# Does Board Social Network Affect Bank Performance — Evidence From Listed Banks in Vietnam

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**Abstract:** Using a sample of 34 listed commercial banks in Vietnam from 2010 to 2020, we explore the impact of board social networks on bank performance. We find a significant positive relationship between educational ties and family ties and bank performance and a significant negative relationship between professional ties, business ties and state ties on bank results. Therefore, the bank performance can be improved when the board connection with inside companies is greater than three business groups or state companies and the number of connections inside the board is less than ten members. We also find a positive and significant relationship between board connection outside (between three and five business groups or state companies) on next-two-year bank performance. Likewise, the board connection inside between ten and eighteen ties will also enhance the next-two-year bank performance.

**Key words:** board social network, bank performance, U-shape relationship

**JEL codes:** G21, G38, G4

## 1. Introduction

Over the past two decades, the importance of board characteristics in explaining firm performance has been documented in terms of board age (Fernández-Temprano & Tejerina-Gaite, 2020), education, gender (Li & Chen, 2018), political preference (Carney et al., 2020a), religion (McPherson et al., 2001), board busyness and board interlock (Harymawan et al., 2019). There are authors who combine those characteristics. For instance, Herbert and Agwor consider board size, board members's financial brainpower, gender diversity and the independence of board as momentous factors that catalyse corporate performance (Herbert & Agwor, 2021). However, impact of shared characteristics between boards on firm output has received little research attention in the field of corporate

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governance and corporate finance. In this paper, the authors attempt to investigate how board social networks influence firm performance. It is evident that a group of people come up with similar ideas if those people have strong social relationships (Lee et al., 2014). Moreover, social relationships among the members of board directors can create social relationships as well, and "groupthink" can lead to ineffective decision-making (Gompers et al., 2016). For these reasons, the social relationship of the management board is a factor that deserves attention when studying the impact of management on corporate performance. In recent years, the board external networks with outside companies and its effect on firm has been widely researched, including firm risk-taking (Dbouk et al., 2020), M&A outcomes (Ishii & Xuan, 2016), corporate social responsibilities (Jang et al., 2019), and firm performance (Lo & Fu, 2016). In this paper, we focus on an important aspect of the board-inside and outside networks to shed further light on bank financial outcomes in the context of Vietnam.

As its central question, this study investigates the following: "How do board networks influence bank performance?". The contribution of this paper to the existing literature is in four ways. First, we introduce the board networks with related business groups and state companies as boards outside connection and this connection helps to explain bank performance. Second, we present inside-board connections as total professional ties, educational ties, family ties and regional ties for explaining bank outcomes. Third, we investigate the board-inside network as the moderation between the board-outside connection and bank results. The structure of the paper includes 5 sections. Section 1 presents the introduction. Section 2 reviews the background literature. Section 3 provides methodology and construct measurement. Section 4 presents the findings, and Section 5 provides the summary and conclusions of the study.

## 2. Literature Review

### 2.1 Social Capital Theory and Social Network Theory

P. Bourdieu (1986) was responsible for bringing the concept and term of social capital into present-day discussions. He defined social capital as "the aggregate of actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition". Social capital can also be defined as anything that facilitates individual or collective action, built on social norms, reciprocity, and trust (Serrat, 2017). Social capital is increasingly perceived as considered by many studies as an origin of cherished resources. For instance, organizations can improve their performance and skills by focusing on and synthesizing the social capital assets of their employees (Pérez-Calero et al., 2016). Vietnam has a developing economy, then it is becoming progressively important for companies to build on their social capital, as Asian markets are intensive networking.

According to social network theory, social phenomena should be primarily understood in terms of the connections among and within units, rather than the properties of those who belong to the units themselves. Likewise, the executive board in the business is investigated by members' relationships. From the point of corporate governance, board members become socially connected when they have shared educational experiences with top managers, such as graduation from the same schools, or other connections in their path (Dbouk et al., 2020). Thus, social ties offer an information flow channel between members in the board of directors, leading to an effective board of directors. Social network theory proposed that although the social connection is valuable, it also depends on contextual factors such as the firm or industry characteristics. In addition, social network theory proposed that the actions of people affect their predilections and decisions of others (Liu et al., 2017). It is

noticeable that when there is strong homophily in social networks, it disseminates akin ideas. Social networks generate the term "groupthink" that could lead to inefficient decision-making (Gompers et al., 2016).

### 2.2 Board Social Ties

Consistent with prior researches, we employ seven types of board ties to capture the level of board social networks. These measures include total socioeconomic ties (Dbouk et al., 2020; Jang et al., 2019), professional ties (He et al., 2017, Gompers et al., 2016), educational ties (Beheshtinia et al., 2019; Carney et al., 2020b; Dbouk et al., 2020; Jang et al., 2019), family ties (Carney et al., 2020; Mertzanis, 2019), business group ties (Gompers et al, 2016; Miranda-Lopez et al., 2019; Shaique et al., 2017), state ties (Carney et al., 2020a; Dbouk et al., 2020; Gompers et al, 2016) and regional ties (Harjoto & Wang, 2020). The socioeconomics ties count the total number of direct ties between board members and indirect ties of the board with external interlock (Kang et al., 2022; Guan et al., 2016). In the context of corporate governance, members who get to know others may have a stronger intention of cooperating with them to boost shared values. Highly connected boards may also have access to partners' information so that they can modify the terms of contracts (Serrat, 2017). Connectivity among members facilitates them to create shared values, encourages latent mutual expectations and behaviours then the engagement to collective actions is promoted (Barroso-Castro, 2016). An individual is able not to control over their relatedness, yet can increase the possibility of attaining a desirable network position (Gompers et al., 2016). Furthermore, as a group, directors can pool their knowledge and skills to effectively fulfil the consultation and governance needs of a firm, which might be tough for an individual director (Zona et al., 2018). Having socio economic ties with others raises a tendency to influence one's decision, as well as suggest expectations of each other's actions, as similar ideas will be dispersed amid a social network with strong homophily (Kang et al., 2018). Hence, the business performance has a great ability to be affected by these relationships.

Professional ties are also known as the number of connections that a member has served together with another within a board than that person's current organization (Dbouk et al., 2020). With time, a prized resource called co-working experience promotes and has been identified previously. If colleagues in the past become current co-workers, they will understand each other better, feel more trustworthy, and easily meet their expectations (He et al., 2017). By believing in others, lower transaction costs and coordination costs may be produced (Portes & Sensenbrenner, 2018). Trust among directors on boards makes their communication and cooperation easier. When making decisions, members of the Board of Directors who have working-together experience will validly praise or protest each other (Gompers et al., 2016). In short, the management team with professional ties can affect the performance of a firm.

Educational ties capture the degree to which directors in a board share the same alumni network at their prior school or universities. According to Dbouk et al. (2020), a connection is considered as an educational tie if someone and another graduated from the same educational institutions. This type of connection could develop a sense of closeness between the board of management. Those who have been given the same academic discipline can evolve additional similarities as they have common interests and shared experiences as well as foster further points of contact (Dbouk et al., 2020). For instance, Beheshtinia et al. (2019) find that via education networks, information between mutual managers and directorates is diffused. However, homophily and direct interactions based on educational and employment backgrounds provide a measure of the sort of homogeneity that is conducive to groupthink and poor decision-making. Dbouk et al., 2020 pointed out that CEOs in a bank will take more risk if they are well-connected, because most of their network ties to informationally opaque firms. Other

than that, diversity of professional and educational ties support to lessen the risk impact.

Shaique et al. (2017) argued that "mutual insurance coverage" from links between group firms can help reduce shocks. They also suggested that firms with business group networks may also be able to provide information to group firms regarding their ability to calibrate their financial and business operations. Business ties do not arouse the desire to tunnel and other predatory behaviors in a firm (Carney et al., 2020b). In fact, key resources of a firm might come from the human and the social external capital. They include knowledge, experience, working environment that the board can utilize for the collaboration and relation among board members efficiently (Pérez-Calero et al., 2016).

The state ties can be defined as the number of connections of board directors who have current or prior employment in a state-owned firm or government or ministries (Carney et al., 2020b). Firms that have state networks might obtain valuable information allowing access to resources typically retained for state-owned firms. These firms have no obligation to execute government policy appointments nor encounter resource alteration. State networks, on the willingness of various companies, might convey information to move forward payments, delay the payment of receivables and make advance purchases (thereby preventing a decline in sales); or to extend trade credit (Gompers et al, 2016). A state-owned financial institution will provide information on the capabilities of delaying debt repayment or reducing debt costs through state networks (Dbouk et al., 2020). Therefore, state ties may be examined as an effect on firm performance. Firms with politically connected directors face some of the same difficulties as state-owned firms. The state may accept bribes or campaign contributions from these firms in exchange for favourable treatment (Carney et al., 2020b).

### 2.3 Bank Performance

Since banking performance plays an important role in transferring funds to borrowers with productive investment opportunities, this financial activity of banks is significant in ensuring the economy of the country that operates smoothly and efficiently. The way the bank operates to achieve the highest profit includes activities: how and why banks lend, how they raise funds, manage assets and liabilities. In short, a bank makes a profit by selling liabilities with a set of characteristics such as liquidity, risk, size, yield, and using the proceeds to buy assets of another set of characteristics. This process is also known as asset conversion. The process of converting assets and providing a range of services such as check clearing, record keeping and credit analysis that just like any other production process in any business. Therefore, if a bank produces attractive services at low costs and earns a substantial income from its assets, it will make a profit. Otherwise, the bank will suffer a loss. Traditionally, one common method for measuring performance was ROA (return on assets), which provided a comparison for them. ROA is generally known as the remarkable performance measurement in the field of strategy (Sukesti et al., 2021). It is operationalized as the earning before curious items and the net assets divide discontinued operation. Jang et al, 2019; Carney et al, 2020 largely use ROA as financial indicators to show the operating efficiency of the banks. While ROA indicates the firm's operating performance, ROE (return on equity) represents shareholders' return on their investment. Both ROA and ROE can show firm performance, then Jang et al., 2019 and Carney et al., 2020 used it in their work to measure the efficiency of a firm. To determine whether financial markets value board access to banks, Abdul Gafoor C. P. et al. (2018) and Dbouk et al. (2020) examine the impact of network interactions on NIM. Therefore, we operationalize bank performance as NIM, ROE, ROA. Return on Equity (ROE) and Return on Assets (ROA) are used as a proxy for firms' profitability and then we check robustness with Net Interest Margin (NIM).

### 2.4 Board Friendliness and Bank Performance

A friendly board support trust between directors because they may be willing to share critical information with members they trust (Kang et al., 2018), strengthen the teamwork ability (Hamdan, 2018), establish the norms and values of the board (Beheshtinia et al., 2019), resulting in positive effects on firm performance. However, too many internal networks might create groupthink problems, old-boy networks, overconfidence (Hamdan, 2018; Miranda-Lopez et al., 2019), leading to negative effects on firm performance. The interlocks between directorates It suggests that interlocking directorates may exert either a positive or a negative effect on subsequent firm performance, depending on the firm's relative resources, power imbalance, ownership concentration, and CEO ownership (Zona et al., 2015). Therefore, we propose the research model as follows:

$$Bank\ performance_{i,t}$$
$$= \beta_0 + \beta_1 \times Inside\ Network_{i,t} \times Inside\ Network_{i,t} + \beta_2 \times Inside\ Network_{i,t}$$
$$+ \beta_3 \times Control_{i,t} + \varepsilon_{i,t}$$

Where $i$ denotes each bank from 1 to 34; $t$ represents the period from 2010 to 2020 and $\beta$ captures the level of impact of the Board social network on bank performance.

## 3. Data and Methodology

Our study of 613 directors of 34 banks listed on the Ho Chi Minh Stock Exchange and Ha Noi Stock Exchange during the period of 2010-2020. We start by collecting the list of the board of directors from annual consolidated and audited financial statements. Then, we cross-check with the background information of the Board from the Annual Management reports to construct board characteristics such as hometown, education, history employment, relationship with current directors in the board, relationship with other business groups, relationship with government, ministries, state bank, state companies. Moreover, in the Financial Statement, we hand collect the information related to several international branches, the number of employees, firm's financial, ownership, and governance structures. Finally, we collect financial data on Vietstock.

To test the hypotheses, we applied generalized least squares (GLS) which supports the examination of autocorrelation and hedeskascity. However, as the previous researches indicate that the potential for endogeneity between the variables relating to board characteristics and firm performance could be due to the effect of simultaneity, inverse causality or the omission of important possible variables (Jackling & John, 2009; Stuart & Yim, 2010). Therefore, we added many control variables related to bank characteristics and board structure in the models. We used the Hausman test to choose REM or FEM model. Then, we applied the Durbin-Watson test to examine whether autocorrelation exists in the models. When the endogeneity exists, the OLS will be biased and inconsistent (C. P. et al., 2018). All monetary values are expressed in terms of million Vietnam dong. All variables are winsorized at the 1% and 99% levels.

## 4. Results

### 4.1 Descriptive Statistics

Table 1 presents descriptive statistics of variables used in our regression analyses. The mean value of ROE is 2.84 percent, which is comparable to the numbers reported in prior studies focusing on U.S. banks (Pathan, 2009). The mean values of Total external ties and Total internal ties are 2 and 7, respectively. The maximum of Family

ties is about 1 connection. This is consistent with the Kuwait banks that family ties to be between 0 to 3 (Mejbel et al., 2013). The average connection with business and state companies are 1, 2, respectively. This finding is consistent with prior research (Alesina & Giuliano, 2014).

**Table 1　Sample Descriptive Statistics**

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| NIM | 1,972 | 0.640992 | 0.4356247 | 0.0220349 | 1.487332 |
| ROE | 1,972 | 0.0279625 | 0.0214901 | -0.0046658 | 0.0742568 |
| ROA | 1,972 | 0.0078043 | 0.0086912 | -0.0013816 | 0.0305959 |
| eduT | 1,972 | 1.481744 | 2.173166 | 0 | 7 |
| proT | 1,972 | 1.961968 | 2.375051 | 0 | 8 |
| famT | 1,972 | 0.056288 | 0.2305356 | 0 | 1 |
| regT | 1,972 | 3.039047 | 3.410075 | 0 | 10 |
| busT | 1,972 | 0.7555781 | 1.188945 | 0 | 4 |
| staT | 1,972 | 1.018763 | 1.279409 | 0 | 4 |
| Dep | 1,972 | 27.90774 | 4.253487 | 20.10393 | 33.51288 |
| Cap | 1,972 | 28.67289 | 1.329561 | 26.60459 | 31.10982 |
| EPS | 1,972 | 2149.773 | 1315.364 | 106.6623 | 4370.354 |
| PB | 1,972 | 1.199426 | 0.5852975 | 0.3738034 | 2.688746 |
| FA | 1,972 | 0.0622195 | 0.0311889 | 0.02 | 0.1259154 |
| Beta | 1,972 | 0.7090558 | 0.5078336 | -0.032 | 1.68 |
| CIR | 1,972 | 0.8377438 | 0.5659655 | 0.163142 | 2.489241 |
| Growth | 1,972 | 0.1256348 | 0.4222515 | -0.5256902 | 1.260154 |
| LDR | 1,972 | 0.9836669 | 0.7852476 | 0.04152 | 3.01934 |
| GDP | 1,972 | 13.83057 | 0.4411162 | 12.94911 | 14.51409 |
| Inf | 1,972 | 105.1597 | 4.686639 | 100.32 | 119.37 |
| CFO | 1,972 | 0.7180527 | 0.4500619 | 0 | 1 |
| CFF | 1,972 | 3.19E-02 | 1.76E-01 | 0.00E+00 | 1.00E+00 |
| Firm | 1,972 | 2.36E+01 | 1.38E+01 | 1.00E+00 | 4.70E+01 |
| Quar | 1,972 | 4.26E+01 | 1.46E+01 | 1.00E+00 | 6.50E+01 |

All continuous variables are winsorized at 1% and 99% percentiles.

### 4.2 Educational Ties, Professional Ties, Family Ties, Regional Ties and Bank Performance

**Table 2　Baseline Regression**

| | NIM(i,t) | NIM(i,t+1) | ROE(i,t) | ROE(i,t+1) | ROA(i,t) | ROA(i,t+1) |
|---|---|---|---|---|---|---|
| **eduT** | 0.0745*** | 0.0665*** | 0.000961*** | -0.000635*** | -0.000618*** | 0.000777*** |
| **proT** | 0.00209 | -0.000228 | -0.00106*** | -0.000396*** | -0.000428*** | -0.000876*** |
| **famT** | 0.317*** | 0.324*** | 0.00769*** | -0.00170** | -0.00195** | 0.0110*** |
| **regT** | 0.0340*** | 0.0358*** | 0.000442** | -0.000820*** | -0.000767*** | 0.000239 |
| **OutNW** | -0.0690*** | -0.0795*** | 0.000954** | 0.000339** | 0.000348** | 0.00125*** |
| **_cons** | 0.496*** | 0.504*** | 0.0254*** | 0.0121*** | 0.0118*** | 0.0255*** |
| **N** | 1972 | 1972 | 1972 | 1972 | 1972 | 1762 |

*t statistics in brackets*

*\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01*

**Table 3    Different Board Network Ties and Bank Performance**

|  | NIM(i,t) | NIM(i,t+1) | ROE(i,t) | ROE(i,t+1) | ROA(i,t) | ROA(i,t+1) |
|---|---|---|---|---|---|---|
| **eduT** | 0.0583*** | 0.0365*** | 0.00138*** | -0.000051 | 0.0000083 | 0.000927*** |
| **proT** | -0.0104*** | -0.0102*** | -0.000663*** | -0.0000815** | -0.000106*** | -0.000691*** |
| **famT** | 0.221*** | 0.202*** | 0.0108*** | 0.000626** | 0.00037 | 0.0135*** |
| **regT** | 0.0532** | -0.000068 | 0.000305** | -0.000116*** | -0.0000608* | -0.0000344 |
| **OutNW** | -0.0326*** | -0.0333*** | -0.0000458 | 0.0000917* | 0.0000342 | 0.00041 |
| **Dep** | 0.00719** | 0.00553* | 0.000209 | -0.00114*** | -0.00114*** | -0.0000488 |
| **Cap** | 0.121*** | 0.0951*** | 0.00342*** | 0.00101*** | 0.00112*** | 0.00392*** |
| **EPS** | 0.00101** | 0.00254*** | 0.00164*** | 0.00386*** | 0.000000299*** | 0.00000194*** |
| **PB** | -0.0227* | -0.0478*** | 0.00741*** | -0.0000265 | 0.000421** | 0.00406*** |
| **FA** | 0.613*** | -0.233 | 0.0835*** | 0.00313 | 0.00780** | 0.0814*** |
| **Beta** | -0.0229** | 0.00827 | -0.000596 | -0.0000299 | 0.0000622 | 0.000613 |
| **CIR** | -0.167*** | -0.0138 | -0.0139*** | -0.00133*** | -0.00211*** | -0.00903*** |
| **Growth** | 0.0535*** | 0.0377*** | 0.00611*** | -0.000304 | 0.000639*** | -0.00000282 |
| **LDR** | -0.147*** | -0.174*** | 0.00206*** | -0.00531*** | -0.000530*** | 0.00109* |
| **GDP** | -0.0798*** | -0.0756*** | 0.00382*** | 0.000187 | 0.000501* | 0.00207 |
| **Inf** | -0.0379*** | -0.0225* | -0.0180* | -0.0193 | -0.00000953 | -0.00000535 |
| **CFO** | -0.194*** | -0.212*** | 0.00303*** | 0.000796*** | 0.00115*** | 0.00161 |
| **CFF** | -0.151*** | -0.0402 | -0.00431* | -0.000268 | -0.000996** | 0.000865 |
| **_cons** | -1.163*** | -0.635* | -0.161*** | 0.0101* | 0.00133 | -0.123*** |
| **N** | 1972 | 1972 | 1972 | 1972 | 1972 | 1972 |

*t statistics in brackets*

*\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01*

We find a significantly positive coefficient of Education ties, Family ties which show a friendly board will enhance bank performance (Hwang & Kim, 2009; Schmidt, 2011). However, there is a negative relationship between professional ties and regional ties. There is also a negative relationship between business ties and state ties, however, the coefficients are not significant.

## 5. Discussion and Conclusion

In order to achieve the highest level of profit, joint-stock commercial banks in Vietnam need to increase income by expanding credit activities, increasing investment and diversifying service activities in commercial banks; reducing the cost of banking operations at the same time. Thanks to the extensive relationships with businesses, banks are easy to carry out activities such as providing payroll accounts, providing trust services, lending capital and selling insurance services. However, having strong relationships with businesses becomes a burden for banks in difficult economic times. Due to the mechanism of the bank's debt structure for individuals as well as organizations when the Covid-19 epidemic occurs, this partly reduces the source of income for banks. The outcomes of this research have important implications for theoretical background and corporate governance practices. To conclude, we bring new insight on the aspect of corporate governance by investigating the board composition linking to firm performance. Although the board characteristics have been researched for a decade, there is little study on how many networks that the directors of a board should have to utilize the corporate

performance (Johnson et al., 2013; Castanias & Helfat, 1991; Wiersema & Bantel, 1992). Despite its contributions, this study has some limitations which need to be taken into account in the future. The measurement of board-inside networks or board-outside ties could be included other ways to measure such as the length of co-working in history employment, the length of learning at the same university or colleges, the length of living in the same hometown, the length of working in related business groups or state companies (Huse, 2007; Zhang, 2010; Zona & Zattoni, 2007). Moreover, the observation data was collected from all the listed banks in Vietnam so that the future research should focus on boards from different countries in the Asian region.

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