

## ARTICLE

## Specialists and Politics: The Recruitment of Presidents and Directors of BNDES in the PSDB and PT Administrations

**Alessandro Tokumoto<sup>1</sup>**

<https://orcid.org/0000-003-4794-4183>

**Rodolfo Dias<sup>2</sup>**

<https://orcid.org/0000-0002-1845-1198>

**Renato Perissinotto<sup>1</sup>**

<https://orcid.org/0000-0001-8747-7976>

**Eric Gil Dantas<sup>1</sup>**

<https://orcid.org/0000-0003-4666-4796>

<sup>1</sup>Universidade Federal do Paraná, Political Science, Curitiba/PR, Brazil

<sup>2</sup>Universidade Federal do Rio de Janeiro, Graduate Program of Sociology and Anthropology, Rio de Janeiro/RJ, Brazil

This text deals with BNDES between 1995 and 2016. It intends to answer two questions: 01. Which institutions did presidents and directors of BNDES pass through in the period before they achieved their positions in the Bank?; 02. Are there any differences, in this regard, between the PSDB and PT administrations? The article uses Social Network Analysis to capture the prior trajectory of individuals before they reached the positions of president and director of the Bank. The data is presented in four sociograms, one for the FHC administrations, another for the Lula administrations, a third for the Dilma Rousseff administrations, and a last one of directors and presidents of the Bank. Our data reveals important differences in relation to the structure of the trajectories of BNDES directors between different administrations, which could be linked to their different economic projects. By way of conclusion we make some final considerations about the data and its possible theoretical implications.

**Keywords:** BNDES; PSDB; PT; Network analysis.

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<http://doi.org/10.1590/1981-3821202100020005>

For data replication, see: <https://doi.org/10.7910/DVN/YDOPCU>

Correspondence: Renato Perissinoto. E-mail: [monseff@gmail.com](mailto:monseff@gmail.com)

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Funding: National Council of Scientific and Technological Development – Process N<sup>o</sup> 301411/2017-4.

The National Bank of Social and Economic Development (*Banco Nacional de Desenvolvimento Econômico e Social* - BNDES) was created in 1952, during the second Vargas administration. It was the institution responsible for planning, raising funds, and developing an industrialization project in Brazil. The Bank, which stood out historically due to the role it played in Kubistchek's Target Plan, is currently<sup>1</sup> one of the most important development agencies in the world and the 'operational arm' of the Brazilian government as the provider of funds for investment<sup>2</sup>.

This text is concerned with BNDES between 1995 and 2016, covering the two Fernando Henrique Cardoso administrations (FHC I and FHC II), the two Luiz Inácio Lula da Silva administrations (Lula I and Lula II), and the two Dilma Rousseff administrations (Dilma I and Dilma II). We intend to answer two questions: 01. What is the institutional trajectory of presidents and directors of BNDES in the period analyzed before they reached their positions in the Bank?; 02. and in relation to this point, are there differences between PSDB and PT administrations?

In order to answer these two questions, the article is structured as follows. After this presentation, we first discuss the specialized literature on the nature of BNDES as an institution and we locate our work within this. Next, we present the data collected and the methodology used for the analysis of the previous career structure of all BNDES directors and presidents during the period studied. In the third part, we concentrate our analyses on the institutional trajectory of the Bank's presidents and directors during Fernando Henrique Cardoso's two administrations. Following this, the same analysis is carried out for the presidents and directors of BNDES during the PT administrations. The Lula administrations and the Dilma administrations are presented separately due to the change in the head of the Executive Power. In a final part we analyze the network of directors and presidents with regard to their external or internal origin (in relation to BNDES). The

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<sup>1</sup>Connected in 1982 to the Ministry of Planning, Development, and Administration, and afterwards moved to the Ministry of Development, Industry, and Foreign Trade (until it returned to Planning in May 2016 – a period not covered by this research), the Federal Government regulates BNDES' activities through the Ministry of the Economy. The Federal Union (a public legal entity that represents the Federal Government) is the controller of BNDES, in other words, it holds the total of 6,273,711,452 ordinary nominative actions, without nominal value, which compose the subscribed share capital.

<sup>2</sup>The nickname was given by Eleazar de Carvalho Filho, former president of the bank (MONTEIRO FILHA and MODENESI, 2002).

data is presented in four sociograms. In order to strengthen our thesis about the political role of presidents in the shaping of directorates of the Bank. Finally, by way of conclusion, we will make some final considerations about the data presented in this article, emphasizing that the opposition between 'technical' and 'political' has to be qualified not with the purpose of refusing the clear existence of highly bureaucratic agencies in the Brazilian state, as is the case of BNDES, but of avoiding understanding the relationship between both as a zero-sum relationship.

### **BNDES in the literature: from insulation to recruitment**

In this section, we present in a summarized form the literature about BNDES. In our opinion, we can divide these works into three groups. The first one emphasizes that the Bank is an insulated entity in relation to politics and seeks to explain how this condition was historically formed; the second set of works emphasize the place of the Bank in the financial system and its adaptative capacity to changes in Brazilian economic development; finally, the third set of works focus on the relationship between the Bank and the Executive, and by extension on the recruitment process of its directors. As we have stated, this division is a question of emphasis, since the last two groups also recognize that the autonomy of the technical staff of the Bank is one of its most striking characteristics. However, alongside this classic theme, these works add other questions which enrich the analysis of the institution.

The first set of studies about BNDES is the best known, and is formed of analyses which, by being essentially concerned with organizational aspects of the institution, assign a central place to the autonomy of the Bank in relation to the necessarily unstable and immediate injunctions of Brazilian political life. According to this argument, BNDES is an example of a modern bureaucratic organization, which by institutionalizing itself managed to create barriers against the political and patrimonialist pressures resulting from the electoral and political party struggle. This capacity to protect the internal logic of the functioning of the institution is seen as a fundamental characteristic of an ideal type of relations between government and political institutions, predominant in some parts of the Brazilian state apparatus constructed after the 1930s and enshrined in the literature by the phrase 'bureaucratic insulation' (NUNES, 1997, p. 34)<sup>3</sup>.

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<sup>3</sup>Throughout the text we use the words 'autonomy' and 'bureaucratic insulation' as interchangeable terms.

Under the condition of insulation, the institution's legitimacy is largely associated with its autonomy in relation to party politics and other organizations of society and with the technical capacity of the bureaucrats in charge of the institution. The existence of 'pockets of excellence' in the Brazilian state apparatus was highlighted by several important interpretations of bureaucracy in the country, which normally associated bureaucratic insulation with the relative success of state planning and economic policy in the 1950s, 1960s, and 1970s (BRESSER-PEREIRA, 2014; GEDDES, 1994; JAGUARIBE; 1977; LAFER; 1975; LEOPOLDI, 1992). In these studies bureaucratic insulation is itself a political project which, due to the historical conditions in operation from the 1930s onwards, was victorious – at least in part –, affecting certain dimensions of the Brazilian state and leaving others at the mercy of the patrimonialism of national politics<sup>4</sup>.

Taking into account the problem of 'bureaucratic insulation', some studies have sought to identify which institutional aspects allow the construction of an administration seen as of 'excellence' within BNDES, revealing the historical emergence of a model of innovative management within the Brazilian state apparatus, with recruitment tools based on meritocracy, from the early years of the bank until more recent times (KLÜGER, 2015; SIKKINK, 1998; WILLIS, 1995). Seeking to explain the expansion process of the Brazilian public apparatus, Geddes (1990) argues that reforms with the purpose of increasing state capacity and the condition of insulation only occur when this strategy provides greater advantages to the leaders of the Executive in relation to the alternative form of political patronage. In this way, for her, the construction of agencies such as BNDES was the result of the strategy assumed principally by the second Vargas administration and by Juscelino Kubistchek.

The second group of studies sees the Bank as an institution formed by highly qualified technical staff with a high level of autonomy, but at the same time calls attention to the fact that the institution has managed to readapt to new stages of national development and, for this reason, has been capable of remaining as a relevant

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<sup>4</sup>The paradigmatic example in this sense is the creation of the Administrative Department of Public Service (DASP, in Portuguese) in 1937. DASP materialized at the same time the advances and limits of the modernization of the Brazilian state in this period. On the one hand, it carried out a series of bureaucratic changes in the public service and, on the other, it had to deal with the permanence of officials whose nomination was essentially political, as was the case of the so-called extra-'numerários'. In relation to this, see Daland, 1967.

institution throughout its existence. Luciano Martins' (1985) work is the first to emphasize the capacity of BNDES to expand its scope of action in an environment of constant competition between public agencies. Seeking to increase its fund raising capacity, in the middle of the 1960s the Bank moved from being a public financier to the position of the most important development agency<sup>5</sup>. Colby (2013) argues that the technical capacity of bank staff was a central aspect in the maintenance of its relevance and its high level of autonomy, even with the different governmental macroeconomic orientations during its institutional history. However, as Dias (2017) highlights, the continuity of BNDES' centrality is also associated with the bank's capacity to preserve its space of action in the Brazilian financial system. In general, these works associate the institutional development of BNDES with the changes in the financial environment and with the stages of national economic development<sup>6</sup>. Emphasized here is the importance which the Bank assumed by filling the historical gap related to the absence of long term credits in the Brazilian financial system and by readapting itself to new historical moments.

Part of this literature also calls attention to the relevance of the Executive with its capacity to define the Bank's macroeconomic directives. BNDES' relationship with the Executive actually remains the central problem of more recent studies (Gambacurta-Scopello, 2020). In relation to this point, Schapiro (2017), using the legal-administrative approach, defends the existence of two levels of discretion in BNDES. At the first level, in relation to the Bank's objectives, the political agenda is defined through a constant dialogue of the Bank's authorities with the Executive, which has a broad set of tools to define the institution's final objectives. BNDES' technical staff operate at the second level, namely the choice of strategies and projects to be funded, defining the Bank's options for action. In other words, as highlighted by the traditional literature on the bureaucratic insulation

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<sup>5</sup>Martins (1985) also refers to the influence of state directors who had connections with the private sector as the relevant factor for understanding the business logic adopted by 'state companies' during this period.

<sup>6</sup>An extensive literature discusses the economic nature and the impact of the Bank in relation to the financial system. See, for example, the work of Stallings and Studart (2006), Musacchio and Lazzarini (2014), and Ferraz and Coutinho (2017). As for the transformations of the Bank and its relations to the economic and political changes that took place in Brazil over the last two decades, see Gambacurta-Scopello (2020).

of BNDES, the institution has some degree of autonomy as regards decision making. However, as can be imagined, its broader guidelines are defined by the Executive.

The last point is corroborated by the findings of this article and is linked to the central theme of a third set of works which sought to identify political variables which impact on the bank's operations, with a focus on the modifications of their guidelines when changes in government occur. Costa (2011), for example, argues that BNDES had its capacity to guide the governmental agenda reduced during the Collor, Itamar, and Fernando Henrique Cardoso administrations. According to her, this was a consequence of the fragility of the industrial and development policy during these administrations. This 'reduction' can be interpreted as a change in the Bank's role, in which BNDES became an instrument of the stabilization policy as a privatization funding agent<sup>7</sup>.

This role was also altered in the following period. Almeida, Lima-de-Oliveira, and Schneider (2014) and Bugiato (2016) supplement this literature studying Lula's administrations. Basically, they demonstrate how the PT administrations reacted to the discontent of Brazilian industrial sectors with the policy of previous governments, formulating a new development policy. In this context, BNDES acted as a central agency in a project which sought to move back to a development policy, this time focusing on an alliance with large enterprises<sup>8</sup>.

This type of interpretation is consistent with the testimonies of important directors from the history of BNDES. Using interviews with some former directors of the institution (BNDES, 2016, pp. 247-499), it is possible to find open references to the way by which government changes became a historically relevant factor to understand the variation in the recruitment logic of the Bank's directors, from the first decades of its existence.

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<sup>7</sup>According to the data of Barboza, Furtado, and Gabrielli (2019), the greatest reduction in the institution's disbursements occurred during the 1990-1994 period, when the total support provided by BNDES corresponded to 0.6% of Brazilian GDP.

<sup>8</sup>Barboza, Furtado, and Gabrielli (2019), based on official documents, reveals to be false the idea that, during the Lula and Dilma administration, the Bank acted exclusively as supporter of large companies. BNDES made the so-called 'choice of champions' with the expansion of its funding capacity, but this process was also accompanied by the growth of the disbursement policy for micro, small, and mid-sized companies, which reached 33.4% in the 2015-2017 period. See also Gambacurta-Scopello, 2020.

Maria da Conceição Tavares (CICFPD, 2010), a former mathematical analyst in the Bank (1957-1960), for example, reveals the existence of ideological struggles within the institution. According to Tavares (CICFPD,2010), in these ‘interna corporis’ disputes, the political and ideological approximation of each group with the government of the day was a significant variable of the decision-making process<sup>9</sup>. In another interview, Carlos Lessa (CICFPD, 2016), former president of the Bank (2003-2004), describes the process of the recruitment of the new board under his command shortly after Lula came to power. According to Lessa (CICFPD, 2016), the aim of reorienting the mission of the Bank in a significantly different direction from what prevailed in the previous administration obliged him to form a board with a very distinct profile from those who directed BNDES under the PSDB administration. It was while trying to formulate a new more interventionist credit policy that Lessa indicated the complete reformulation of the board in 2003, maintaining, as was usual in the case of the Bank, its technical profile, now more in harmony with the political project of the new administration.

These reformulations of the board guided by a project consistent with the ideological tendency of the government in office necessarily raised the question of the recruitment of bank directors and the criteria for this. In this sense, a few studies are exemplary as they seek to identify the changes in profile of BNDES directors. Among these are Costa (2011) and Klüger (2017). The former analysis uses the professional trajectories of presidents and directors to emphasize the ideological redefinition of BNDES after the Collor administration. Costa’s study (2011) extends until the end of the FHC administration and seeks to emphasize the relationship of the profile of these agents with the neoliberal orientation acquired by the institution during the period. Klüger’s work (2017) starts from a structural approach of the sociability and trajectories of BNDES directors throughout its institutional history. The identification of social ties constructed through the examination of various social attributes (education, professional trajectory, family) revealed the presence of ‘groups’ and ‘generations’ of directors. In this way the social groups

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<sup>9</sup>In an interview to Luciano Martins, Maria Conceição Tavares (BNDES, 2016) emphasizes the relevance and influence of the President of the Republic's support for the Bank to implement a specific economic policy. According to her, Delfim Netto's failure to submit the Bank to a privatizing orientation and FHC's success in doing so has everything to do with presidential support for this policy.



in the bank became a relevant variable for understanding the institutional development of BNDES.

This is actually not a new proposition, and dialogues with what is being discussed in the international literature focused on the central banks of various nations. Recent work in the area of Political Science and Political Sociology has shown that the profile of central bank directors is important to understand its policy, with the most common explanation being the one centered on the professional socialization of individuals, as is the case of Adolph (2013). According to this perspective, bureaucrats bring conceptions developed in their places of origin to the state. Authors such as Göhlmann and Vaubel (2007) and Lebaron (2010) show, using empirical research on the directors of central banks from several countries, that the professional and educational profile of these individuals directly impacts on the type of policy adopted by their respective institutions.

In summary, what the last set of works listed here shows is that the institutional and bureaucratic structure of an institution, and BNDES in particular, despite being fundamental, does not completely explain the policy of the Bank. Both the political-ideological orientations of the government of the day and the strategic formation of its board of directors based on carefully chosen trajectories are fundamental to fully understand the choices made by the institution.

This article dialogues preferentially with this last set of studies. We do not intend, obviously, to deny the BNDES 'bureaucratic insulation' thesis. Nevertheless, we believe that our data makes it licit to suggest that the Bank, despite being an institution strongly structured on meritocratic recruitment criteria, suffers the impact of political factors which end up affecting its 'mission' in different governments. In this sense, as we have said, the article intends to show inextricably linked aspects: that the profile of the composition of the Bank's board of directors changes depending on the government of the day and that this change is expressed in the institutional trajectory of those who become directors of the institution.



## Network analysis applied to the study of the prior institutional trajectories of BNDES directors

The data presented in this text refers to the directors and presidents of BNDES in the period from 1995 - 2016. There were alterations in the number of directorates in the Bank over these years. At the beginning of the period analyzed in this article only five directorates existed, rising to six in 2008 and seven in 2013<sup>10</sup>. All those holding these positions are nominated by the Administrative Council of BNDES and afterwards appointed by the President of Brazil. In turn, the presidents of the Bank are freely appointed by the President of Brazil. Our universe of analysis covers 51 individuals who assumed positions in the upper echelons of BNDES, 38 as board members, two as members of the Vice-Presidency, and 11 as presidents of the Bank.

To reconstruct the institutional trajectory of these individuals 'before' they reached their positions on the Bank's board (as presidents or directors), we collected data from various sources. The two principal sources were the individual and academic curriculum of directors, in the Lattes format, made available to the public on the BNDES website, and the entries of *Dicionário Histórico-Biográfico Brasileiro* (DHBB), published by the *Fundação Getúlio Vargas* (FGV) Documentation and Research Center (*Centro de Pesquisa e Documentação de História Contemporânea do Brasil* - CPDOC). This data was complemented by consulting websites with business curriculums, such as the Bloomberg and LinkedIn websites. We also collected information in newspapers, such as *Folha de São Paulo* and *Valor Econômico*. Based on these sources, we tabulated the biographic data with the purpose of identifying all the institutions which these agents passed through during their professional trajectories before achieving their positions in BNDES. Based on this data the networks to be analyzed next were created.

Why use social network analysis (SNA) for this type of research<sup>11</sup> most studies of the occupational trajectory of directors of public banks tend to emphasize their

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<sup>10</sup>For greater details about changes in positions and directorships in BNDES, see Decree N° 4.418 from 2002.

<sup>11</sup>SNA is a much used methodology in studies of economic corporations (GRANOVETTER, 1994; MINTZ and SCHWARTZ, 1985; SCOTT, 1988), since it permits diagnostics of the structure of economic groups and their shareholding and directorship connections, as well as the power of the financial system in this business complex. In Brazil, network analysis gained strength at the end of the 1990s and the beginning of the 2000s, and has been used in studies of connections between the political world and social organizations (ANSELL et al., 2016; CARBONAI, 2019; CERVI et al., 2015; HOROCHOVSKI et al., 2016; LAZZARINI, 2011; MARQUES, 2006, 1999; OLIVIERI, 2007; PERISSINOTTO et al., 2017). A review of the use of this method in recent years in Brazilian academic research was carried out by Marques, Bichir, and Moya (2014). Social networks systematized a set of relations (edges) established between certain units (nodes). SNA is an analytical perspective which had the great advantage of including in the analysis the relations between the units observed and not only their attributes. Cf. Wasserman and Faust (1994, pp. 04-06).

institution of origin 'immediately before' the occupation of the position. For example, studies such as those of Loureiro (1997) and Olivieri (2007) about the Central Bank of Brazil (*Banco Central Brasileiro* - BCB) deal with the professional sector of origin of the directors and presidents of that institution, but do this taking into account only the position occupied immediately before assuming the position of director of BCB. The aim of this article is to go beyond this approach, covering all the institutions which BNDES directors were part of before assuming the directorship or presidency of the Bank. This will allow a fuller and consequently more complex vision of the trajectories of these agents. Moreover, network analysis will help overcome a merely frequential analysis of these positions. In other words, instead of treating these trajectory positions separately and then identifying their frequency in the careers of various individuals taken in isolation, network analysis provides a global and integrated image of their trajectories, visually simpler and more informative. The main analytical gain from the use of SNA is offering this integrated vision of the institutional context which composes the professional trajectory of all BNDES directors, revealing a 'structure of institutional positions' in each administration and not only juxtaposed career positions.

It is important to say that this use of SNA methodology does not indicate a simultaneous belonging of agents to a determined institution. In this sense, the institutions are not spaces of direct interaction between agents. What our analysis reveals is the recurrence of these spaces in the prior professional trajectory of BNDES' presidents and directors. SNA's difference when compared to the frequency of institutions on a table lies in the possibility of assessing in a more weighted form the importance of the organizations in these trajectories. Institutions with similar frequencies can have distinct measures of centrality depending on the nature of the directors' trajectory in which these institutions are present (their centrality, for example, could be greater depending on the size of the professional trajectory or the importance of the institutions which a director passed through). As well as the weighted importance of the institutions individually, SNA allows the identification of groupings, a possibility which is absent in the mere registration of frequencies.

The construction of our database created a 'two-mode' matrix formed of a set of individuals who are only connected to institutions and institutions which

are connected only to individuals. The visualization of this complete network can be observed in the appendix to this article. Through the Affiliations methods offered in the Ucinet6 software (BORGATTI, EVERETT, and FREEMAN, 2002), we transformed this 'two-mode' network into two types of 'one-mode' network: one composed only of institutions, which are connected by simultaneously belonging to the trajectory of an individual (presented during the article per government); while the other is a network only of directors and presidents connected through the sharing of a company in their trajectories.

As stated, our objective is to present how the institutional positions of professional trajectories of these individuals, 'before' becoming directors of the Bank, connect the public, private, and academic worlds, as well as the centrality of determined institutions for the construction of careers of directors of the National Bank of Economic, and Social Development. The software used for the data analysis was Ucinet 06 (BORGATTI, EVERETT, and FREEMAN, 2002), which produced the principal metrics of the network analysis used in our research. For a cleaner visualization, we transported this data to Gephi 0.9.2. The metrics produced by the Girvan-Newman algorithm and the 'degree' shown in the tables were taken from Ucinet 06, with the former being imported into Gephi 0.9.2. The metric of 'betweenness' shown in the tables was produced in Gephi<sup>12</sup>.

The organization of the network in Gephi 0.9.2. used the 'Force Atlas' distribution algorithm which is based on mechanisms of repulsion force, attraction force, and gravity (CHERVEN, 2015, p. 72-73). In this algorithm, we selected the options 'stabilization function', 'distribution of attraction', and 'adjust by size', nevertheless some nodes still remain superimposed. In order to make the visualization friendlier, we made some adjustments of distances and positions trying as much as possible to preserve the distribution oriented by the algorithm.

Based on this procedure, three types of analysis were carried out on the sociograms presented: first, a grouping analysis, second, centrality analysis, and finally, cohesion analysis. For the grouping analysis an algorithm called Girvan-Newman was used. Through the identification of the 'betweenness' centralities (which will be explained below) of all connections (edges) of the sociogram, the algorithm uses the

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<sup>12</sup>For a better explanation of the use of these measures of centrality in the two software programs, see the code dictionary in the database used for this paper.

connection with the highest centrality as the marker to divide the network into two parts; based on this the algorithm recalculates the centralities of the 'edges' and uses the next connection with the highest centrality as a marker to separate the network into further elements, forming what the creators of the algorithm called "communitarian structures" (GIRVAN and NEWMAN, 2002, p. 7821), which we call during the text 'clusters'. The 'clusterization' of networks is important to visualize communitarian structures which, so to speak, weigh most on the professional trajectories of the directors from government to government. It thereby allows the generation of a kind of 'typology' of trajectories found during the period. It is important to highlight that the number of parts into which a determined sociogram will be fragmented is at the choice of the researcher. Seeking to reduce this arbitrariness, we have decided as a method of definition of the number to structures, to commence with a exaggeratedly high number and, through its reduction, we eliminated the most reduced cases until all the structures with only two nodes were absorbed by the others.

The second type of analysis was based on metrics of centrality. Instead of identifying groups of actors, they measure the importance of a determined node within the network. The first metric of centrality we highlight is called 'betweenness'. This measure is produced through an algorithm which calculates the total number of shortest paths between all the nodes (geodesic distances) and assigns a determined value to each node (and in the case of the Girvan-Newman algorithm cited above, also for each 'edge') by the frequency with which they appear on these paths (SCOTT, 2000, pp. 86-87). Institutions with high 'betweenness' are 'brokers', in other words, spaces in which directors with different trajectories and/or long trajectories in various institutions pass preferentially before becoming directors of the Bank.

Along with 'betweenness', we use another measure of centrality, 'degree', which defines the size of the nodes in the sociograms. This refers to the sum of the connections which a determined node has in the network. In relation to the 'one-mode' network composed by institutions, 'degree' does not reveal the number of times an institution appears in professional trajectories<sup>13</sup>. A high 'degree' is the result of two

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<sup>13</sup>This indicator can be obtained through the 'degree' of the 'two-mode' network.

possible situations. First, due to the institution belonging to the trajectory of various directors; second, due to the institution belonging to the trajectory of a director who had a career in several companies, which would connect the institution with others. For example, if institution A appears only once in the trajectory of an individual, but the same individual passed through another five institutions, then the 'degree' of A will be 05. If an institution appears in the trajectory of two different directors with short careers, in which each one has only participated in one other institution in their professional trajectory, their 'degree' will be only 02.

These measures of centrality are presented in normalized indices. Normalization in network analysis is produced by dividing the full centrality value which a given network node actually received by the maximum value it could receive in a network with that number of nodes. A value between 0 and 01 is generated, in which 01 signifies, in the case of 'degree', that the node is connected with all the other nodes and in the case of 'betweenness', that the node is present in all geodesics.

Finally, we use cohesion analysis. Differently from measures of centrality, which serve to identify characteristics of nodes, cohesion measures seek to characterize the network as a whole. We use 'density' as a specific indicator, as this identifies the intensity of connections between the nodes in a determined network<sup>14</sup>. The analytical usefulness of this data lies in the possibility of comparing different networks. In our case, two types of information impact this index. First, the size of the professional trajectory of an individual, since the higher the number of institutions through which a determined individual has passed, the greater the number of institutions connected within the network. Second, common institutions in different trajectories. This variable will have the greatest impact since it will connect different trajectories. A denser network indicates either longer trajectories, or trajectories with more institutions in common, or both. A less dense network indicates otherwise.

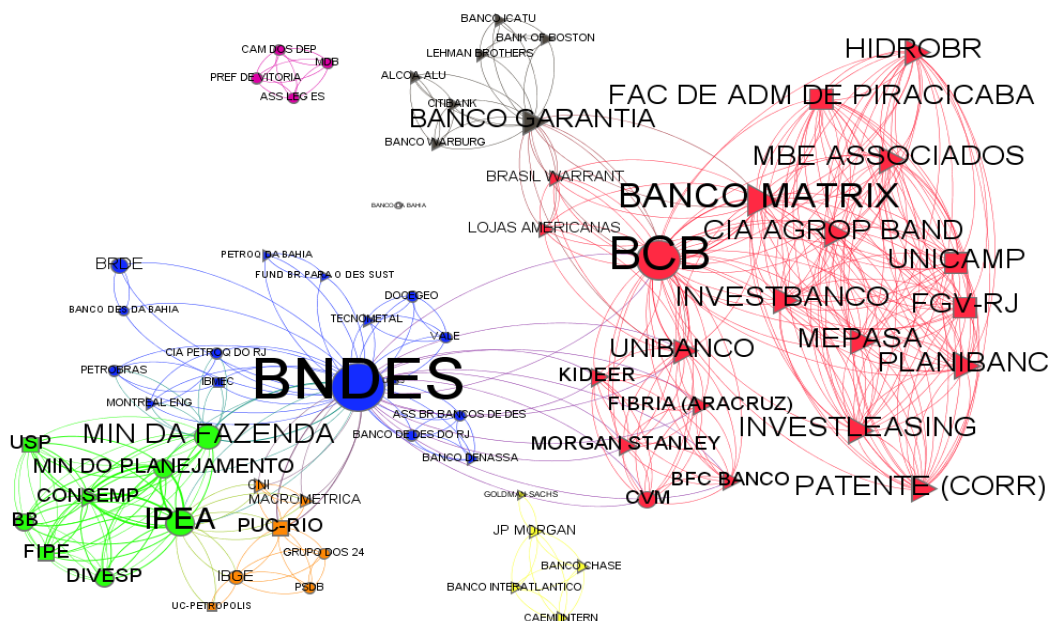
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<sup>14</sup>The density index of a network is calculated by dividing the effective number of connections that the nodes establish with each other by the total number of the maximum possible connections that can exist in a network, that is, if all nodes are connected to each other. The result of this ratio is a number between 0 and 01, in which 01 represents a fully connected network (all nodes connect with all) and 0 represents a network without any connection (SCOTT, 2000, p. 71).

## The PSDB networks: State and market

We will first look at the characteristics of the network of connections of presidents and directors of BNDES during the two FHC administrations (Figure 01).

**Figure 01.** ‘One-mode’ sociogram of institutions belonging to trajectories of directors and presidents of BNDES in the PSDB administrations



Source: Prepared by the authors.

Note: Key: Circles represent the ‘government’ sector, triangles the ‘market’ sector, and squares the ‘academic’ sector. Colors represent the ‘communitarian structures’ identified by the Girvan-Newman algorithm partitioned in 07 structures. Node and label size are defined by their ‘degree’ level.

The density index of FHC’s administrations is 0.10656, indicating that the network fills more than 10% of potential connections. From the point of view of the positions of the institutions on the network, the first characteristic which appears is the centrality of BNDES in the career of those who became president and directors of the Bank. The size of the node, representative of their ‘degree’ within the network, shows that the Bank is an important place of passage for the positions of director and president of the institution. This information reiterates the assessments about the insulated nature of the Bank since it is very difficult to reach its board without a career in the institution itself.



The only node which competes in size with BNDES in the ‘government’ sector is the Central Bank, which, in turn, in the case of the two FHC administrations, allows the connection of BNDES with an extensive network of institutions from the ‘market’ sector. Most of them, it should be emphasized, are linked to the financial sector, namely, Banco Matrix, Planibanc, MBE Associados, Investbanco, Investleasing, and Brasil Warrant, Unibanco, BFC Banco, and Morgan Stanley in the red cluster. Also, in the same cluster, the prominent place of FGV-RJ calls attention.

The predominance of the market is almost absolute in the yellow and black ‘clusters’, both almost totally dominated by the financial sector. Getting back to the red cluster, it is worth observing that Aracruz and Fibria are mostly controlled by the companies Votorantim, Safra, and BNDESPar. This signifies that, despite acting in the primary sector, these companies have close connections with the financial sector (DIAS, 2018).

The green ‘cluster’ represents a connection with a set of predominantly state institutions, such as Institute for Applied Economic Research (*Instituto de Pesquisa Econômica Aplicada* – IPEA), the Ministry of Finance, and the Ministry of Planning, which allow connections with academia (*Universidade de São Paulo*), and with state companies (Petrobras, *Companhia Petroquímica do Rio de Janeiro*, and *Banco do Brasil*).

The blue ‘cluster’ shows a connection with the financial institutions of state governments and with state and municipal agencies, without great importance in the network. In turn, the orange ‘cluster’ is quite heterogeneous, with *Pontifícia Universidade Católica do Rio de Janeiro* (PUC-RJ) being the most notable. Finally, there are two ‘clusters’ disconnected from the network: one, in purple, which is essentially ‘political’, revealing the lack of importance of these institutions in the recruitment of BNDES’ directors and presidents, as shown widely in the literature; and the other, in yellow, formed exclusively by the market, with the predominance of the financial sector. Below can be seen how these positions are revealed in measures of centrality (Table 01).



**Table 01.** Normalized 'degree' and 'betweenness' (FHC administrations, 10 first places).

Institution	nDegree	Institution	nBetweenness
BNDES	0.110294119	BNDES	0.496488147
BCB	0.088235296	BCB	0.276997366
IPEA	0.088235296	Banco Garantia	0.140913082
Min do Planejamento	0.069852941	IPEA	0.079675154
CONSEMP	0.066176474	UNIBANCO	0.079016681
Banco Matrix	0.0625	PUC-RIO	0.053994732
Min da Fazenda	0.05882353	Min da Fazenda	0.04214223
CIA AGROP BAND	0.044117648	Min do Planejamento	0.029265438
Fac de Adm de Piracicaba	0.044117648	Banco Matrix	0.024143986
FGV-RJ	0.044117648	IBGE	0.004316652

Source: Prepared by the authors.

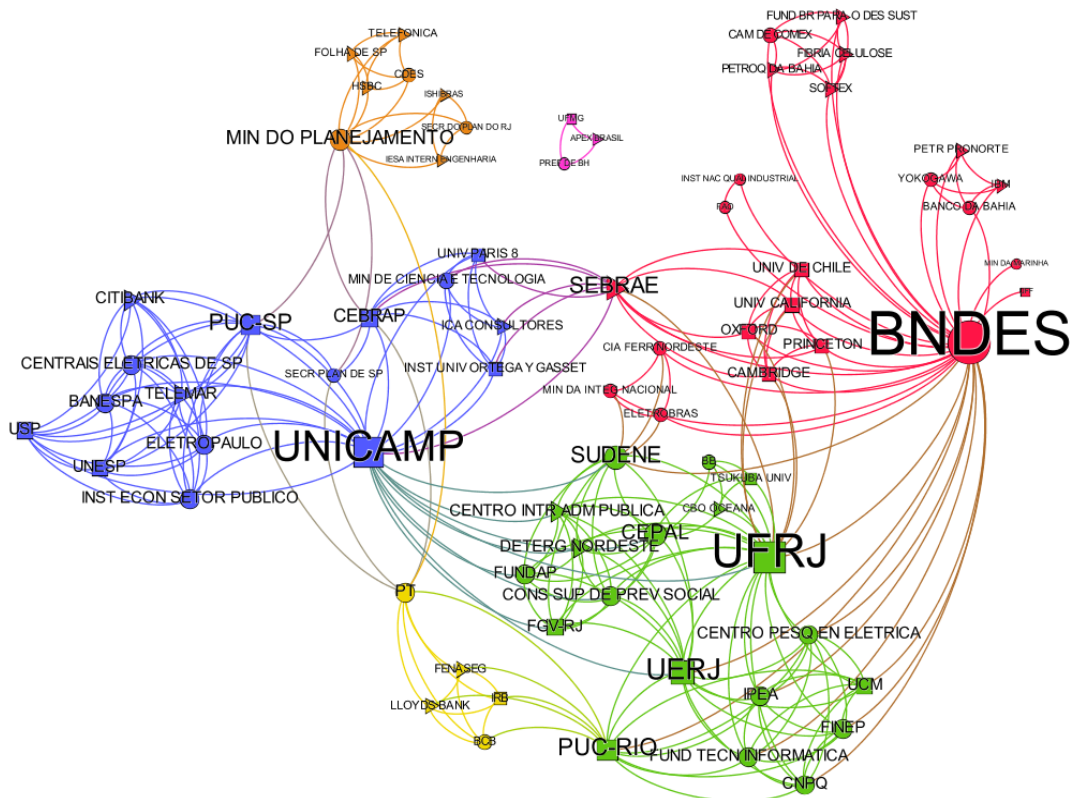
As seen in the sociogram (Figure 01), BNDES and BCB are the institutions with the highest quantity of connections which, at the same time, provide them with the highest capacity of connecting points on the network. For this reason, they occupy the first two places of 'degree' and 'betweenness'. Another two points call attention in relation to these two measures. Both in 'degree' and 'betweenness', the market is clearly present in the network which describes the trajectory of directors and presidents of BNDES in the FHC administrations, combined with state institutions. Finally, PUC-RJ, already shown to be important in the Central Bank of Brazil during the FHC administrations (PERISSINOTTO et al., 2017), is shown here to be an important institution for the intermediation of contacts.

The data for the two FHC administrations reveals two important things. First, it identifies the presence of financial market institutions in the professional trajectory of these directors. This is revealed in the presence of many institutions of this type in the 'degree' column. Second, state institutions are the most important nodes (in 'degree' and 'betweenness'), showing that in the trajectories there is a combination of participation in non-specific companies in the financial market with the entrance in determined public institutions (especially BNDES and BCB, observable by the large gap between the second and third place in 'betweenness' in the network). In the case of the FHC administrations, it was fundamental to pass through the market and the state to reach the board of BNDES.

### The PT networks

We will now turn to the configuration of the networks in the PT administrations, analyzing first the two Lula administrations and, afterwards, Dilma's two mandates (Figure 02).

**Figure 02.** One-mode sociogram of the institutions belonging to the trajectories of BNDES directors and presidents in the Lula administrations



Source: Prepared by the authors.

Note: Key: Circles represent the 'government' sector, triangles represent the 'market' sector, and squares represent the 'academic' sector. Colors represent the 'communitarian structures' identified by the Girvan-Newman algorithm partitioned in 06 structures. Node and label size are defined by their 'degree' level.

In the networks of the Lula administrations there is a density of 0.10292, which represents a little more than 10% potential connections. The most significant difference in the network which synthesizes the data from the two Lula administrations is that the 'market' sector is significantly weakened and, in this process, the financial sector practically loses importance. The connection with the market, when it appears, occurs with the productive sector. As we will see, however, none of these companies appear with significant measures of centrality, except for Sebrae. The network of the Lula administration for the recruitment of BNDES' directors

and presidents is practically an academic-state network. In this sense, one should observe the overwhelming presence of research institutions and universities in green and blue 'clusters', notably *Universidade Estadual de Campinas (Unicamp)*, *Universidade Federal do Rio de Janeiro (UFRJ)*, PUC-RJ, and *Universidade do Estado do Rio de Janeiro (UERJ)*. The numbers corroborated this visual analysis of the network (Table 02).

**Table 02.** Normalized 'degree' and 'betweenness' (Lula administrations, 10 first places).

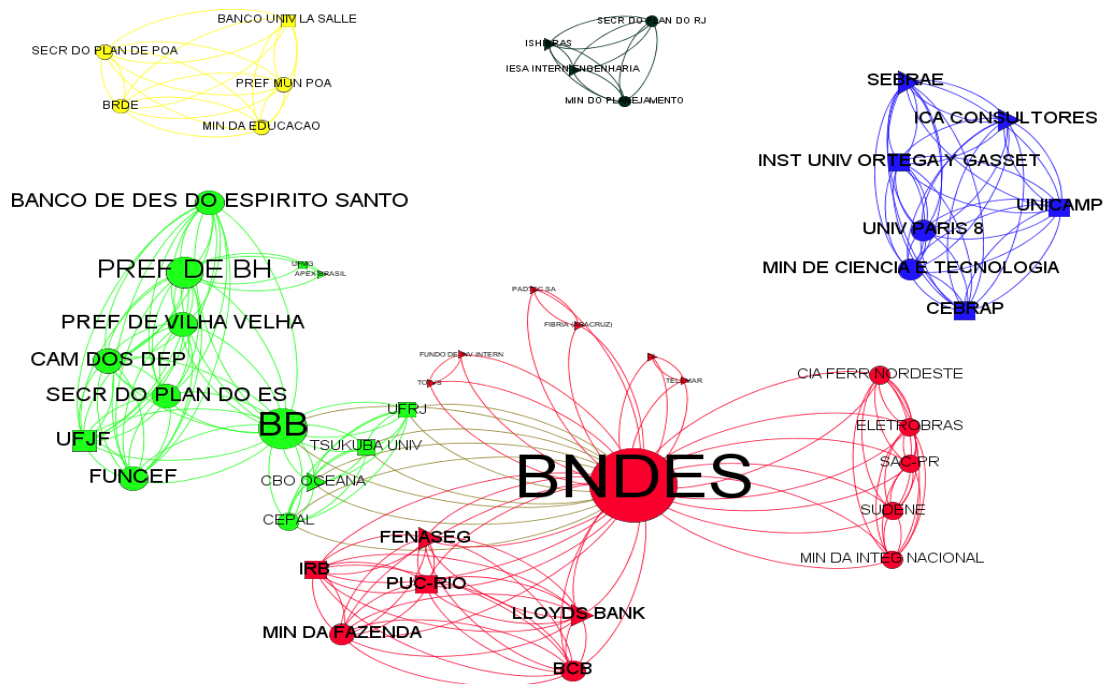
Institution	nDegree	Institution	nBetweenness
BNDES	0.22603	BNDES	0.35561
UFRJ	0.19863	UNICAMP	0.2251
UNICAMP	0.16438	Min do Planejamento	0.17237
UERJ	0.12329	UFRJ	0.15285
PUC-RIO	0.09589	PUC-RIO	0.12886
SEBRAE	0.08904	SEBRAE	0.1184
PUC-SP	0.08904	CEBRAP	0.09817
SUDENE	0.08904	PT	0.09469
CEPAL	0.08904	PUC-SP	0.06806
Min do Planejamento	0.07534	UERJ	0.05379

Source: Prepared by the authors.

In both metrics, once again BNDES occupies a central place, revealing that it was also an important path in the career of directors and presidents in the Lula administrations. However, from then on, the similarities with the two FHC administrations disappear. Research and planning institutions come to be central in 'degree' (UFRJ, Unicamp, UERJ, PUC-RJ, *Pontifícia Universidade de São Paulo - PUC-SP*, Northeast Development Superintendence - Sudene, in Portuguese, and Economic Commission for Latin America and the Caribbean - Cepal, in Portuguese) and 'betweenness' (Unicamp, UFRJ, PUC-RJ, CEBRAP, PUC-SP, and UERJ).

There is yet another particularly important difference. We can say that the network of the Lula administrations is state-academic. It is possible to add another qualifier. It is state-academic-political party. Only here the party of the President (PT) acquires a certain centrality and is especially important in the capacity to create intermediation within the network. In the FHC network, the PSDB does not have any 'betweenness' value (it does not belong to any geodesic) against 0.094 (9.4% of geodesics) for the PT in the Lula network. We will see below if these characteristics are maintained in the network of Dilma's administrations (Figure 03).

**Figure 03.** One-mode sociogram of institutions belonging to trajectories of BNDES presidents and directors in the Dilma administrations



Source: prepared by the authors.

Note: Key: Circles represent the 'government' sector, triangles represent the 'market' sector, and squares represent the 'academic' sector. Colors represent 'communitarian structures' identified by the Girvan-Newman algorithm partitioned in 05 structures. Node and label size are defined by their 'degree' level.

The network of Dilma's administrations has a density of 0.11347, in other words, a little more than 11% of possible connections. This data reveals that the network of President Dilma is slightly more cohesive and, as will be seen, strongly concentrated in certain institutions, showing the greatest proximity of the professional trajectory of the directors and presidents in this administration. Even lasting only six years, the network of directors and presidents of BNDES of Dilma's administrations is surprisingly 'lean' (as well as the shorter period, the rotativity of directors in this administration was lower<sup>15</sup>), which explains its higher density (since in a network with so few agents it is easier to fill the latent connections with real connections). While the FHC network was strongly centered on the market and the Lula

<sup>15</sup>During the FHC administrations there were 25 directors and presidents of BNDES; during the Lula administrations there were 20, and during the Dilma administrations 14. If we weigh them according to the length of the administration, there were 3.12 directors/year for FHC administrations; 2.5 directors/year for Lula administrations, and 2.33 directors/year in Dilma administrations; thereby indicating a progressive reduction in the rotativity of BNDES directors over time. The low rotativity of directors in the Dilma administrations can be explained by the maintenance of the President of the Bank, Luciano Galvão Coutinho, who held the position from 2007 to 2016.

one is a mixture of the state, academic and research institutions, and the party, Dilma's network is basically state centered. As will be seen, there are institutions linked to the market, but very few. Academic and research institutions are also present, but again in conditions of clear inferiority. The only similarity with the others is the importance of BNDES. Based on this, we can find in Dilma's network an almost total predominance of state agencies, corroborated by the numbers, as can be seen in Table 03.

**Table 03.** Normalized 'degree' and 'betweenness' (Dilma administration, 10 first places)

Institution	nDegree	Institution	nBetweenness
BNDES	0.46808511	BNDES	0.320074
BB	0.255319148	BB	0.183164
PREF DE BH	0.191489369	PREF DE BH	0.053654
Banco de Des do Espírito Santo	0.148936167		
Cam dos Dep	0.148936167		
FUNCEF	0.148936167		
Pref de Vila Velha	0.148936167		
Secr do Plan do ES	0.148936167		
UFJF	0.148936167		
BCB	0.127659574		

Source: Prepared by the authors.

As can be perceived, BNDES plays, as in the other networks, a leading role in connections and intermediations. Second, another state bank is present, Banco do Brasil, while BCB has a much less important position compared with the case of FHC. The other important institutions in the network, in terms of 'degree', are either municipal executive powers, or state agencies (bank or secretariat). The presence of the Chamber of Deputies can be noted, with individuals who occupied advisory positions, such as the case of Guilherme Narciso de Lacerda, former president of the Foundation of Employees of Caixa Economica Federal (FUNCEF). Finally, the betweenness of the Dilma network is concentrated in only three institutions, all linked to the state.

### Technical directors and technical-political presidents

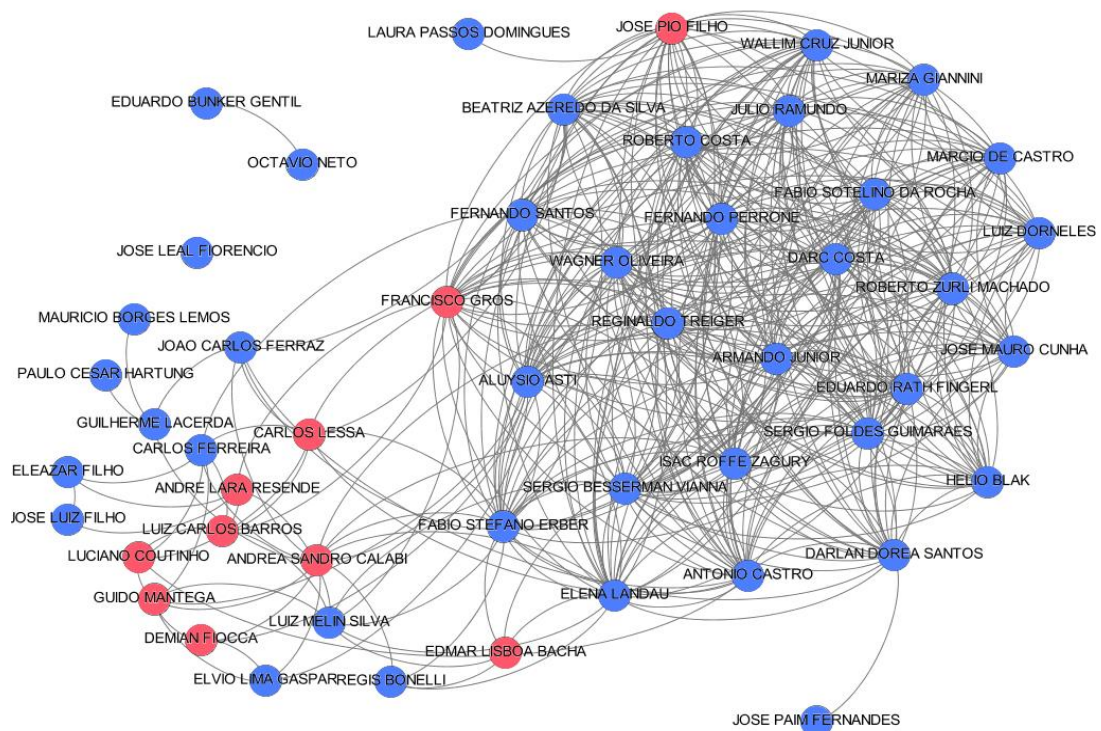
As we have seen above, in all the networks analyzed here, from all administrations, regarding the professional trajectory of its directors, BNDES occupies a leading role in the two measures of centrality. In other words, in all networks BNDES is the institution which establishes most connections with the other points on the networks and which has the greatest intermediation capacity for nodes



in the networks. This suggests that passing through BNDES is an important condition to reach the position of director. In this sense, as we have stated, our data shows that the recruitment of the Bank's directors follows the logic of bureaucratic insulation and, therefore, the absence of individuals who use 'side entrances' (a political indication, for example) to reach this position is expected. In conclusion, the Bank recruits and promotes its own staff.

However, this does not function for presidents. In relation to this, see sociogram below (Figure 04).

**Figure 04.** One-mode sociogram of BNDES presidents and directors



Source: prepared by the authors.

Note: Key: Colors defined by the position occupied by the individual (red for presidents and blue for directors).

The above network is formed, unlike the others, only of individuals, containing all the directors and presidents of the Bank during the period analyzed. In this network it is possible to see an intense tangle of connections between the Bank's directors (identified as blue), indicating, as we have said, that they tend to pass through the same place that connects them all, in other words, BNDES. To the contrary, the presidents of the Bank (identified as red) appear as external nodes to the mesh of connections which characterizes the universe of directors, indicating that they tend to be recruited outside

the Bank. This, as we have said, points to the confirmation of the thesis of bureaucratic insulation of the institution in relation to the central role BNDES plays in the recruitment of its directors, since these come from within the Bank. On the other hand, presidents, coming from outside, are politically appointed.

However, being politically appointed does not mean that they do not dominate the technical knowledge related to the Bank, nor that they do not have the technical criteria required for the Bank's directorates. The names identified in red leave no doubt about this. Rather, to the contrary, they are what Ben Schneider calls 'technical-politicians', in other words, individuals with a clear technical formation in their area of action, but who are also fully aware that the approval of determined technically competent projects depend on political support (and indication). Individuals might not dispute elections, but they always circulate in the political and technical world. As Schneider suggests, the person in question does not have a constituency, but they have personal contacts in the state, who are politically powerful (SCHNEIDER, 1991).

If we remember the comments by Carlos Lessa and Conceição Tavares reproduced in the Presentation to this text, we can say that the President of the Bank has the political function of recruiting, from the universe of technically competent directors of the Bank, those who are in line with the political project and ideological orientation of the government of the day. The president of the Bank is thus the transmission belt between the political sphere and the bureaucratic insulation. In turn, this helps us understand, for example, the changes in the profile in the network of the Lula and Dilma administrations, since Luciano Coutinho remained at the head of the Bank in this period. The fact that the president of the Bank remained, but the configuration of the network of institutions changed significantly, reinforces our argument that the President of the Republic is a fundamental actor in the process of definition of the board and the broader objectives of the Bank, while the president of BNDES is the one who leads the process of forming the directorates in accordance with the economic project of the new government. This is in accordance with both the comments of Tavares and Lessa (CICFPD, 2016,2010) and the analyses of Schapiro (2017) and Gambacurta-Scopello (2020), cited in the bibliographic revision on the capacity of the Executive Power to define the final objectives of the institution.



## Conclusion

This article uses social network analysis (SNA) to produce a panoramic portrait of the structure of institutional positions previously occupied by the presidents and directors of BNDES. This strategy has two advantages. First, it allows us to go beyond those studies that limit themselves to identifying an individual's last position as evidence of their connection with sectors external to BNDES. The second advantage refers to the fact that network analysis allows an overview of the previous trajectories of actors and, more importantly, the privileged place which certain institutions assume in it. The presentation of sociograms and measures of centrality makes it easier than in simple frequency tables to observe the phenomenon, and also allows, through precise visual and numerical information, to quickly identify the importance of certain paths towards command positions within the Bank.

By using this strategy, network analysis allowed the following empirical findings about the trajectories and connections of directors and presidents of BNDES between 1995 and 2016.

First, in all governments the recruitment of BNDES' directors cannot ignore the highly institutionalized character of the Bank, or in another words its insulation. Whatever the ideological orientation of the government, most directors are individuals whose careers, whether fully or partially, were based within the institution itself. This empirical finding is in full agreement with much of the literature that draws attention to its bureaucratic structure and its insulation when it comes to the degree of control which the Bank has over the recruitment process of its members. However, important differences were detected in the networks analyzed by us in both the PSDB and PT administrations.

In the FHC administrations, recruitment to the board of directors and presidency of BNDES was strongly marked by the presence of sectors linked to the market, notably financial institutions. In the Lula administrations, change is significant since the dominant points of the network come from within the state and from research institutions (universities and research centers). Furthermore, recruitment is also party based, with the PT being an important intermediation point in the network of the Lula administrations. Finally, the Dilma network is strongly state based, without significant ties with research institutions, with the president's party, or even the market. What theoretical considerations can we make based on these empirical findings?

With the nature of the data presented it is difficult to securely go beyond the findings described above. We can speculate with some pertinence in three directions. First, it is always very difficult to establish a clear and direct relationship between the agent's social and professional backgrounds and their decision-making process in a given institution, above all if we do not make a detailed analysis of the concrete decisions taken by the board of the Bank in the period analyzed here. Nevertheless, we believe that our data points to some coherence between the structure of institutional positions identified and the nature of the political project of the governments analyzed. The privatization put forward by the FHC administrations, with the support of BNDES funding, went along well with directors with a pro-market bias; Lula's economic projects, with their developmentalist reminiscences, tend to be preferentially implemented by individuals from university institutions, such as Unicamp and UFRJ, with clear sympathies for this orientation and who have essentially not passed through market institutions; finally, the characteristics of Dilma's network appear to express her well known technocratic and statist perspective.

Second, it is also worth looking at the homology between the structures of the trajectories analyzed here and the nature of the institution studied. BNDES is a Brazilian state institution, structured according to the typical criteria of modern bureaucracy. At the same time, it is an institution with an evident function, which is to produce development policies using various instruments for this, from the concession of long-term credits to shareholding and direct participation in the administration of certain companies. In this sense, BNDES has been, since its foundation, an institution with an evident functional connection with the world of private companies, and, by extension, with those individuals who work in this sector. According to this, it is difficult not to analyze the three preferential types of trajectories identified by us – the market, university institutions, and the state itself – as effects of the objective position of the Bank in the system of institutions of the Brazilian state. As part of the state, the Bank has to establish itself as a public organization, create administrative staff, and, therefore enable internal careers to the top. However, as an instrument of economic policy, which necessarily varies in accordance with the project of the government of the day, the Bank cannot simply ignore groups of actors outside its walls, whether in the market, universities, or individuals from other sectors of the state.

Finally, our data is important to reiterate something trivial, but almost always forgotten, if not in academic articles, at least in the common sense: there is no logical, theoretical, or empirical incompatibility between the technical qualification of an institution and its use by government officials for their political projects. Obviously, an institution may not bureaucratize itself if it is available to politicians interested in using its assets as a means of exchange in patronage relationships. However, this does not mean that the total bureaucratization of an institution makes it immune to the injunctions of politics. This technocratic dream was not achieved, as we have seen, not even in one of the most insulated institutions of the Brazilian state. Technical knowledge can remain intact and, at the same time, lend its expertise to efficiently achieve distinct political projects.

Translated by Eoin Portela  
Submitted on December 04, 2019  
Accepted on July 28, 2020

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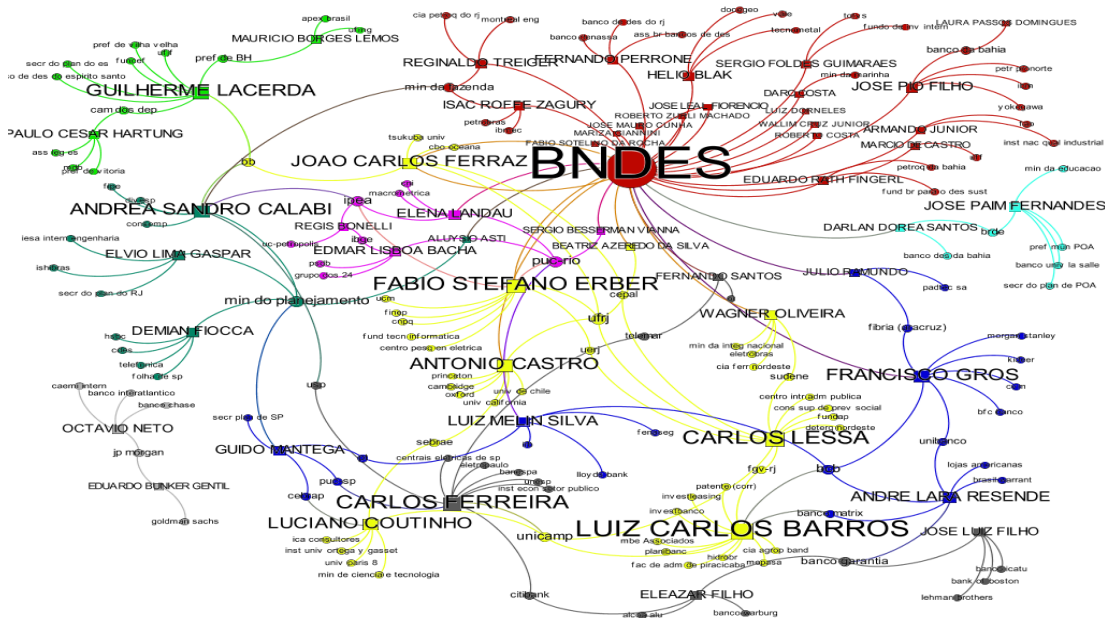
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Appendix

Figure A01. 2-mode sociogram among institutions and BNDES presidents and directors.



Source: prepared by the authors.  
 Note: Key: Squares represent people and circles represent institutions. Colors represent 'communitarian structures' identified by the Girvan-Newman algorithm partition in 09 structures. Node and label size are defined by their 'degree' level.

In the article “Specialists and Politics: The Recruitment of Presidents and Directors of BNDES in the PSDB and PT Administrations”, DOI: <http://doi.org/10.1590/1981-3821202100020005>, published at Brazilian Political Science Review, 15(2): e0006, page 1:

Where it reads:  
 “Eric Gil Dantas<sup>1</sup>  
<https://orcid.org/0000-0003-4666-4796>  
 Renato Perissinotto<sup>1</sup>  
<https://orcid.org/0000-0001-8747-7976>”

Read on:  
 “Renato Perissinotto<sup>1</sup>  
<https://orcid.org/0000-0001-8747-7976>”

Eric Gil Dantas<sup>1</sup>

<https://orcid.org/0000-0003-4666-4796> ”

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