countries with higher institutional quality.

Interestingly, in Europe, the splitting based on constitutional democratic development and institutional quality is also largely reflected in the geographical division between Western and Eastern Europe, since historical reasons stand behind the different levels of democratic consolidation and the strength of rules and institutions that govern economic and social interactions. A sample split based on this geographical divide reveals that the positive coefficient on the interaction term $ELECT_{c,t} \cdot DB_i$ is actually confirmed in the subsample of Eastern European countries independently from the size classes, but not in Western Europe (see Table A.5 in the Appendix).[19] This evidence adds relevant information to our analysis, considering the particularly important role that development banks have played in the transformation of the Eastern European centralized economies into market economies after the Soviet collapse. Differences in the lending structure and the banking systems between the two groups of countries may contribute to explain the different lending behavior of development banks with respect to other banks, adding to the political aspects mentioned above.

In line with these last considerations, we also replicated our regressions controlling for European Union membership (results available upon request). Indeed, some Central and Eastern European countries entered the European Union during the time span considered. This event may affect the banking system and somehow interfere with our estimation of the lending behavior of development banks in pre-election periods. Results obtained after including an EU dummy, which is equal to 1 starting from the

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[19] Specifically, the 27 countries of our sample are split in the following two macro-areas: (i) Western Europe, including older EU member states and EFTA countries (Austria, Belgium, Denmark, Finland France, Germany, Italy, Luxembourg, the Netherlands, Norway, Spain, Sweden, and the United Kingdom); (ii) Eastern Europe, including newer EU member states, CEFTA countries and other member countries of the Commonwealth of Independent States Free Trade Area (Bulgaria, Belarus, Croatia, the Czech Republic, Estonia, Hungary, Macedonia, Poland, Romania, Russia, Slovakia, Slovenia, Turkey and Ukraine).

first year t that a country c enter the European Union, does not affect our main conclusions.

6.2 Alternative specifications

The model presented in Section 4 assumes that the data generating process is accurately described by static relationships. However, our baseline estimations may be severely biased by the exclusion of lagged dependent variables in the model specification. In this section, we introduce one or more lagged dependent variables, allowing for the modeling of a partial adjustment mechanism. Then, we can rewrite our model as:

$$Y_{i,c,t} = \sum_j \alpha_j \cdot Y_{i,c,t-j} + \sum_k \left(\beta_k \cdot Z_{c,t}^{(k)} \cdot DB_i + \gamma_k \cdot Z_{c,t}^{(k)} \right) + \sum_l \delta_l \cdot X_{i,t-1}^{(l)} + \theta_t + \eta_i + \varepsilon_{i,c,t}$$

where $Y_{i,c,t}$, $Z_{c,t}^{(k)}$, and $X_{i,t-1}^{(l)}$ are exactly the same variables defined in section 4. Then, in the new specification of the model we just apply the following changes: (i) we introduce j lags of the dependent variable among the regressors; (ii) we substitute the set of dummies for country-year effects $\theta_{c,t}$ with year dummies θ_t; (iii) we include in the estimation model the non-interacted variables $Z_{c,t}^{(k)}$ (i.e. $ELECT_{c,t}$ and $\Delta GDP_{c,t}$) since they are no more absorbed by country-year dummies.

The choice to remove the country-year dummies is justified by the need to reduce the 'too many instruments' problem that typically characterizes the dynamic panel estimators (Roodman, 2009). On the one hand, this choice prevents us from controlling for all the possible country-year effects. On the other hand, it permits us to measure the specific effects of political elections and GDP growth on the lending behavior of non-development banks (and not only the differential effect on the lending behavior of development banks). Then, the impact of $Z_{c,t}^{(k)}$ on loans growth is given by β_k for the

non-development banks, while $\beta_k + \gamma_k$ measures the impact for development banks. The estimation of β_k adds interesting information to our analysis although the coefficient on the interaction term γ_k is still the relevant one in order to test our main hypotheses.

Once dynamic relationships (i.e. lagged dependent variables) are introduced, least squares methods on fixed effects or random effects models produce biased and inconsistent estimates (see Baltagi, 2001). Nickell (1981) shows that this bias is especially larger in a context of 'short-T, large-N' dataset. One common approach to deal with dynamic panel data models involves the generalized method-of-moments (GMM) (Hansen, 1982). In particular, we recur to system GMM estimators developed by Arellano and Bover (1995) and Blundell and Bond (1998). System GMM estimation: (a) transforms the regression equation to remove any omitted variable bias created by unobserved heterogeneity (bank-specific effects); (b) instruments the right-hand-side variables of the transformed equation using lagged values of the original regressors to eliminate potential parameter inconsistency arising from the dynamic panel bias; (c) combines the transformed equation in a system with the original regression in levels, in order to improve efficiency and consistency. The instruments for the regression in levels are the lagged differences.

The system GMM estimator offers relevant improvements upon the difference GMM estimator (Holtz-Eakin et al., 1988; Arellano and Bond, 1991), which excludes step (c), due to the higher quality of the internal instruments.[20] However, it requires an additional assumption that changes in any instrumenting variables are uncorrelated with

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[20] Indeed, the lagged levels are rather weak instruments for the regression equation in differences, especially when the explanatory variables are persistent over time. This weak instrument problem can induce biases in finite samples and poor precision even asymptotically.

the bank-specific effects. Since postestimation tests seem to confirm that these additional restrictions are not to be rejected, we base our estimation approach on the system GMM estimator.[21]

In our system GMM estimation, the transformed equation of step (b) is obtained by recurring to 'forward orthogonal deviations' (Arellano and Bover, 1995).[22] Moreover, instruments are 'collapsed' in order to efficiently correct for instrument proliferation (Roodman, 2009). Finally, we use two-step GMM estimation and the Windmeijer correction, which adjusts the covariance matrix to minimize the downward bias of the two-step standard errors in finite samples (Windmeijer, 2005). Standard errors are heteroskedasticity and autocorrelation robust and clustered by the panel identifier, i.e., individual banks.

For comparison, Table 7 summarizes the results obtained with three alternative econometric procedures: Pooled OLS regressions (columns 1, 4, and 7), fixed effects OLS regressions (columns 2, 5, and 8), and system GMM (columns 3, 6, and 9). Once again, we split the sample based on the DEMOC variable at the country level, and all the regressions are performed in the different size classes considered. The coefficients

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[21] Since the aim of this work is to test the existence of an opportunistic behavior of development banks in election periods (i.e. a positive and significant coefficient on the ELECT * DB interaction term), our preference for the system GMM also represents a conservative choice, since difference GMM produces higher standard errors and, consequently, lower rejection rates for the null hypothesis that a coefficient is zero.

[22] With respect to orthogonal deviations transformation, the alternative first-difference transformation magnifies gaps in unbalanced panels, since it subtracts lagged observations from the contemporaneous one. Orthogonal deviations minimize data loss by subtracting the average of all future *available* observations of a variable. However, we verified that the results are reasonably robust to the choice of transformation.

on bank-level control variables (LTA, NONINT, CAP) are not reported for the sake of brevity, but they are in line with the baseline estimations of Section 5.1.

In line with the existing literature on the macroeconomic determinants of bank lending, GDP growth (ΔGDP) has positive and statistically significant coefficients, which is coherent with banks increasing their loans during period of economic expansions. At the same time, in full democracies the positive and strongly significant coefficient on the ELECT dummy reveals higher bank lending in election years. In part, this may reflect the fact that the lending behavior of private banks is also possibly influenced by the power of government.

More importantly, in system GMM estimations the coefficient on the interaction term $ELECT_{c,t} \cdot DB_i$ is negative and significant (at the 5 percent level) in full democracies when considering the size class of smaller development banks (column 6). This evidence not only rejects the political view of development banks, but rather it seems to suggest a lower lending activity of small development banks in periods of political uncertainty. By contrast, the coefficient on $ELECT_{c,t} \cdot DB_i$ is still strongly positive and significant in flawed democracies when considering the size class of larger development banks (column 9), consequently confirming the opportunistic pre-electoral behavior of some development banks in countries with lower institutional quality.

In order to determine the appropriateness of our GMM estimations, we report the results of two main tests. The first test examines the hypothesis that the error term is not second-order serially correlated (the error term of the transformed equation is expected to be first-order serially correlated by construction). We introduce two lags of the dependent variables (j=2), since this is the model specification that permits to obtain the lowest p-value of the AR(2) test.

The second test is a 'difference-in-Sargan/Hansen' test used to examine the validity of subsets of instruments, under the null of joint validity of the full instrument set. Specifically, we report the Sargan/Hansen statistics referring to the system GMM instruments for the levels equation based on first-differences in the dependent variable (i.e. on lagged loans growth). The impossibility to reject the orthogonality conditions for this subset of instruments give support to the system GMM estimator with respect to the difference GMM estimator.

Overall, the estimates of this section confirm that our main results are robust to the adoption of alternative measures of the relevant variables and to different econometric procedures. In particular, the GMM dynamic panel procedures comprehensively confront problems induced by the use of lagged dependent variables and bank-specific effects. Furthermore, GMM dynamic panel estimators use instruments that are 'internal' (i.e. based on lags of the instrumented variables) and that are consequently useful when there are no good 'external' instruments to control the likely endogeneity of the explanatory variables.

Table 8 – Dynamic model: subsample regressions by DEMOC levels

Dependent variable: Change in Loans (ΔLOANS)

Full democracies (DEMOC = 10)

	Whole Sample			Smaller DBs' size class			Larger DBs' size class		
	Pooled OLS (1)	FE OLS (2)	System GMM (3)	Pooled OLS (4)	FE OLS (5)	System GMM (6)	Pooled OLS (7)	FE OLS (8)	System GMM (9)
ΔLOANS(-1)	0.26***	0.13***	0.28***	0.25***	0.13***	0.28***	0.30***	0.18***	0.33***
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.02]	[0.03]	[0.03]	[0.03]
ΔLOANS(-2)	0.17***	0.07***	0.15***	0.17***	0.07***	0.16***	0.17***	0.07***	0.17***
	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.01]	[0.03]	[0.03]	[0.03]
ΔGDP	0.60***	0.82***	0.39***	0.66***	0.93***	0.57***	0.48***	0.55***	0.21
	[0.04]	[0.05]	[0.08]	[0.05]	[0.06]	[0.08]	[0.09]	[0.12]	[0.16]
ΔGDP * DB	-0.26**	-0.41**	-0.21	-0.53***	-0.55*	-0.71**	-0.15	-0.39**	-0.12
	[0.13]	[0.20]	[0.19]	[0.18]	[0.32]	[0.28]	[0.17]	[0.18]	[0.18]
ELECT	1.68***	1.69***	1.52***	2.00***	2.05***	1.92***	1.26***	1.19***	1.35***
	[0.18]	[0.16]	[0.20]	[0.20]	[0.18]	[0.24]	[0.46]	[0.44]	[0.47]
ELECT * DB	0.76	-0.46	-2.97**	-0.47	-0.06	-5.15**	1.24	-0.86	0.17
	[0.77]	[1.18]	[1.39]	[1.14]	[1.76]	[2.10]	[1.09]	[1.29]	[1.32]
Bank controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES
Obs.	25,810	25,810	25,810	21,096	21,096	21,096	2,758	2,758	2,758
No.individuals		3,017	3,017		2,360	2,360		301	301
No.instruments			97			97			97
AR2 (p-val)			0.00			0.00			0.28
diff.test (p-val)			0.19			0.04			0.23

Flawed democracies (DEMOC < 10)

	Whole Sample			Smaller DBs' size class			Larger DBs' size class		
	Pooled OLS (1)	FE OLS (2)	System GMM (3)	Pooled OLS (4)	FE OLS (5)	System GMM (6)	Pooled OLS (7)	FE OLS (8)	System GMM (9)
ΔLOANS(-1)	0.16***	-0.03	0.17***	0.20***	0.05*	0.21***	0.19***	0.07	0.16**
	[0.02]	[0.02]	[0.02]	[0.03]	[0.03]	[0.04]	[0.05]	[0.08]	[0.07]
ΔLOANS(-2)	0.04**	-0.09***	0.03	0.04*	-0.06**	0.05	0.09**	0.00	0.10**
	[0.02]	[0.02]	[0.02]	[0.02]	[0.02]	[0.03]	[0.04]	[0.06]	[0.05]
ΔGDP	0.94***	0.87***	0.84***	0.96***	0.90***	1.07***	1.44***	1.29***	1.66***
	[0.08]	[0.10]	[0.13]	[0.11]	[0.14]	[0.20]	[0.16]	[0.22]	[0.23]
ΔGDP * DB	-0.05	-0.29	-0.05	-0.18	-0.44	-0.35	-0.41	-0.91**	-0.86***
	[0.23]	[0.29]	[0.41]	[0.25]	[0.34]	[0.41]	[0.57]	[0.38]	[0.31]
ELECT	1.81**	0.62	1.52*	0.83	-0.23	0.22	-1.58	-1.20	-1.34
	[0.77]	[0.76]	[0.84]	[0.95]	[1.01]	[1.09]	[1.26]	[1.09]	[0.96]
ELECT * DB	1.92	3.24	1.13	2.48	1.54	2.91	8.48*	10.89*	11.84**
	[2.26]	[3.06]	[2.64]	[2.53]	[2.41]	[2.72]	[4.72]	[6.03]	[5.11]
Bank controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES
Obs.	4,543	4,543	4,543	2,147	2,147	2,147	880	880	880
No.individuals		888	888		394	394		110	110
No.instruments			97			97			97
AR2 (p-val)			0.01			0.13			0.77
diff.test (p-val)			0.53			0.64			0.19

The dependent variable ΔLOANS measures the change in total loans in year *t* as a share of total assets in year *t-1*. The model specification includes two lags of the dependent variable - ΔLOANS(-1) and ΔLOANS(-2). ΔGDP is the GDP growth rate by country and year. ELECT is the share of the year *t* that falls within the twelve months prior to a national election in country *c*. DB is a dummy variable that takes the value of one for development banks. Bank controls include LTA, NONINT and LTA (see Table 7 for descriptions), although the coefficients are not reported for the sake of brevity. Year dummies are included in all regressions. Pooled OLS regressions (columns 1, 4 and 7) and fixed effects OLS regressions (columns 2, 5 and 8) use robust standard errors clustered by bank. All system GMM estimates (columns 3, 6 and 9) use two-step GMM estimation with Windmeijer (2005) correction. In GMM estimates, we take ΔGDP and bank-specific variables to be predetermined – meaning that current values of these variables can be correlated with past and current error terms but not with future error terms. AR(2) (p-val) is the p-value of Arellano-Bond test for second order autocorrelated disturbances in first differences. Diff.test (p-val) is the p-value of the difference-in-Sargan/Hansen test referring to the system GMM instruments for the levels equation based on first-differences in the dependent variable. Significance levels: $^* p < 0.1$, $^{**} p < 0.05$, $^{***} p < 0.01$

7. Conclusions

Misallocation of investments due to political interference has historically been one of the major concerns related to the action of state-owned banks. Our paper is the first to analyze the issue for all development banks headquartered in Europe, whose strategic role in catalyzing long-term finance and implementing EU policies has come to light after the 2008 crisis.

Empirical findings point out that, overall, European development banks are not necessarily politically influenced, in the sense that they do not modify their lending activity during electoral years, which is the variable traditionally used to proxy the issue. From a policy point of view, these findings suggest that providing financial funds to development banks does not necessarily lead to an inappropriate use of public resources. Moreover, evidence of counter-cyclical stance in their lending activity confirms the beneficial role played by development banks in periods of economic slowdown.

These encouraging results are in line with a growing body of literature on contemporary state-owned enterprises that reveals the significant positive changing dynamics that have shaped their contemporary features and roles, such as greater transparency and accountability, better compliance with ethical and deontological requirements and strengthening in corporate governance rules and regulatory frameworks (Bernier et al. 2019; Karolyi and Liao, 2017; Musacchio and Lazzarini, 2014; Bruton et al., 2015; Clò et al., 2017; Cuervo-Cazurra et al., 2014).

However, we also find that the lending behavior of development banks under election years differs in countries with distinct institutional settings, revealing that an opportunistic pre-electoral behavior of development banks is more likely to materialize in countries with lower levels of democratic development. In fact, while there is no

evidence that politicians use development banks for electoral purposes in full democracies, there is some clear signal that large development banks in flawed democracies actually increase lending around elections at a statistically significant percentage more than the rest of the banking system, thus revealing the role played by politics in their lending decisions.

We suggest that European policy makers should carefully consider these empirical evidences, given the role attributed to development banks in their contemporary agenda. Our results lead to think carefully about the role of legal and political institutions for a proper functioning of development banks and defenses against the distortions possibly arising from government ownership, although we are aware that other factors may have a role, such as the fact that market failures are less severe in more developed countries and alternative channels become available for the governments to support the economy (e.g. *take-or-pay* joint ventures and other types of public-private partnerships). Results also add to existing literature on the importance of institutional quality for the economic development and on its different impact on public and private enterprises.[23]

Finally, differences in the quality of development banks' governance need to be further explored. Professional management, sound risk management, internal control procedures, and the degree of independence are indeed key issues for the governance mechanism to remain free from political interference. Indeed, the absence of politically motivated lending in countries with higher institutional quality could be justified not only by the lower influence exerted by governments, but also by the better internal governance of development banks, reflecting the nationwide external governance. This awareness suggests interesting further development of future research.

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[23] For an in-depth analysis about the relationship between the quality of institutions and firm's productivity, see Efendic et al. (2011) and Driffield et al. (2013). On the different impact on public and private enterprises see Castelnovo et al. (2018).

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Appendix

Table A.1 – Sample statistics

		All countries			Full Democracies (DEMOC = 10)			Flawed Democracies (DEMOC < 10)		
		Banks	DBs		Banks	DBs		Banks	DBs	
TA	*Mean*	8.936	27.333	***	7.956	28.461	***	13.386	24.214	
	s.d.	81.691	71.556		73.207	75.157		112.324	60.551	
	N	39,444	757		32,324	556		7,120	201	
ΔLOANS	*Mean*	3.402	4.517	***	2.897	3.707	***	5.696	6.756	
	s.d.	8.043	9.668		6.082	8.410		13.567	12.255	
	N	39,444	757		32,324	556		7,120	201	
LOANS	*Mean*	57.650	47.589	***	58.794	48.118	***	52.455	46.123	***
	s.d.	17.468	25.965		16.555	26.726		20.328	23.735	
	N	39,444	757		32,324	556		7,120	201	
CAP	*Mean*	10.664	18.784	***	9.159	17.831	***	18.608	21.421	***
	s.d.	8.420	17.863		6.413	18.676		12.924	15.123	
	N	39,444	757		33,787	556		7,120	201	
NONINT	*Mean*	2.442	1.744	***	1.150	1.736	***	8.305	1.764	***
	s.d.	5.311	3.725		1.970	4.136		9.835	2.227	
	N	39,444	757		32,324	556		7,120	201	
INTINC	*Mean*	5.337	5.280		4.347	4.621	***	9.866	7.098	***
	s.d.	3.079	3.257		1.398	2.610		4.349	4.076	
	N	39,243	755		32,204	554		7,039	201	
OPEX	*Mean*	3.931	1.752	***	2.484	1.508	***	10.513	2.426	***
	s.d.	5.644	2.389		1.877	2.362		10.386	2.339	
	N	39,332	756		32,242	555		7,090	201	

DBs denote the subsample of development banks, while Banks denotes the rest of the banks included in the sample. TA is total assets in EUR billions. ΔLOANS measures the change in total loans in year *t* as a share of total assets in year *t-1*. LOANS measures total loans as a share of total assets. CAP measures total equity as a share of total assets. NONINT measures non-interest income as a share of average total assets. INTINC measures interest income as a share of average interest earning assets (i.e. the average of earning assets at the beginning of the year and at the year's end). OPEX measures operating expenses as a share of average total assets.
*, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively, in a two-sided test of the mean with the Bank sample and the DBs sample.

Table A.2 – Elections and lending activity: triple interaction term

Dependent variable: Change in Loans (ΔLOANS)

	Whole Sample (1)	Smaller DBs' size class (2)	Larger DBs' size class (3)
LTA	-3.65***	-4.79***	-4.43***
	[0.40]	[0.42]	[0.86]
NONINT	-0.00	0.01	0.08
	[0.01]	[0.02]	[0.13]
CAP	-0.01	-0.01	-0.11*
	[0.02]	[0.03]	[0.06]
ΔGDP * DB	-0.46***	-0.40**	-0.45***
	[0.14]	[0.19]	[0.17]
ΔGDP * DB * FLAWED	0.13	0.04	-0.84*
	[0.22]	[0.23]	[0.45]
ELECT * DB	-1.08	-0.46	-1.01
	[0.92]	[1.42]	[1.33]
ELECT * DB * FLAWED	3.86*	1.75	9.08**
	[2.10]	[2.33]	[4.03]
Bank fixed effects	YES	YES	YES
Country-Year effects	YES	YES	YES
Observations	40,201	29,928	4,650
N. of countries	27	27	24
r2	0.27	0.30	0.46

The regression is run within separate size classes: (i) the whole sample (column 1); (ii) the smaller DB's size class (column 2), which includes banks in the percentiles 22-90 by total assets; (iii) the larger DBs' size class (column 3), which includes banks above the 90th percentile (see Section 3.1 for details). The dependent variable ΔLOANS measures the change in total loans in year t as a share of total assets in year $t-1$. LTA is the logarithm of lagged total assets in EUR thousands. NONINT is the lagged share of non-interest income over average total assets (i.e. the average of total assets at the beginning of the year and at the year's end). CAP is the lagged share of total equity over total assets. ΔGDP is the GDP growth rate by country and year. ELECT is the share of the year t that falls within the twelve months prior to a national election in country c. DB is a dummy variable that takes the value of one for development banks. FLAWED is a dummy variable that takes the value of one for "flawed democracies", i.e. countries that in a given year have not the maximum level (10) of constitutional democratic development (DEMOC), measured by the Polity IV Project. Then, a significant coefficient on ELECT * DB * FLAWED means that ELECT * DB is significantly higher in flawed democracies than in full democracies. The reference period is 2002-2015. Robust standard errors in brackets.
Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A.3 – Elections and lending activity: adopting a weighting strategy

Dependent variable: Change in Loans (ΔLOANS)

	All countries	Full democracies (DEMOC = 10)	Flawed democracies (DEMOC < 10)
	(1)	(2)	(3)
LTA	-1.68*	-1.20	-3.74
	[0.96]	[0.95]	[2.34]
NONINT	-0.11	-0.01	-0.22***
	[0.08]	[0.10]	[0.08]
CAP	0.05	0.04	0.01
	[0.06]	[0.08]	[0.12]
ΔGDP * DB	-0.58***	-0.37**	-1.32***
	[0.19]	[0.18]	[0.31]
ELECT * DB	0.37	0.65	4.20***
	[1.03]	[1.43]	[1.19]
Bank fixed effects	YES	YES	YES
Country-Year effects	YES	YES	YES
Observations	40,201	32,880	7,321
N. of countries	27	17	13
r2	0.44	0.41	0.53

In columns 2-3, the sample is split based the level of constitutional democratic development (DEMOC), measured by the Polity IV Project on a zero-to-ten scale, with ten indicating "full democracy" and lower levels indicating "flawed democracies". Countries are allowed to move from one group to another according to the annual value of DEMOC. All regressions are weighted by the bank's share of lagged total assets in the year. The dependent variable ΔLOANS measures the change in total loans in year t as a share of total assets in year $t-1$. LTA is the logarithm of lagged total assets in EUR thousands. NONINT is the lagged share of non-interest income over average total assets (i.e. the average of total assets at the beginning of the year and at the year's end). CAP is the lagged share of total equity over total assets. ΔGDP is the GDP growth rate by country and year. ELECT is the share of the year t that falls within the twelve months prior to a national election in country c. DB is a dummy variable that takes the value of one for development banks. The reference period is 2002-2015. Robust standard errors in brackets. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A.4 – Elections and lending activity: executive constraints

Dependent variable: Change in Loans (ΔLOANS)

	Full Constraints on Chief Executive (XCONST = 7)			Flawed Constraints on Chief Executive (XCONST < 7)		
	Whole Sample	Smaller DBs' size class	Larger DBs' size class	Whole Sample	Smaller DBs' size class	Larger DBs' size class
	(1)	(2)	(3)	(4)	(5)	(6)
LTA	-4.24***	-5.01***	-4.16***	-2.79***	-4.20***	-5.08***
	[0.56]	[0.40]	[0.93]	[0.58]	[1.19]	[1.52]
NONINT	-0.00	0.01	0.05	-0.00	0.02	-0.28
	[0.02]	[0.01]	[0.11]	[0.01]	[0.03]	[0.26]
CAP	-0.04	-0.03	-0.08	0.02	0.03	0.02
	[0.03]	[0.04]	[0.06]	[0.03]	[0.06]	[0.13]
ΔGDP * DB	-0.47***	-0.45***	-0.41***	-0.10	-0.24	-1.29***
	[0.12]	[0.18]	[0.15]	[0.23]	[0.17]	[0.46]
ELECT * DB	-0.66	-0.20	-0.61	1.10	1.67	4.56*
	[0.85]	[1.26]	[1.30]	[1.56]	[2.18]	[2.47]
Bank f.e.	YES	YES	YES	YES	YES	YES
Country-year f.e.	YES	YES	YES	YES	YES	YES
Observations	33,916	27,337	3,718	6,285	2,591	932
N. of countries	23	23	20	6	6	6
r2	0.26	0.28	0.41	0.28	0.35	0.62

The sample is split based the level of Constraints on Chief Executive (XCONST), measured by the Polity IV Project on a zero-to-ten scale, with seven indicating "full constraints" and lower levels indicating "flawed constraints". Countries are allowed to move from one group to another according to the annual value of XCONST. The regression is run within separate size classes: (i) the whole sample (columns 1 and 4); (ii) the smaller DB's size class (columns 2 and 5), which includes banks in the percentiles 22-90 by total assets; (iii) the larger DBs' size class (columns 3 and 6), which includes banks above the 90th percentile (see Section 3.1 for details). The dependent variable ΔLOANS measures the change in total loans in year t as a share of total assets in year $t-1$. LTA is the logarithm of lagged total assets in EUR thousands. NONINT is the lagged share of non-interest income over average total assets (i.e. the average of total assets at the beginning of the year and at the year's end). CAP is the lagged share of total equity over total assets. ΔGDP is the GDP growth rate by country and year. ELECT is the share of the year t that falls within the twelve months prior to a national election in country c. DB is a dummy variable that takes the value of one for development banks. The reference period is 2002-2015. Robust standard errors in brackets.

Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A.5 – Elections and lending activity: geographical division

Dependent variable: Change in Loans (ΔLOANS)

	Western Europe			Eastern Europe		
	Whole Sample (1)	Smaller DBs' size class (2)	Larger DBs' size class (3)	Whole Sample (4)	Smaller DBs' size class (5)	Larger DBs' size class (6)
LTA	-3.92***	-4.86***	-3.86***	-3.35***	-4.64***	-8.30***
	[0.55]	[0.40]	[0.86]	[0.58]	[1.04]	[2.50]
NONINT	0.01	0.02	0.01	-0.00	0.01	0.29
	[0.02]	[0.01]	[0.12]	[0.01]	[0.03]	[0.35]
CAP	-0.04	-0.05	-0.09	0.01	0.06	-0.20
	[0.03]	[0.04]	[0.06]	[0.03]	[0.05]	[0.24]
ΔGDP * DB	-0.45***	-0.33	-0.57***	-0.37**	-0.40***	-1.06**
	[0.15]	[0.23]	[0.15]	[0.16]	[0.15]	[0.52]
ELECT * DB	-2.20**	-2.06	-2.20**	4.77***	3.44**	9.09**
	[0.89]	[1.46]	[0.99]	[1.59]	[1.49]	[3.55]
Bank f.e.	YES	YES	YES	YES	YES	YES
Country-year f.e.	YES	YES	YES	YES	YES	YES
Observations	33,787	26,855	4,073	6,414	3,073	577
N. of countries	13	13	13	14	14	11
r2	0.24	0.25	0.31	0.30	0.37	0.71

The sample is split based the geographical divide between Western Europe and Central-Eastern Europe. The regression is run within separate size classes: (i) the whole sample (columns 1-3); (ii) the smaller DB's size class (columns 4-6), which includes banks in the percentiles 22-90 by total assets; (iii) the larger DBs' size class (columns 7-9), which includes banks above the 90th percentile (see Section 3.1 for details). The dependent variable ΔLOANS measures the change in total loans in year t as a share of total assets in year $t-1$. LTA is the logarithm of lagged total assets in EUR thousands. NONINT is the lagged share of non-interest income over average total assets (i.e. the average of total assets at the beginning of the year and at the year's end). CAP is the lagged share of total equity over total assets. ΔGDP is the GDP growth rate by country and year. ELECT is the share of the year t that falls within the twelve months prior to a national election in country c. DB is a dummy variable that takes the value of one for development banks. The reference period is 2002-2015. Robust standard errors in brackets. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$