Determinants of the degree of the presence of related directors on the board of a bank

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Abstract

We investigate the determinants of the presence of directors who are related to either controlling shareholders or minority shareholders on the bank's board of directors. Working on a sample of 96 banks with concentrated ownership structure across 17 countries in Europe, we find that the relative voting power of the ultimate owner, the excess control rights of the ultimate owner and the degree of economic freedom in a country increase the proportion of directors who are related to controlling shareholders on the board. On the other hand, we find that the relative voting power of the ultimate owner impacts negatively on the presence of minority directors meanwhile the relative control rights of other controlling shareholder vis-à-vis the largest ultimate owner, the quality of corporate governance and the level of shareholder protection increase the presence of minority director on the bank's board of directors. We also find that the power of banking supervisory agency of a country has a negative relationship with the presence of minority directors on the bank's board of directors. This indicates that minority shareholders count on the banking supervisory agency to oversee banks' performance and thus, in countries having high levels of supervisory power, minority shareholders are less motivated to participating in supervising banks' controlling parties.

1. Introduction

After the financial crisis 2007-2008, considering the failures and weaknesses in corporate governance mechanisms in financial firms as a major cause of the crisis (Kirkpatrick, 2009), the Basel Committee on Banking Supervision emphasized on the crucial role of the board of directors to reform corporate governance of banking system (Basel Committee on Banking Supervision, 2015). Correspondingly, many countries including the US, the European countries, etc. have adopted the Code of Best Practices on Corporate Governance in which increasing the presence of independent directors on the board is considered as a "good governance" mechanism to curtail the agency conflicts between insiders and minority shareholders and thus, strengthening bank performance.

Therefore, increasing the number of independent directors on the board is regarded as an approach to enhance the effectiveness of the bank's board of directors. However, there are two important aspects of this approach which have not been examined thoroughly by previous studies.

First, the independence of independent directors from the company, controlling shareholders and other stakeholders is ambiguous. Crespí-Cladera and Pascual-Fuster (2014) investigate the characteristics of firms that declare board directors as independents, although the directors are not strictly independent, and what are the consequences in terms of firm performance. Using data of the Spanish listed firms, they find weak evidence of a negative relation between misclassification and a firm's future operating performance. Some other researchers even looked deeper into the relationship between directors and controlling shareholders to find the impact of the presence of independent directors on firm performance. Dahya et al (2008) find a positive relation between the presence of independent directors who are strictly independent from ultimate controlling shareholders and corporate value of nonfinancial firms. Using data of companies listed on the Hong Kong stock exchange, Cheung et al. (2013) show lower market valuations of firms having directors related to controlling shareholders on the board. Moreover, Barry et al. (2018) developed the concept of "minority directors" who seat on the board of directors but are related to minority shareholders. Their findings show that the increase in the presence/importance of directors who are related to controlling shareholders on the bank's board reduces bank performance and increases bank risk taking. On the contrary, the increase in the presence of directors who are related to minority shareholders helps banks with concentrated ownership to reduce bank risk taking and

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increase bank performance. Overall, the results of previous studies indicate that in many cases, independent directors may be not strictly independent from controlling shareholders or minority shareholders of firms, and their impact on firm performance is not clear. However, the presence of directors who are related to either controlling shareholders or minority shareholders is an important factor affecting the effectiveness of the board of directors.

Second, the role which ownership structure plays in determining the effectiveness of the board of directors is significantly important. In fact, because there always exist the conflicts of interest between insiders and minority shareholders, all parties have desire to appoint their representatives on the board in order to protect their own benefits. However, in theory, the agency conflicts are different between firms having dispersed ownership structures and firms having concentrated ownership structures. In dispersed ownership firms, the agency conflict is between managers and minority shareholders as managers have incentives to maximize their own benefits at the cost of shareholders, while dispersed shareholders might not have incentives to monitor managers (Shleifer and Vishny, 1997). In contrast, in concentrated ownership firms, the agency conflict is between controlling and minority shareholders. The controlling shareholders have incentives and ability to monitor managers to increase the benefits of all shareholders (Jensen and Meckling, 1976; Shleifer and Vishny, 1986). However, the controlling shareholders also have ability to extract private benefits of control through perks or transfer of assets on no-market terms to related parties (Grossmand and Hart, 1988; Bebchuk, 1999; Shleifer and Wolfenzon, 2002). Therefore, the different ownership structures lead to different types of agency conflicts and thus, it impacts the motivations as well as the ability of each party to appoint representatives on the board that will defend their interest.

Taking into account the fact that the independence of independent directors is not strictly accurate, we focus on the presence of directors who are related to either controlling shareholders or minority shareholders as a factor affecting the effectiveness of the bank's board of directors. Moreover, we concentrate on banks having at least one controlling shareholder (who holds 10% or more of banks' total outstanding shares) for two following reasons. First, most of the previous studies focused on the US listed firms which having dispersed ownership structures, whereas the agency conflicts in firms having concentrated ownership structures are not examined accurately. Second, most of the European banks have highly concentrated ownership. Identifying the determinants of the presence

of related directors in concentrated ownership banks would help the European financial policy-makers to impose appropriate policies in order to create an effective structure of the board which increases bank performance without increasing bank risk taking. Therefore, the main objective of this paper is to find down what are the determinants of the presence of related directors on the board of a bank having concentrated ownership structure.

From the results of previous papers, we consider bank financial characteristics and ownership structure are potential determinants of the presence of related directors on the board. In addition, according to De Haan and Vlahu (2016), the regulation environment might be either the complementary mechanism or the substitute mechanism for the internal governance mechanisms. It means that institutional characteristics such as the laws on corporate governance, the level of shareholder protection, the strength of supervisory power, individualism, and the level of economic freedom would impact the presence of related directors on the board of a bank. Therefore, in this study, we examine the impacts of three groups of potential determinants including bank financial characteristics, bank ownership structure, and institutional environment on the presence of related directors on the bank's board of directors.

Furthermore, regarding ownership structure as a potential dominant determinant, we examine whether the impact of ownership structure on the presence of related directors is adjusted by different institutional environment. In other words, we investigate whether the number of directors who are related to either controlling shareholders or minority shareholders is dependent on the interaction between bank ownership structure and the institutional environment where a bank is located. This result would be important for policy-makers to improve the accurateness of corporate governance guidelines based on the unique characteristics of each individual country.

Working on the data of 96 European listed banks which have at least one controlling shareholder, we find that ownership structure is dominant determinant of the presence of related directors on the bank's board of directors. The results show that the relative voting power and the excess control rights of the largest ultimate owner impact positively on the presence of directors related to controlling shareholders meanwhile the relative power of other controlling shareholders vis-à-vis the largest ultimate owner will help to enhance the presence of minority directors.

Regarding the institutional characteristics, we find that the level of economic freedom of a country impacts positively on the presence of directors related to controlling shareholders while the quality

of corporate governance and shareholder protection affect positively and significantly on the presence of minority directors. We also find that the power of banking supervisory agency of a country has a negative relationship with the presence of minority directors on the bank's board of directors. This indicates that minority shareholders count on the banking supervisory agency to oversee banks' performance and thus, in countries having high levels of supervisory power, minority shareholders are less motivated to participating in supervising banks' controlling parties.

Our paper is organized as follows. Section 2 presents the data, variables, and also methodology used in this study. Section 3 reports the results of the paper. Section 4 presents the further investigation and robustness tests of our results. We conclude in the last section.

2. Data and methodology

2.1 Sample and data sources

Using data of all active listed banks provided by BvD Bankscope database, our raw sample consists of 145 banks including bank holding companies, commercial banks and investment banks from 17 European countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherland, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom).

The data of the board of directors and ownership structure are collected manually from bank corporate governance reports, bank annual reports as well as extracting from Bloomberg and Amadeus database. There are 118 banks having sufficient information about ownership structures and board of directors. We only keep banks which have at least one shareholder holding 10% or more of total outstanding shares. Our final sample consists of 96 banks. On average, our final sample covers more than 71% of total assets of all publicly traded banks provided by BvD Bankscope. The number of banks by country is shown in table 1.

In this study, we also utilize market data from Bloomberg database and macroeconomic data from the World Bank to calculate necessary indices. In addition, the financial data is winsorized at the 1% and 99% levels.

[Insert Table 1 here]

2.2. Definition of variables

2.2.1 Identifying related directors

Building of control chains

Following previous studies (La Porta et al., 1999, 2002; Caprio et al., 2007; Lepetit et al., 2015), we use the threshold of ownership control at 10% to build control chains and to distinguish between minority (shareholders hold less than 10% of the total outstanding shares) and controlling shareholders (shareholders hold at least 10% of the total outstanding shares). For each bank, we collect the list of shareholders and their voting rights in order to identify the direct controlling shareholders. If a controlling shareholder is an individual, a family, a government or a widely held company, we define him as the direct ultimate owner of the bank. If controlling shareholders are controlled by other entities, we continue building the control chains to identify all indirect ultimate owners. Therefore, we can find almost all direct/indirect ultimate owners for each banks. We category the ultimate owners as Individual/Family, Public authority/State/Government, widely held industrial firms, widely held banks, or widely held financial institutions.

To determine the control rights and cash flow rights of a direct/indirect shareholder in the control chain, we follow the method of La Porta et al. (1999). According to this method, the direct control rights or cash flow rights of a shareholder is defined as the percentage of shares owned directly by this shareholder. The indirect control rights for each shareholder are defined as the percentage of shares held by the shareholder at the first level in the control chain, which is controlled by the ultimate owner through the intermediate entities in the chain of control. The indirect cash flow rights are computed as the product of the percentages of shares held by the shareholders along the indirect control chain linking the ultimate controlling owner to the bank. The aggregate control rights/cash flow rights of a shareholder are the sum of their direct and indirect voting rights/cash flow rights held in the bank.

Identifying related directors

After having identified direct minority shareholders, direct and indirect controlling shareholders, we identify board members that are related to them. We use for that information on director's biography. We consider a director to be related to minority shareholder when: (1) he is an employee of the minority shareholder of the bank; (2) he is one of the minority shareholder of the bank; (3) he has the same family name as one of the minority shareholder of the bank; (4) he is

employee of a government agency if one of the minority shareholders of the bank is state. A director is considered as related to a controlling shareholder if: (1) he is an employee of the direct/indirect controlling shareholder of the bank; (2) he is one of controlling shareholder or he is a shareholder in at least one of the firms controlled by the controlling shareholder in the control chain of the bank; (3) he has the same family name as the direct/indirect controlling shareholder of the bank; (4) he is employee of a government agency if one of controlling shareholders is state.

The percentage of directors related to minority shareholders (*pct_Minority)* or controlling shareholders (*pct_Controlling)* is the number of directors related to minority/controlling shareholders divided by the board size. In our sample, 57.29% of banks have directors related to controlling shareholders on their board, and 48.96% of banks have minority directors on their board. In banks having directors who are related to controlling shareholders, they represent 28.02% of the board. Among them, 89.76% are on average related to the biggest ultimate owner of the bank, and there is only 12.06% of directors related to other controlling shareholders. Minority directors, when present, represent on average 24.16% of the board. Our statistics indicate that in banks having directors related to controlling shareholders, the biggest ultimate owner hold on average 89.33% of the share, whereas in banks having directors related to minority shareholders, the proportion of the biggest ultimate owner is around 34% of the share (see Table 2).

Table 3 further provides statistics on the four different criteria used to determine if a director is related to a shareholder. We find that on average around 80 to 84% of directors identified as being related to either minority or controlling shareholders are related through being employed by one of them. Directors that are shareholders of the bank or in the control chain represent around 15-16% of the cases of related directors, while the two other criteria of relatedness account for less than 4% of all cases.

[Insert Tables 2, 3 here]

2.2.2 Ownership structure variables

In order to investigate the impact of ownership structure on the presence of related directors, we use three ownership structure variables including: the relative voting power of the largest ultimate owner, the excess control rights of the largest ultimate owner and the relative power of other controlling shareholders vis-à-vis the largest ultimate owner.

Relative voting power of the largest ultimate owner

The real voting power of a controlling shareholder is affected by the possibility of coalition between other controlling shareholders (i.e. the other controlling shareholders) (Attig, et al., 2008). If the probability of coalition between other controlling shareholders in a bank is high, the real voting power of the largest ultimate owner will be relatively decreased, thus the presence of director related to the largest ultimate owner will also be limited.

We specify a proxy to measure the relative voting power of the largest ultimate owner by estimating his "Banzhaf Power Index" (*uo_BPI).* This index takes into account voting rights of the largest ultimate owner, and the probability of coalition between other controlling shareholders to become decisive in a bank. We use the algorithms for voting power analysis provided by Dennis Leech at the University of Warwick. This index varies from 0 to 1, the higher the index is, the higher relative voting power has the largest ultimate owner.

Thus in this study, by taking into account the possibility of coalition between other controlling shareholders, we suppose that the higher relative voting power of the largest ultimate owner is, the higher the presence of directors related to controlling shareholders on the board is (i.e. a positive relation between *uo_BPI* and *pct_Controlling)*, but the lower the presence of directors related to minority shareholders on the board is (i.e. a negative relation between *uo_BPI* and *pct_Minoirty).*

Excess control rights of the largest ultimate owner.

Previous studies (e.g. Claessens et al. (2002), Lin et al. (2011)) show that the possibility of expropriation by controlling shareholders is higher in the pyramidal ownership structure in which controlling shareholders have greater control rights than cash flow rights. In this kind of ownership structure, while controlling shareholders having excess control rights can enhance their control, the potential losses from their expropriation can largely shift to other shareholders having no/less excess control rights. In banks having pyramidal structure, controlling shareholders might extract private benefits by nominating directors related to them on the board.

We define excess control rights of the ultimate owner as the difference between aggregate control rights and cash flow rights. We suppose that controlling shareholders having excess control rights have incentives to increase the presence of directors related to them on the board, then a positive relation between *ExcessCR* and *pct_Controlling;* and also a negative relation between *ExcessCR* and *pct_Minority.*

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The relative power of other controlling shareholders (other than the largest ultimate owner) vis-à-vis the largest ultimate owner.

The presence of other controlling shareholders might increase the probability of a coalition among them in order to become a decisive party, and thus it can reduce risk of expropriation by the largest ultimate owner. We examine the governance role of the other controlling shareholders by their relative power vis-à-vis the biggest ultimate owner that is computed by the ratio of control rights of other controlling shareholders (i.e. control rights of controlling shareholders except the biggest ultimate owner) to control rights of the biggest ultimate owner. In theory, the presence of other controlling shareholders decreases the possibility that the largest ultimate owner nominate more of their representatives on the board. Therefore, we expect a negative relation between the presence of other controlling shareholders and the presence of directors who are related to controlling shareholders. Correspondingly, we expect a positive relation between the presence of minority directors and the presence of other controlling shareholders.

2.2.3 Institutional variables

To measure the country-level characteristics which can impact the presence of related directors on the board, we use several indices including the Corporate Governance index (*CG),* the Shareholder Protection index *(RADI)*, the Supervisory Power index (*SupPow)*, the Individualism index (*Individualism),* and the index of Economic Freedom (*EcoFreedom).*

Corporate Governance index

Based on "Code of Best Practices for Corporate Governance", we compute the Corporate Governance index to measure the quality of corporate governance of each country in the sample. This index indicates (i) whether or not there are clear requirements and criteria on the presence of independent directors on the board according to ownership structure; (ii) whether or not there is requirement on the disclosure information on the ownership and board structure[1]. This index ranges in principle from 0 to 18; in our sample, it has the median of 9, with a minimum of 3 (Germany, Switzerland), and a maximum of 15 (Spain). There is heterogeneity in countries in our sample regarding the quality of corporate governance requirement. We expect that a better corporate governance environment can limit the presence of directors related to controlling

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[1] The detailed questions used to construct this index are given in Table 4.

shareholders to reduce the risk of minority shareholder expropriation and thus, increase the presence of minority directors on the board.

Shareholder protection index

We use the revised anti-director rights index (*RADI)* from Djankov et al, (2008) to capture the shareholder protection level of each country. This index varies from 0 with the weakest protection to 5 with the strongest protection. In a country having a strong shareholder protection, there are specific regimes to insure the execution of the rights of minority shareholders (e.g. nomination directors to board positions). A strong shareholder protection regime might be a complementary for internal governance mechanisms (e.g. minority directors). Therefore, we expect a negative impact of *RADI* on the presence of directors related to controlling shareholders on the board (*pct_Controlling),* but a positive impact on the presence of directors related to minority shareholders on the board (*pct_Minority)*.

Supervisory power index

We use the supervisory power index (*SupPow)* (The World Bank 2003) to measure the strength of the supervisory regime of each country. This index ranges from 0 to 16. A high supervisory power index indicates wider and stronger authority for bank supervisors. In strict supervisory systems, supervisors can issue fines against, or even dismiss, bank directors without formal proceedings, or mandate new board elections. Therefore, a strong supervisory regime can substitute internal governance mechanisms to reduce agency conflicts between insiders and minority shareholders. Therefore, we expect a negative impact of supervisory power on the presence of minority directors on the board, and a positive impact of it on the presence of directors related to controlling shareholders.

Individualism index

We use the individualism index (*Individualism)* (Hofstede, 2001) to measures the distinction between collective (group-based) and individual-based decision making of a country. Individuals in a country having a high level of individualism are likely to challenge authority and encourage a reduction of agency conflict between insiders and minority shareholders. However, individuals in a collectivist culture are likely to protect the well-being of the group. We suppose that in an individual-based country, minority shareholders have more incentives to protect their own benefits by being more active in choosing members of the board. Therefore, we expect that the

individualism impact positively on presence of minority directors, and negatively on the presence of directors related to controlling shareholders on the board.

Economic Freedom

We use the Economic Freedom Index of The Heritage Foundation to take into account the degree of economic freedom of a country. This index comprises 10 subcomponents of economic freedom, including business freedom, trade freedom, fiscal freedom, government size, monetary freedom, investment freedom, financial freedom, property rights, freedom from corruption and labor freedom. This index ranges from 0 to 100. A higher score indicates that a country is more economically free. Our sample has the median of 70.45 in which Greece has the lowest score at 55.4, and Switzerland has the highest score at 81.0. Individuals in an economically free society are free to work, produce, consume, and invest in any way they please, with their freedom at once both protected and respected by the state. Thus we expect that the degree of economic freedom has the positive impacts on the presence of both directors related to controlling and minority shareholders on the board.

2.2.4 Bank characteristic variables

We consider bank characteristics such as board size, bank size, capital ratio, loan ratio, deposit ratio, operating ratio, opacity level as the potential determinants of the presence of related directors.

Board size (*BoardSize)* is calculated as the natural logarithm of the number of directors on the board. We expect a positive relation between board size and the presence of related directors to both controlling and minority shareholders on the board, as larger board gives more opportunities to diversify board structure, and then shareholders have opportunities to nominate related directors on the board.

Bank size (*Size)* is measured by the logarithm of total assets of banks. We expect the impact of bank size on the percentage of directors related to controlling shareholders to be negative, and its impact on the presence of minority directors to be positive. The large bank can use board structure by reducing the presence of directors related to controlling shareholders, and increasing the presence of minority directors, as an effective internal governance mechanism, to increase their reputation, and then to attract investors.

Capital ratio (*Capital)* is calculated as the ratio of total equity to total assets of the bank. Operating ratio (*Operating)* is defined as the ratio of total operating expenses to total operating income. We calculate loan ratio (*Loan)* and deposit ratio (*Deposit)* as the ratio of total loan or total deposit to total assets of the bank.

To measure the opacity of banks in the sample, we use market data to compute the opacity index (*Opacity)*. Following Anderson et al., (2009) we calculate the natural logarithm of the average daily trading volumes during the fiscal year, and bid-ask spread as the difference of ask price and bid price over the average of bid and ask prices. We rank each of these proxies from the value of 1 (for banks with high trading volume, or small bid-ask spread) to the value of 10 (for banks with low trading volumes, or high bid-ask spreads). Then we take the average of these two proxies to capture the opacity level of each bank, with the most transparent bank has a value of 1 and the most opaque bank has a value of 10. Higher opacity indicates that there is higher information asymmetry between insiders and minority shareholders. Therefore, in banks having a high opacity level, controlling shareholders have more possibilities to nominate their representatives to the board. Thus, we expect a positive relation between opacity and the presence of directors related to controlling shareholders, and a negative relation between opacity and the presence of minority directors on the board.

[Insert Table 4 here]

2.3 Methodology

In order to investigate the impacts of ownership structure, bank internal characteristics, and institutional characteristics on the presence of related directors on the board, we estimate the following equation:

$$pct\_Rel_{ij} = \alpha + \beta_1 * Ownership_{ij} + \beta_2 * Institutional_j + \sum_{k=3}^{8} \beta_k * X_i + \varepsilon_{ij}$$

Where subscripts *i* denotes the bank *i (i =1, 2, 3, ... 96); j* denotes the country *j (j= 1, 2, ..., 17); β_k (k= 1, 2, ..., 8)* are the parameters to be estimated; ε is the idiosyncratic error term.

pct_Rel_{ij} denote the presence of directors related to either controlling shareholders (*pct_Controlling)* or to minority shareholders (*pct_Minority)* of the bank *i* in 2013.

$Ownership_{ij}$ represent the bank ownership structure variables: relative voting power of the largest ultimate owner (*uo_BPI),* the excess control rights of the largest ultimate owner (*ExcessCR),* the

relative power of other controlling shareholders vis-à-vis the biggest ultimate owner (*ControlOther*). We find high correlations between ownership variables (see Table A1 in Appendix), thus we estimate the regressions with each ownership variable respectively.

$Institutional_j$ represent the institutional characteristics: quality of corporate governance (*CG*), shareholder protection (*RADI*), supervisory power (*SupPow*), individualism (*Individualism*), economic freedom (*EcoFreedom*). We also run the regressions with each of the institutional variables separately because of high correlations between these variables.

X_i are the bank-characteristic variables of the bank *i* including board size, bank size, loan ratio, deposit ratio, operating ratio, opacity.

The dependent variables in this study are in percentage, which is bounded from 0% to 100%. Therefore we employ the Tobit Model to conduct our estimations. After each regression, we calculate the LM-statistic (presented detail at the bottom of each table of results) to test the tobit specification, against the alternative of a model that is non-linear in the regressors, and contains an error term that is heteroskedastic and non-normally distributed. The results of the tests show that we cannot reject the null hypothesis, it means that the tobit specification is suitable for our regression model.

After examining the correlation among our variables (Table A1 in Appendix), we orthogonalize the variables which have potential multicollinearity problems (Table 4).

3. Results

3.1. Univariate analysis

Table 5 shows the univariate statistics of our sample based on ownership structure, bank characteristic variables and institutional environment.

On the one hand, the results of mean tests indicate that the presence of directors who are related to controlling shareholders, varies systematically with the relative voting power as well as with the excess control rights of the largest ultimate owner. It means that, banks having ultimate owner with high level of relative voting power are more likely to have high percentage of related directors to controlling shareholders. Banks having the ultimate owner with high levels of the excess control rights also are more likely to recruit directors who are related to controlling shareholders. In addition, in term of the institutional environment, the mean tests imply that lower quality of

corporate governance, or lower shareholder protection, or stronger supervisory power is associated with more directors related to controlling shareholders on the board.

On the other hand, the mean tests show that the percentage of minority directors is more likely to be low in banks having high relative voting power of the largest ultimate owner, high level of opacity or high strength of supervisory power. Moreover, the differences in means of the presence of minority directors on the board between two groups of banks based on shareholder protection are statistically significant. This result indicates that higher shareholder protection would lead to more minority directors on the board of a bank.

Therefore, the results of the mean tests indicate that the ownership structure and the institutional environment are potential determinants of the presence of related directors on the bank's board of directors.

[Insert Table 5 here]

3.2. Empirical results

We examine separately the determinants of the presence of directors who are related to controlling shareholders and the determinants of the presence of directors who are related to minority shareholders.

3.2.1 The determinants of the presence of directors related to controlling shareholders on the bank's board

Table 6 presents the impacts of ownership structure, bank internal characteristics and institutional characteristics on the presence of directors who are related to controlling shareholders on the board of directors.

We find that the relative voting power as well as the excess control rights of the largest ultimate owner have positive and significant impacts on the presence of directors related to controlling shareholders on the board. This results are consistent with the theory. First, when the largest ultimate owner has more voting power, he would take advantage of his voting power to nominate more representatives on the board. Second, when the largest ultimate owner has higher excess control rights, he has more desire to expropriate minority shareholders based on the divergence between control and cash-flow rights and thus, they are motivated to assign representatives who are related to them into the board.

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In addition, the results show an insignificant relationship between of the presence of related directors to controlling shareholders and the relative power of other controlling shareholders. In theory, when the power of other controlling shareholders is high in comparison with the power of the largest ultimate owner, the other controlling shareholders would be able to create a coalition to reduce the relative voting power of the largest ultimate owner and thus, reduce the presence of directors who related to controlling shareholders on the board. However, the result proves that the relative power of other controlling shareholders would not prevent the controlling shareholders from appointing more representatives on the board.

Regarding the institutional characteristics, we find that there is a positive and significant impact of the degree of economic freedom on the presence of directors related to controlling shareholders on the board. This result is not surprising since the private property rights is an essential part of economic freedom. In countries having high degrees of the economic freedom, the right to control and benefit from property is firmly protected by laws. Therefore, controlling shareholders would have more ability to introduce their representatives into the board of directors.

Our results also show that there are insignificant impacts of the bank financial characteristics on the presence of directors related to controlling shareholders on the board of directors.

[Insert Table 6 here]

3.2.2 Determinants of the presence of directors who related to minority shareholders on the board of directors

Table 7 presents the impacts of ownership structure, bank internal characteristics and institutional characteristics on the presence of directors who related to minority shareholders on the board.

The results show that the relative voting power of the largest ultimate owner has a negative and significant impact on the presence of minority directors. It means that banks, in which the largest ultimate owner has high relative voting power, are likely to have less minority directors on the board. This finding is consistent with the hypothesis that when the largest ultimate owner has a relatively high voting power, he is able to limit the number of seats of minority directors in order to maintain his decisive power over the board. We also find that the relative power of other controlling shareholders increases significantly the number of minority directors on the board. This can be explained by the fact that in banks having other controlling shareholders, the conflict of

interest between the controlling shareholders is high and therefore, minority directors would play more important role in the decision making process of the board.

In addition, we find that the coefficient of the variable measuring the degree of opacity is negative and significant at 5% confidence level. In theory, the information asymmetry between controlling shareholders and minority shareholders in opaque banks would prevent minority shareholders from exercising their rights to choose the members of board of directors. Our results are in line with this hypothesis, showing that banks having high levels of opacity are less likely to have minority directors on the board.

Regarding to the impact of institutional environment, we find that banks in countries having high quality of corporate governance as well as high levels of shareholder protection are more likely to have minority directors on the board. First, in these countries, corporate governance code often provides detailed recommendations about the board structure. Consequently, it increases the presence of minority directors. Second, because of the high level of shareholder protection, minority shareholders have more rights to challenge banks' controlling parties and thus, they are more active in choosing the member of the board of directors.

It is surprising that the regression result shows a negative coefficient (statistically significant at 1% confidence level) of the supervisory power. This result seems to be "logically inconsistent" because it indicates that, in countries where banking authorities have strong power to supervise banks' performance, the bank's board is less likely to have minority directors. However, in theory, in a strict financial supervisory system where banking supervisors are able to dismiss bank directors or mandate new board elections, the supervisory regime can substitute bank's internal governance mechanisms to reduce agency conflicts between insiders and minority shareholders. Therefore, minority shareholders would be less motivated to participate in supervising banks' controlling parties. Consequently, the presence of minority directors on the bank's board decreases.

The regression results also indicate that bank financial characteristics impact insignificantly on the presence of minority directors on the bank's board.

To summarize, our results prove that ownership structure is a dominant determinant of the presence of related directors on the bank's board of directors. The relative voting power of the largest ultimate owner impacts positively on the presence of directors related to controlling shareholders

but negatively on the number of minority directors on the board. While the excess control rights of the largest ultimate owner increase the presence of directors related to controlling shareholders, the relative power of other controlling shareholders vis-à-vis the biggest ultimate owner in bank's ownership structure will help to enhance the presence of minority directors. Our findings also show that, the level of economic freedom of a country impacts positively on the presence of directors related to controlling shareholders but the quality of corporate governance of that country affects positively and significantly on the presence of minority directors. We also find that the power of banking supervisory agency of a country has a negative relationship with the presence of minority directors on the bank's board of directors. This indicates the fact that minority shareholders count on the banking supervisory agency to oversee banks' performance and thus, in countries having high levels of supervisory power, minority shareholders are less motivated to participating in supervising banks' controlling parties.

[Insert Table 7 here]

4. Further investigations

Our main results indicate that ownership structure plays an important role on determining the presence of related directors on the bank's board of directors. In this section, we investigate how the impact of ownership structure on the presence of related directors is shaped under different institutional environment. In other words, we empirically examine the interaction effects between ownership structure and institutional characteristics on the presence of related directors on the board of a bank. Therefore, we estimate the following model:

$$pct\_Rel_{ij} = \alpha + \beta_1 * Ownership_{ij} + \beta_2 * Ownership_{ij} * d\_Institutional_j$$
$$+ \beta_3 * d\_Institutional_j + \sum_{k=4}^{6} \beta_k * X_i + \varepsilon_{ij}$$

Where *d_Institutional* is the institutional environment dummy variable. This dummy variable alternatively represents for one of the five institutional characteristics including: corporate governance dummy variable (*d_CG),* shareholder protection dummy variable (*d_RADI),* supervisory power dummy variable (*d_SupPow),* individualism dummy variable (*d_Individualism)* and economic freedom dummy variable (*d_EcoFree).* This dummy variable takes the value of one if the institutional variable of country *j* is larger than the sample median, and zero otherwise.

pct_Rel_{ij} denotes the presence of directors related to either controlling shareholders (*pct_Controlling)* or minority shareholders (*pct_Minority)* of the bank *i* in 2013.

$Ownership_{ij}$ alternatively represents one of the bank ownership structure variables: relative voting power of the largest ultimate owner (*uo_BPI),* the excess control rights of the largest ultimate owner (*ExcessCR),* the relative power of other controlling shareholders vis-à-vis the biggest ultimate owner (*ControlOther).*

Table 8 shows the impact of the interaction between ownership structure and institutional characteristics on the presence of directors related to controlling shareholders.

Table 9 shows the impact of the interaction between ownership structure and institutional characteristics on the presence of directors related to minority shareholders.

In the previous section of this study, we have showed that, the relative voting power of the largest ultimate owner impacts greatly on the presence of related directors on the bank's board of directors. The higher relative voting power that the largest ultimate owner has, the higher possibility that he will take advantage of his voting power to appoint the board members. Therefore, the relative voting power of the largest owner affects positively on the presence of directors related to controlling shareholders while it impacts negatively on the presence of minority directors on the bank's board. However, in this section, we find that the relationship between the relative voting power of the largest ultimate owner and the presence of related directors varies significantly under different institutional environments.

The results in Table 8 show that the relative voting power of the largest ultimate owner impacts positively and significantly (at 1% confidence level) on the presence of directors related to controlling shareholders but it happens only in the countries having high levels of supervisory power. In the countries where the power of banking supervisory authority is low, this impact is insignificant.

In addition, the regression results in Table 9 indicate that, in the countries having high levels of supervisory power, the relative voting power of the largest ultimate owner impacts negatively and significantly (at 1% confidence level) on the presence of minority directors. However, in the countries having low supervisory power, this impact is insignificant.

Therefore, we find that the impacts of the relative voting power of the largest ultimate owner on the presence of related directors is only significant in high supervisory environments. This relationship is insignificant in countries where the banking supervisory agency has low power. This result, interestingly, confirm our finding in the previous section about the motivation of minority shareholders to participate in supervising banks' controlling parties. In countries having high levels of supervisory power, minority shareholders count on the financial supervisory authority to oversee bank performance. Therefore, they are less motivated to participate in choosing members of the board of directors. As a consequence, the presence of minority directors on the bank's board decreases while the presence of directors related to controlling shareholders increases. In contrast, when minority shareholders believe that the banking supervisory agencies have low power to oversee banks' controlling parties, they will be more active in choosing members of the board in order to protect their own interests. As a result, the presence of minority directors on the board increases.

[Insert Tables 8, 9 here]

Then, we conduct several robustness checks to verify the strength of our results. First, we examine whether the results varies differently by year. We use data of 2012 and average data from 2011 to 2013 to re-conduct our regressions. The results are unchanged. Second, we replace our dependent variable by the dummy variable *d_Controlling (d_Minority)* that takes the value of 1 for banks having directors related to controlling (minority) on the board, and 0 for otherwise, and then we use logit regression instead of the tobit model to check the strength of the results. We find that there is no significant difference for ownership structure variables and institutional variables. Therefore, the results are robust[2].

5. Conclusion

The purpose of this study is to examine the determinants of the presence of directors related to controlling shareholders as well as of the presence of minority directors on the bank's board of directors. Using a sample of 96 banks from 17 European countries, we find that ownership structure is dominant determinant of the presence of related directors on the board. While some of institutional characteristics such as the level of economic freedom, the quality of corporate

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[2] The results of robustness tests are available on request.

governance, shareholder protection and supervisory power impact significantly on the presence of related directors, there is none of bank financial characteristics affecting significantly the presence of related directors on the bank's board of directors.

Our findings indicate that minority shareholders count on the banking supervisory agency to oversee banks' performance and thus, in countries having high levels of supervisory power, minority shareholders are less motivated to participating in supervising banks' controlling parties. However, strengthening the quality of corporate governance guidelines would be considered as a suitable method for policy-makers to increase the presence of minority directors on the bank's board of directors.

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Table 1: Number of controlled banks in the sample by country

Country	Number of listed banks	Number of controlled banks in the sample	Total assets of sample banks divided by total assets of all listed banks in Bankscope (%)
Austria	6	5	99.91
Belgium	4	3	98.98
Denmark	28	10	97.95
Finland	4	3	81.36
France	9	9	100
Germany	13	10	32.01
Greece	7	6	99.15
Ireland	2	1	45.27
Italy	19	12	11.57
Luxembourg	2	0	0.00
Netherlands	5	2	93.16
Norway	2	2	100
Portugal	4	3	93.97
Spain	7	5	48.11
Sweden	5	4	99.99
Switzerland	16	12	54.93
United Kingdom	12	9	45.75
Total	**145**	**96**	**70.71**

Table 2: Statistics on the banks having directors related to either controlling or minority shareholders.

	Number of directors		Banks having directors related to controlling SH						Banks having directors related to minority SH			
	Total	Average per bank	% of banks	% of directors	% of directors related to the biggest controlling SH	% of directors related to other controlling SH	Number of controlling SH	% shares held by the biggest controlling SH	% of banks	% of directors	Number of controlling SH	% shares held by the biggest controlling SH
Austria	91	18.20	100	34.04	96.67	3.33	1.6	96.67	40	14.35	1	36.95
Belgium	44	14.67	100	37.91	77.78	22.22	2.33	77.78	33.33	17.65	2	51
Denmark	105	10.50	60	20.59	100	0	1.83	100	10	10.53	2	23
Finland	24	8	100	12.86	66.67	33.33	1.33	66.67	66.67	14.29	1.50	16.61
France	102	11.33	66.67	36.05	83.33	16.67	2.17	83.33	66.67	38.09	2	33.34
Germany	101	10.10	50	38.27	100	0	1	100	20	11.01	1	40.63
Greece	87	14.50	16.67	21.43	66.67	33.33	2	66.67	0	0	-	-
Ireland	11	11	0	-	-	-	-	-	0	0	-	-
Italy	130	10.83	75	26.55	77.78	33.33	1.67	77.78	50	20.29	2.17	40.46
Netherlands	16	8	50	14.29	100	0	2	100	50	11.11	1	98
Norway	13	6.50	0	-					50	25	1	34
Portugal	64	21.33	66.67	29.55	85	15	2.5	85	100	7.73	2	26.77
Spain	65	13	40	23.89	100	0	3.5	100	100	64.72	2.20	40.91
Sweden	49	12.25	50	10.42	100	0	1	100	100	24.20	1.25	16.64
Switzerland	87	7.25	41.67	69.70	96.67	3.33	1.6	96.67	41.67	32.29	2.20	35.68
United Kingdom	103	11.44	55.56	16.78	100	0	1.4	100	88.89	47.02	1.75	28.89
Sample average	**1092**	**11.81**	**57.29**	**28.02**	**89.76**	**12.06**	**1.75**	**89.33**	**48.96**	**24.16**	**1.81**	**34**

Table 3: Statistics on the presence of related directors to either controlling or minority shareholders according to different criteria.

	Relatedness to controlling shareholders				Relatedness to minority shareholders			
	Employee of SH (%)	Direct / Indirect SH of the bank (%)	Same family name with SH (%)	Politician / Employee of government agency (%)	Employee of SH (%)	Direct / Indirect SH of the bank (%)	Same family name with SH (%)	Politician / Employee of government agency (%)
Austria	100	0	0	0	100	0	0	0
Belgium	88.89	0	0	11.11	100	0	0	0
Denmark	100	0	0	0	100	0	0	0
Finland	100	0	0	0	100	0	0	0
France	100	0	0	0	77.78	7.04	15.19	0
Germany	77.50	22.50	0	0	100	0	0	0
Greece	100	0	0	0	-	-	-	-
Ireland	-	-	-	-	-	-	-	-
Italy	79.63	20.37	0	0	82.50	17.50	0	0
Netherlands	100	0	0	0	100	0	0	0
Norway	-	-	-	-	100	0	0	0
Portugal	100	0	0	0	77.78	0	22.22	0
Spain	35	65	0	0	2.50	97.50	0	0
Sweden	50	50	0	0	100	0	0	0
Switzerland	100	0	0	0	60	40	0	0
United Kingdom	40	60	0	0	29.45	63.51	7.03	0
Sample average	**83.64**	**15.56**	**0**	**0.79**	**80.71**	**16.11**	**3.17**	**0**

Table 4: Variable definitions, data sources and summary statistics

Variables	Definition	Source	Mean	Median	Standard Deviation	Min.	Max
Dependent variables (percentage of related directors to shareholders)							
Pct_Controlling	Percentage of related directors to *controlling* shareholders having at least 10% of control rights. (%)	Bloomberg, annual reports	18.48	10	22.84	0	92.31
Pct_Minority	Percentage of related directors to *minority* shareholders having less than 10% of control rights. (%)		17.48	8.92	23.71	0	100
Ownership structure variables							
Uo_BPI	Relative voting power of the biggest ultimate owner (measured by Bazhaf Power Index)		64.94	99.42	38.53	8.91	100
ExcessCR	The difference between the control rights and the cash flow rights of the biggest controlling shareholders.	Bankscope, Amadeus, Annual reports	8.93	0	17.75	0	74.08
ControlOther	The ratio of control rights of other controlling shareholders (except the biggest ultimate owner) to the control rights of the biggest ultimate owner.		0.32	0	0.58	0	2.84
Bank-level control variables							
BoardSize	Natural logarithm of the number of directors on the board	Bloomberg	2.33	2.39	0.47	1.09	3.22
Size	Natural logarithm of Total Assets (orthogonalized on BoardSize)	Bankscope	16.79	16.67	2.61	9.88	21.65
Capital	Total equity divided by total assets (%)	ibid	13.67	6.99	17.40	0.83	55.28
Loan	The ratio of gross loans to total assets (%)	ibid	47.14	51.61	25.60	0.59	89.67
Deposit	The ratio of deposits to total assets (%)(orthogonalized on Loan)	ibid	55.46	58.20	22.70	1/72	91.72
Operating	The ratio of total operating expenses to total operating income (%)	ibid	1.80	1.43	1.49	-0.83	9.06
Opacity	The average of the rank from 1 to 10 of two indicators about Opacity (Trading volume: the natural logarithm of the average trading volume during the fiscal year.	Bloomberg	5.92	6.0	2.59	1	10

Bid–ask spread: ask price minus the bid price divided by the average of the bid and ask prices)

RADI	Revised anti-director index (RADI): Takes the value of 1 for each of these indicators: Vote by mail, Shares not deposited, Cumulative voting, Oppressed non-controlling, Pre-emptive rights and Capital to call a meeting	Djankov et al. (2008)	3.32	3.5	0.96	2	5
SupPow	Index measuring the strength of supervisory regime. The yes/no responses to the following questions are coded as 1/0: (1) Does the supervisory agency have the right to meet with external auditors to discuss their report without the approval of the bank? (2) Are auditors required by law to communicate directly to the supervisory agency any presumed involvement of bank directors or senior managers in illicit activities, fraud, or insider abuse? (3) Can supervisors take legal action against external auditors for negligence? (4) Can the supervisory authority force a bank to change its internal organizational structure? (5) Are off-balance sheet items disclosed to supervisors? (6) Can the supervisory agency order the bank's directors or management to constitute provisions to cover actual or potential losses? (7) Can the supervisory agency suspend directors' decision to distribute: (a) Dividends? (b) Bonuses? (c) Management fees? (8) Can the supervisory agency legally declare - such that this declaration supersedes the rights of bank shareholders - that a bank is insolvent? (9) Does the Banking Law give authority to the supervisory agency to intervene that is, suspend some or all ownership rights in a problem bank? And (10) Regarding bank restructuring and reorganization, can the supervisory agency or any other government agency do the following: (a) Supersede shareholder rights? (b) Remove and replace management? (c) Remove and replace directors? A higher value indicates wider and stronger authority for bank supervisors.	Bank regulation and supervision database (The World Bank 2003)	10	11	2.33	4	13
Corporate Governance Index	Index measuring the strength of corporate governance codes. Each of the following criteria might be existed in form of "Comply or explain" principle, Recommendation, or might be not mentioned in the Code of Best Practices, which are coded as 2/1/0: (1) Do regulators require a sufficient number of independent directors on the board?; (2) Are there criteria on the independence from managers?; (3) Are there criteria on the independence from controlling shareholders?; (4) Do firms/banks have to disclose the percentage of independent directors on the board?; (5) Do firms/banks have to disclose the percentage of independent directors from managers on the board?; (6) Do	Code of Best Practices for Good Corporate Governance	8.35	9	3.32	3	15

firms/banks have to disclose the percentage of independent directors from managers on the board?; (7) Do firms/banks have to disclose the percentage of independent directors from controlling shareholders on the board?; (8) Is the presence of directors related to minority shareholders required?; (9) Do the independence of directors have to be reported (list of independent directors, by which criteria a director is considered not independent, etc.)?; (10) Is the list of controlling shareholders disclosed?

Individualism	The individualism/collectivism dichotomy personifies the distinction between collective (group-based) and individual-based decision making. When individualism is low there is priority for group effort to achieve success while when it is high there is priority for individual needs and achievements	Hofstede (2001)	67.34	71	14.35	27	89
Economic Freedom	A country's overall economic freedom score, given as an average of its 10 subcomponents, including business freedom, trade freedom, fiscal freedom, government size, monetary freedom, investment freedom, financial freedom, property rights, freedom from corruption and labor freedom. This index ranges from 0 to 100, with a higher score indicating that a country is more economically free.	Heritage foundation (2013)	70.24	72.8	7.31	55.4	81

Table 5: Univariate mean test of potential determinants of related directors on the board

		Pct_Controlling	*Pct_Minority*
Ownership structure			
uo_BPI	Low (N=48)	7.571305	21.30409
	High (N=48)	20.19934	6.334853
	t-statistic of the mean test	-3.1392***	3.4312***
ExcessCR	Low (N=66)	9.517166	13.67904
	High (N=30)	23.49527	14.12843
	t-statistic of the mean test	-3.2303***	-0.0900
PresenceMLS	PresenceMLS=0 (N=55)	13.39809	13.37556
	PresenceMLS=1 (N=44)	14.53893	14.41497
	t-statistic of the mean test	-0.2670	-0.2223
Bank characteristics			
Board Size	Low (N=45)	13.36508	11.88272
	High (N=51)	14.34436	15.52838
	t-statistic of the mean test	-0.2312	-0.7888
Size	Low (N=48)	13.75087	9.65879
	High (N=48)	14.01977	17.98016
	t-statistic of the mean test	-0.0636	-1.8298*
Capital	Low (N=48)	14.22383	12.38461
	High (N=48)	13.54682	15.25433
	t-statistic of the mean test	0.1601	-0.6214
Operating	Low (N=48)	14.97785	17.55589
	High (N=48)	12.7928	10.08306
	t-statistic of the mean test	0.5175	1.6376*
Loan	Low (N=45)	14.13497	17.67101
	High (N=51)	13.66505	10.42106
	t-statistic of the mean test	0.1109	1.5843
Deposit	Low (N=47)	12.72111	18.26702
	High (N=49)	15.00202	9.55346
	t-statistic of the mean test	-0.5402	1.9190**
Opacity	Low (N=44)	13.63895	22.85679
	High (N=52)	14.0938	6.172508
	t-statistic of the mean test	-0.1072	3.8680***
Institutional environment			
d_CG	Low (N=25)	20.85833	7.765368
	High (N=71)	11.43004	15.9512
	t-statistic of the mean test	1.9983**	-1.5728
d_RADI	Low (N=43)	18.13231	6.42463
	High (N=53)	10.43966	19.81906
	t-statistic of the mean test	1.8418*	-3.0145***
d_SupPow	Low (N=39)	8.082242	26.41949
	High (N=57)	17.85585	5.198408
	t-statistic of the mean test	-2.3354**	5.0864***
d_Individualism	Low (N=47)	17.00959	11.41203
	High (N=49)	10.88858	16.12866
	t-statistic of the mean test	1.4637	-1.0246
d_EcoFreedom	Low (N=55)	13.45141	11.67388
	High (N=41)	14.4674	16.6977
	t-statistic of the mean test	-0.2378	-1.0806

*See Table 4 for definitions of variables; *, **, and *** denote significance at 10%, 5% and 1% levels.*

Table 6: Determinants of the presence of directors **related to controlling shareholders** on the board

Panel 6A: Impacts of relative voting power of controlling shareholders on the presence of directors related to controlling shareholders

Dependent variable : pct_Controlling	(1)	(2)	(3)	(4)	(5)
uo_BPI	0.266***	0.276***	0.264**	0.280***	0.298***
	(2.70)	(2.67)	(2.56)	(2.77)	(3.03)
BoardSize	4.446	3.650	3.286	3.140	5.746
	(1.22)	(0.97)	(0.87)	(0.81)	(1.55)
Size	-3.263	-2.635	-2.337	-2.585	-4.668
	(-0.76)	(-0.60)	(-0.54)	(-0.60)	(-1.08)
Capital	-2.177	-0.790	-1.013	-0.760	-1.540
	(-0.49)	(-0.18)	(-0.23)	(-0.17)	(-0.36)
Loan	2.687	1.567	1.556	1.491	1.527
	(0.66)	(0.38)	(0.38)	(0.37)	(0.39)
Deposit	-5.017	-2.898	-3.368	-3.195	-4.083
	(-1.23)	(-0.74)	(-0.84)	(-0.80)	(-1.07)
Operating	-0.0894**	-0.0855*	-0.0820*	-0.0876*	-0.0809*
	(-1.99)	(-1.86)	(-1.77)	(-1.92)	(-1.75)
Opacity	0.712	1.038	0.875	1.021	0.156
	(0.18)	(0.25)	(0.21)	(0.25)	(0.04)
CG	-1.828				
	(-1.57)				
RADI		0.0637			
		(0.02)			
SupPow			0.854		
			(0.52)		
Individualism				-0.117	
				(-0.45)	
EcoFreedom					1.238**
					(2.42)
_cons	14.92	-2.201	-10.23	6.066	-91.08**
	(1.04)	(-0.13)	(-0.54)	(0.29)	(-2.38)
N	96	96	96	96	96
Test for Tobit specification					
LM-statistics	0.211	0.549	0.533	0.521	0.237
Critical value (10%)	3.645	4.446	5.282	4.248	3.799

See Table 4 for definitions of variables; z-statistics are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels.

Panel 6B: Impacts of excess control rights of controlling shareholders on the presence of directors related to controlling shareholders

Dependent variable : pct_Controlling					
	(1)	(2)	(3)	(4)	(5)
model					
ExcessCR	0.506**	0.466**	0.466**	0.465**	0.506**
	(2.55)	(2.21)	(2.30)	(2.27)	(2.52)
BoardSize	2.661	1.792	1.016	1.685	3.581
	(0.71)	(0.46)	(0.26)	(0.42)	(0.94)
Size	-3.642	-2.748	-2.139	-2.745	-4.561
	(-0.84)	(-0.62)	(-0.49)	(-0.62)	(-1.04)
Capital	-2.954	-1.056	-1.626	-1.047	-1.631
	(-0.66)	(-0.23)	(-0.36)	(-0.23)	(-0.37)
Loan	0.599	-0.872	-0.713	-0.890	-1.193
	(0.15)	(-0.21)	(-0.17)	(-0.22)	(-0.30)
Deposit	-5.808	-2.866	-4.032	-2.926	-4.087
	(-1.40)	(-0.72)	(-0.99)	(-0.73)	(-1.05)
Operating	-0.0936**	-0.0869*	-0.0806*	-0.0875*	-0.0808*
	(-2.06)	(-1.86)	(-1.72)	(-1.87)	(-1.73)
Opacity	4.392	4.997	4.222	5.001	4.618
	(1.18)	(1.30)	(1.09)	(1.30)	(1.25)
CG	-2.333*				
	(-1.97)				
RADI		-0.00232			
		(-0.00)			
SupPow			1.832		
			(1.12)		
Individualism				-0.0272	
				(-0.10)	
EcoFreedom					1.183**
					(2.30)
_cons	32.67**	12.13	-7.143	14.05	-72.23*
	(2.54)	(0.79)	(-0.37)	(0.69)	(-1.92)
N	96	96	96	96	96
Test for Tobit specification					
LM-statistics	0.271	0.772	0.720	0.767	0.458
Critical value (10%)	4.197	4.508	4.414	3.741	4.754

See Table 4 for definitions of variables; z-statistics are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels

Table 7: Determinants of the presence of directors **related to minority shareholders** on the board

Panel 7A: Impacts of relative voting power of controlling shareholders on the presence of directors related to minority shareholders

Dependent variable : pct_Minority					
	(1)	(2)	(3)	(4)	(5)
uo_BPI	-0.378***	-0.299***	-0.314**	-0.397***	-0.379***
	(-3.18)	(-2.80)	(-2.62)	(-3.14)	(-2.98)
BoardSize	8.371*	11.72***	13.33***	12.65**	12.30**
	(1.79)	(2.84)	(2.79)	(2.53)	(2.40)
Size	11.13**	5.743	7.660	9.525*	8.634
	(2.26)	(1.30)	(1.55)	(1.84)	(1.60)
Capital	11.25**	8.705**	10.29**	7.557	7.434
	(2.24)	(2.02)	(2.09)	(1.49)	(1.44)
Loan	-4.064	-1.797	-2.522	-0.641	-1.131
	(-0.78)	(-0.39)	(-0.50)	(-0.12)	(-0.21)
Deposit	9.512*	4.620	7.408	4.729	2.861
	(1.83)	(1.08)	(1.50)	(0.93)	(0.56)
Operating	-0.0416	-0.0725	-0.0697	-0.0621	-0.0660
	(-0.66)	(-1.22)	(-1.19)	(-0.94)	(-1.00)
Opacity	-7.889	-6.780	-4.892	-6.245	-6.729
	(-1.51)	(-1.52)	(-0.99)	(-1.18)	(-1.27)
CG	4.532***				
	(3.03)				
RADI		19.61***			
		(4.75)			
SupPow			-5.911***		
			(-3.03)		
Individualism				0.400	
				(1.26)	
EcoFreedom					0.555
					(0.79)
_cons	-13.42	-39.49**	84.51***	2.295	-10.61
	(-0.71)	(-2.18)	(3.90)	(0.09)	(-0.21)
N	96	96	96	96	96
Test for Tobit specification					
LM-statistics	0.107	0.001	0.255	0.155	0.186
Critical value (10%)	4.659	4.242	5.422	4.499	4.163

See Table 4 for definitions of variables; z-statistics are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels.

<u>Panel 7B</u>: Impacts of excess control rights of controlling shareholders on the presence of directors related to minority shareholders

Dependent variable : pct_Minority					
	(1)	(2)	(3)	(4)	(5)
ExcessCR	-0.599*	-0.300	-0.570*	-0.562	-0.529
	(-1.84)	(-0.98)	(-1.76)	(-1.63)	(-1.55)
BoardSize	10.33**	12.48***	15.57***	13.99**	13.93**
	(2.03)	(2.77)	(3.02)	(2.56)	(2.50)
Size	11.60**	5.638	7.741	9.899*	8.882
	(2.27)	(1.23)	(1.54)	(1.84)	(1.58)
Capital	11.50**	8.150*	10.97**	7.610	7.377
	(2.20)	(1.82)	(2.16)	(1.43)	(1.37)
Loan	-1.285	0.462	-0.245	2.125	1.650
	(-0.24)	(0.10)	(-0.05)	(0.39)	(0.30)
Deposit	8.821	3.353	7.571	3.579	1.984
	(1.64)	(0.75)	(1.49)	(0.67)	(0.37)
Operating	-0.0556	-0.0865	-0.0816	-0.0776	-0.0801
	(-0.85)	(-1.43)	(-1.37)	(-1.14)	(-1.18)
Opacity	-13.55**	-11.65***	-9.383*	-12.85**	-12.87**
	(-2.63)	(-2.64)	(-1.95)	(-2.47)	(-2.47)
CG	4.593***				
	(3.04)				
RADI		19.97***			
		(4.69)			
SupPow			-6.794***		
			(-3.46)		
Individualism				0.313	
				(0.95)	
EcoFreedom					0.561
					(0.78)
_cons	-31.12*	-55.14***	79.60***	-10.57	-28.97
	(-1.68)	(-3.07)	(3.66)	(-0.42)	(-0.55)
N	96	96	96	96	96
Test for Tobit specification					
LM-statistics	0.114	0.004	0.291	0.148	0.184
Critical value (10%)	4.652	4.307	3.602	4.256	4.198

See Table 4 for definitions of variables; z-statistics are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels.

Panel 7C: Impacts of the relative power of other controlling shareholders vis-à-vis the biggest ultimate owner on the presence of directors related to minority shareholders

Dependent variable : pct_Minority					
	(1)	(2)	(3)	(4)	(5)
model					
ControlOther	13.77*	14.95**	14.34**	13.69*	14.38*
	(1.92)	(2.47)	(2.04)	(1.81)	(1.89)
BoardSize	8.913*	12.14***	14.10***	12.51**	13.03**
	(1.84)	(2.94)	(2.91)	(2.43)	(2.47)
Size	12.36**	6.876	8.752*	10.81**	9.592*
	(2.41)	(1.56)	(1.75)	(2.01)	(1.73)
Capital	8.818*	6.495	8.456*	5.318	4.989
	(1.73)	(1.53)	(1.72)	(1.02)	(0.95)
Loan	-0.818	1.054	0.119	2.239	1.930
	(-0.16)	(0.24)	(0.02)	(0.41)	(0.36)
Deposit	6.657	2.507	5.700	1.634	0.137
	(1.29)	(0.61)	(1.18)	(0.32)	(0.03)
Operating	-0.0621	-0.0849	-0.0871	-0.0801	-0.0818
	(-1.00)	(-1.49)	(-1.54)	(-1.23)	(-1.25)
Opacity	-12.96**	-10.45**	-8.439*	-12.04**	-12.01**
	(-2.57)	(-2.53)	(-1.80)	(-2.37)	(-2.36)
CG	4.442***				
	(2.93)				
RADI		20.94***			
		(5.15)			
SupPow			-6.741***		
			(-3.49)		
Individualism				0.269	
				(0.84)	
EcoFreedom					0.710
					(1.01)
_cons	-37.89**	-65.12***	71.20***	-15.72	-47.68
	(-2.04)	(-3.80)	(3.36)	(-0.63)	(-0.93)
N	96	96	96	96	96
Test for Tobit specification					
LM-statistics	0.025	0.050	0.529	0.124	0.056
Critical value (10%)	5.041	5.719	4.170	5.051	4.471

See Table 4 for definitions of variables; z-statistics are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels

Table 8: Role of institutional environment on determinants of the presence of directors **related to controlling shareholders** on the board

<u>Panel 8A</u>: Role of institutional environment on impacts of relative voting power of controlling shareholders on the presence of directors related to controlling shareholders

Dependent variable : pct_Controlling					
	(1)	(2)	(3)	(4)	(5)
model					
uo_BPI (β1)	0.518***	0.358***	0.148	0.365***	-5.274
	(3.07)	(3.05)	(1.18)	(3.20)	(-0.55)
uo_BPI * d_CG (β2)	-0.308*				
	(-1.88)				
uo_BPI * d_RADI (β3)		-0.192			
		(-1.45)			
uo_BPI * d_SP (β4)			0.419***		
			(2.53)		
uo_BPI * d_Individualism (β4)				-0.170	
				(-1.57)	
uo_BPI * d_EcoFreedom (β5)					-5.322
					(-0.42)
Control variables	Yes	Yes	Yes	Yes	Yes
N	96	96	96	96	96
Wald tests					
(β1) + (β2) = 0	0.211**				
	(0.03)				
(β1) + (β3) = 0		-			
(β1) + (β4) = 0			0.567***		
			(0.00)		
(β1) + (β5) = 0				-	
(β1) + (β6) = 0					-
Test for Tobit specification					
LM-statistics	0.152	0.578	0.419	0.288	0.392
Critical value (10%)	4.824	4.354	4.683	4.902	3.475

See Table 4 for definitions of variables; z-statistics are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels.

Panel 8B: Role of institutional environment on impacts of excess control rights of controlling shareholders on the presence of directors related to controlling shareholders

Dependent variable : pct_Controlling					
	(1)	(2)	(3)	(4)	(5)
model					
ExcessCR (β1)	2.193***	0.398*	0.283	0.637**	0.586**
	(3.19)	(1.75)	(0.79)	(2.43)	(2.54)
ExcessCR * d_CG (β2)	-1.784**				
	(-2.58)				
ExcessCR * d_RADI (β3)		0.402			
		(0.76)			
ExcessCR * d_SP (β4)			0.252		
			(0.62)		
ExcessCR * d_Individualism (β4)				-0.415	
				(-1.05)	
ExcessCR * d_EcoFreedom (β5)					-0.289
					(-0.70)
Control variables	Yes	Yes	Yes	Yes	Yes
N	96	96	96	96	96
Wald tests					
(β1) + (β2) = 0	0.409**				
	(0.03)				
(β1) + (β3) = 0		-			
(β1) + (β4) = 0			0.535**		
			(0.02)		
(β1) + (β5) = 0				-	
(β1) + (β6) = 0					-
Test for Tobit specification					
LM-statistics	0.063	0.855	0.608	0.551	0.696
Critical value (10%)	4.393	4.961	4.112	3.951	4.384

See Table 4 for definitions of variables; z-statistics are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels.

Table 9: Role of institutional environment on determinants of the presence of directors **related to minority shareholders** on the board

Panel 9A: Role of institutional environment on impacts of relative voting power of controlling shareholders on the presence of directors related to controlling shareholders

Dependent variable : pct_Minority					
	(1)	(2)	(3)	(4)	(5)
model					
uo_BPI (β1)	-0.0772	-0.179	-0.137	-0.311**	-0.423***
	(-0.39)	(-1.49)	(-0.98)	(-2.16)	(-2.75)
uo_BPI * d_CG (β2)	-0.371*				
	(-1.77)				
uo_BPI * d_RADI (β3)		-0.264*			
		(-1.76)			
uo_BPI * d_SP (β4)			-0.312**		
			(-2.08)		
uo_BPI * d_Individualism (β4)				-0.167	
				(-1.10)	
uo_BPI * d_EcoFreedom (β5)					0.0942
					(0.52)
Control variables	Yes	Yes	Yes	Yes	Yes
N	96	96	96	96	96
Wald tests					
(β1) + (β2) = 0	-0.448***				
	(0.00)				
(β1) + (β3) = 0		-0.443***			
		(0.00)			
(β1) + (β4) = 0			-0.449***		
			(0.00)		
(β1) + (β5) = 0				-	
(β1) + (β6) = 0					-
Test for Tobit specification					
LM-statistics	0.100	0.099	0.059	0.127	0.218
Critical value (10%)	3.598	4.804	4.961	4.704	4.085

See Table 4 for definitions of variables; z-statistics are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels.

Panel 9B: Role of institutional environment on impacts of relative power of other controlling shareholders vis-à-vis the biggest ultimate owner on the presence of directors related to controlling shareholders

Dependent variable : pct_Minority					
	(1)	(2)	(3)	(4)	(5)
model					
ControlOther (β1)	23.42*	17.97**	25.35**	9.368	13.94
	(1.74)	(2.06)	(2.05)	(0.72)	(1.21)
ControlOther * d_CG (β2)	-12.82				
	(-0.85)				
ControlOther * d_RADI (β3)		-5.311			
		(-0.49)			
ControlOther * d_SP (β4)			-15.17		
			(-1.08)		
ControlOther * d_Individualism (β4)				6.313	
				(0.41)	
ControlOther * d_EcoFreedom (β5)					0.764
					(0.05)
Control variables	Yes	Yes	Yes	Yes	Yes
N	96	96	96	96	96
Test for Tobit specification					
LM-statistics	0.024	0.020	0.0001	0.053	0.085
Critical value (10%)	3.783	4.154	3.856	4.811	5.232

*See Table 4 for definitions of variables; z-statistics are in parentheses, with *, **, and *** denoting significance at 10%, 5% and 1% levels*

Appendix

Figure A1. Example of a control chain
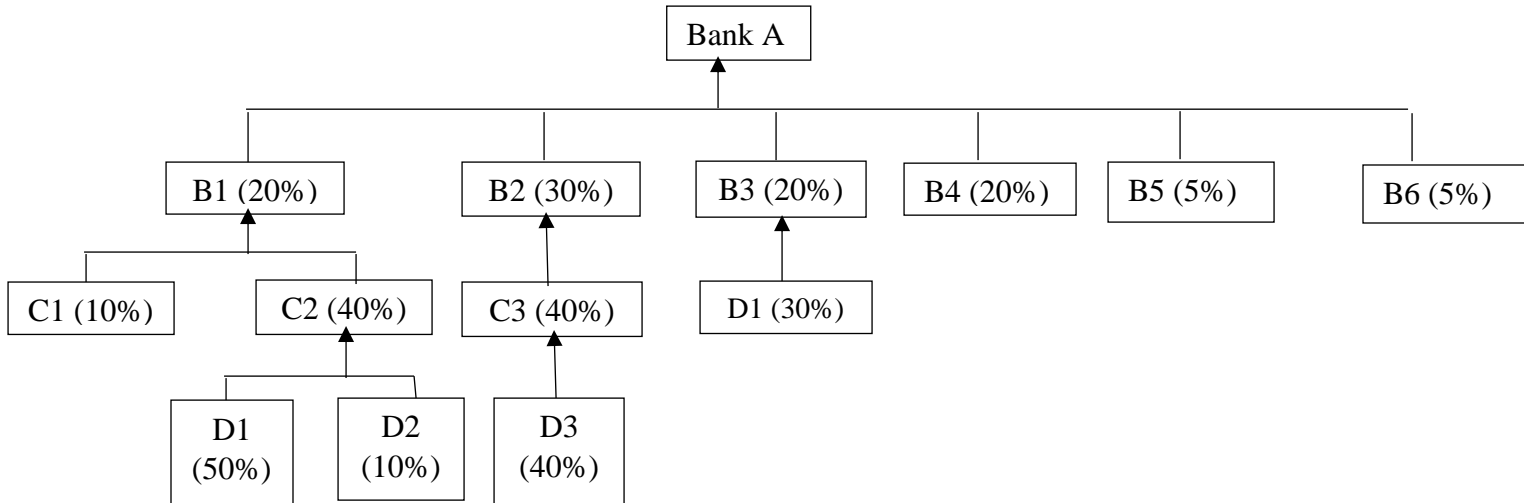
We have two minority shareholders: B5 and B6

We have three controlling shareholders:

- One direct controlling shareholder: B4, with 20% of control rights.

- Two indirect ultimate owners: D1 and D3, with respectively 40% (20% + 20%) and 30% of control rights.

Coalitions are possible between D1 and D3, and between B4 and D1 to obtain a total control rights of at least 51%.

The Banzhaf Power Index (BPI)

A *coalition* is any group of players that join forces to vote together. The total number of votes controlled by a coalition is called the *weight of the coalition*. A *winning coalition* is one with enough votes to win. A *losing coalition* is one without enough votes to win. A player whose desertion of a winning coalition turns it into a losing one is called a *critical player*. A player's power is proportional to the number of times the player is critical. The *quota* is the minimum number of votes needed to pass a decision. The BPI for Player P is computed through five steps. We provide an example using the chain of control presented in Appendix 1. Voting rights of B4, D3, D1 are 20, 30 and 40, respectively. The quota is 51.

STEP 1: We determine all WINNING coalitions:

Winning Coalitions	Explanation
{D1, D3}	Shareholder D1 and D3 together have enough control rights to win.
{B4, D1}	Shareholder B4 and D1 together have enough control rights to win.
	There are 2 winning coalitions having two players.
{B3, D1, D3}	The coalition containing all 3 ultimate owners wins.

STEP 2: Critical players are determined for each winning coalition. We count the number of votes the coalition has without a particular Player, and if the coalition has no longer enough votes to win, then that Player is critical. In our example, the critical players are underlined:

In {B4, D1}, both are critical since the coalition loses if either shareholder leaves.

In {D1, D3}, both are critical since the coalition loses if either shareholder leaves.

In {B4, D1, D3}, only D1 is critical since the coalition still wins if B4 leaves or if D3 leaves (but not if D1 leaves).

STEP 3: We determine the number of times all players are critical: 5 (underlined above).

STEP 4: We determine the number of times Player P is critical: D1 is critical 3 times, D3 is critical 1 time, B4 is critical 1 time.

STEP 5: *BPI(P)* is the number of times Player P is critical (from STEP 4) divided by the number of times all players are critical (from STEP 3):

BPI(D1) = 3/5 = 0.6; BPI(D3) = 1/5 =0.2; BPI(B4) = 1/5 = 0.2.

Table A1: Matrix of correlation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1.Pct_Ctr	1																
2.Pct_Min	-0.140	1															
3.uo_BPI	0.295**	-0.345***	1														
4.ExcessCR	0.220*	-0.137	0.314**	1													
5.Cont2	-0.130	0.193	-0.444***	-0.193	1												
6.BoardSize	0.0642	0.0807	0.00758	0.193	-0.146	1											
7.Size	-0.0356	0.130	-0.0697	-0.0682	-0.206*	0	1										
8.Capital	0.0548	0.0862	-0.0715	0.0300	0.241*	-0.179	-0.510***	1									
9.Loan	-0.0249	-0.0925	0.0333	0.185	-0.0667	0.0561	-0.0778	0	1								
10.Deposit	0.0212	-0.111	0.233*	0.106	0.0367	-0.253*	-0.317**	0	0	1							
11.Operating	-0.140	-0.154	0.115	0.198	-0.137	0.172	0.104	-0.291**	0.468***	0.0705	1						
12.Opacity	0.149	-0.263**	0.421***	0.108	-0.119	0	-1.05e-8	-0.254*	0.236*	0.268**	0.179	1					
13.CorGov	-0.187	0.250*	-0.0941	0.0867	-0.0449	0.309**	0.0943	-0.166	0.170	-0.423***	0.0643	-0.0581	1				
14.RADI	-0.101	0.476***	-0.204*	-0.265**	-0.0748	-0.0716	0.186	-0.117	-0.0142	-0.0670	-0.0395	-0.0251	0.168	1			
15.SupPow	0.194	-0.337***	0.283**	0.0527	0.0611	0.0136	-0.306**	0.178	-0.0625	0.321**	-0.163	0.197	-0.324**	-0.516***	1		
16.Indiv	-0.0458	0.147	-0.0135	-0.177	0.0710	-0.245*	0.0455	0.0946	-0.157	-0.135	-0.312**	-0.110	-0.0200	0.370***	-0.0269	1	
17.EcoFree	0.188	0.0820	-0.0795	-0.167	-0.0264	-0.339***	0.149	0.0277	-0.106	0.137	-0.200	0.00488	-0.431***	0.501***	-0.143	0.406***	1