
Does ownership structure influence the relationship between firms' political connections and financial performance?

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Abstract: The main aim of our study is to learn whether ownership structure moderates the relationship between firms' political connections and financial performance. After investigating the S&P/TSX Composite Index of Canadians companies for the 2010 to 2015 period inclusive, we conclude that on a long-term basis (six years of analysis), firms' political connections have a positive and significant effect on financial performance (when measured by ROA and Tobin's Q), ownership concentration does not significantly influence financial performance indicators, and more important, ownership structure does not mediate or moderate the relationship between political connections and firm financial performance. However, firms are less profitable when politically connected through their executive members.

Keywords: political connections; companies; financial performance; firm; ownership structure; S&P/TSX.

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Biographical notes: Saidatou Dicko is holding a PhD in Business Administration, and she is a Full Professor at the Department of Accounting of ESG UQAM. Her research is focused mainly on the corporate political activities, the international and transnational corporate lobbying, the relationship between corporate governance and performance; the role of social networks on the corporate governance; the role and impact of corporate political connections; the impact of corporate political activities; the impact of information on decision making; and the accounting standards (international and African). She has many publications in several leading journals.

1 Introduction

As financial crises, corruption cases and collusion scandals proliferate around the world, society is questioning the genuine role of corporations in their economies. Corporations lead market economies and other economic systems and are viewed as an effective

solution to financial and economic issues. At the same time, they receive criticism for their domination of economic, social and even political life. In market economies, corporations are mandated to create and share wealth, but this wealth ends up mainly in the hands of the financial or business elite (managers, dominant shareholders and bankers). As a result, politicians turn to corporations to finance their activities and election campaigns. Once elected, they feel indebted to their benefactors and do all they can to reciprocate, notably by helping to pass favourable legislation (or by preventing regulation). Further, politicians and business leaders are members of a common elite class, attend the same universities, belong to the same associations and clubs, and have common affiliations. Whether in politics or business, these individuals meet and communicate with each other through various activities, with the result that firms appoint people from government or politics, and businesspeople move into politics and hold government functions (Dicko, 2016b).

With businesspeople shifting to politics and ex-politicians entering business, links between corporations and politics are becoming the norm. This state of affairs can create conflicts of interest because of the revolving-door phenomenon, which can be defined as “the circulation of personnel between regulatory institutions and regulated organisations” [Bazin, (2014), p.101]. This phenomenon is described as having the following implications:

“There are potential benefits to the revolving door. Industry veterans might have specialized knowledge that could be useful to regulatory bodies and vice versa. However, the revolving door between the two sectors raises at least three ethical and policy issues that have to do with public trust and democratic representation of interests in the regulatory process.” [Meghani and Kuzma, (2011), p.576]

In Canada, the *Parliament of Canada Act* contains no provisions or restrictions concerning individuals switching from politics to business or vice versa, but stipulates simply that a person cannot cumulate business and political functions. The province of Quebec gives more explicit instructions in its *Code of ethics and conduct of the Members of the National Assembly*, which states that no cabinet minister may hold the position of director or officer of a legal person, partnership or association. Cabinet ministers may not, in the two years after they leave office, accept any appointment to a board of directors or as a member of any body, agency, enterprise or other entity that is not a government entity. At both the federal and provincial levels, a former prime minister, premier, minister or parliament member could perform lobbying activities on behalf of a company. Ex-politicians are often appointed to a firm’s executive or board. All these situations are evidence of the close relationships between corporations and politics, generally called political connections. Given their prevalence, it is important to investigate the impact of these relationships on both companies and society.

In the literature, several authors have examined the influence of firms’ political connections on their financial performance in Canada, the USA and other countries. Most studies concluded that such connections positively influence firm financial performance (Goldman et al., 2009; Ang et al., 2013; Dicko and El Ibrami, 2013; Chen et al., 2014b).

A number of studies have shown that a link exists between political connections and firm quality of governance (Shen et al., 2015; Dicko, 2016a). A firm’s ownership structure is one of the most important aspects of corporate governance in both market and non-market economies (Gang et al., 2017; Paskelian et al., 2018). According to the traditional economic model applied in market economics, companies have an ownership

structure in which a large number of shareholders each hold a small part of the firm's capital (dispersed ownership). With this kind of capital structure, shareholders do not take part in company management, as that function is entrusted to professionals. However, this model is not representative of all market economies, especially in Canada, where most companies have a concentrated ownership structure (Bozec et al., 2008, 2013) and employ managers who are also dominant shareholders. In companies with concentrated ownership, where there is no separation of ownership and management, conflicts of interest differ from those of dispersed ownership companies (Schulze et al., 2001). Some studies therefore conclude that in a market system such as in the USA and Canada, concentrated ownership is not associated with good governance (Bozec and Bozec, 2007; Bozec et al., 2010, 2014). In this respect, it is very important to consider ownership structure when studying firm political connections, since boards of directors tend to nominate politically connected directors, and the board is considered to be the most important corporate governance mechanism. In fact, Dicko (2016a) points out that based on the ISS governance index, S&P/TSX Canadian politically connected companies are riskier than their non-connected counterparts.

The question is: does ownership structure (as a corporate governance mechanism) play a role in the impact of firms' political connections? According to Dicko (2017), ownership structure does not have a mediating role between political connections and governance quality for Canadian S&P/TSX companies. This result can be explained by the fact that most of these companies have concentrated ownership.

Thus, given the fact that more than 50% of S&P/TSX Canadian companies are politically connected and have concentrated ownership, the main aim of our study is to learn if ownership structure plays a moderating role in the relationship between firms' political connections and their financial performance in the Canadian context. Canada is an interesting investigation choice because most of its companies have concentrated ownership, as stated previously.

Further to our investigation of the S&P/TSX Composite Index of Canadian companies for the 2010 to 2015 period inclusive, our statistical results show that firms' political connections have a positive and significant effect on financial performance; ownership concentration does not significantly influence financial performance indicators; and, more important, ownership structure does not play a mediating or moderating role in the relationship between political connections and firm financial performance.

2 Theoretical foundations

According to resource dependence theory, an organisation's survival and success are determined by its ability to manage its relationship with the environment (Pfeffer and Salancik, 1978). The organisation depends on its environment, as its operations use resources from this environment. Depending on its main activity and operating conditions, the organisation has specific resources needs vis-à-vis its environment, and each company must find an effective way to obtain key resources. Companies can connect to other organisations that control those resources by building social networks that can help them acquire resources. For example, a company could appoint as directors people with rich social networks or those from organisations that control the resources it needs.

According to Bourdieu (1986), social capital (also called social networks or connections) can be converted into economic capital. For example, board members with connections to financial institutions could help the firm obtain financing because their intimate knowledge of the firm could provide additional information that may decrease the risk assessment. Coleman (1988) emphasised that social capital is an important potential source of information that comes from the individual's social relations. Information is a strategic resource that firms continually need, and a well-connected director could be a prime source of information for the firm.

According to Dicko (2011), a firm can acquire different types of resources by using board members' connections. These resources could be financial (to increase capital and financial debt), human (expertise, information or competencies), commercial (new contracts with customers), or political or social legitimacy.

Lester et al. (2008, p.1001) argue that former government officials can use their social capital to help firms create value: "We believe that what makes any given former government official attractive as a corporate director derives from a combination of the person's human and social capital". Further, "former government officials provide valuable nonbusiness perspectives on issues, intimate knowledge of the public policy process, legitimacy, and access to key decision makers still in government" [Lester et al., (2008), p.1001].

3 Literature review

Numerous studies have investigated the link between political connections and financial performance, mainly in the USA, Canada and some Asian countries.

3.1 Political connections and firm financial performance

Studies on politically connected companies show that they generally perform better than companies with no political links (Goldman et al., 2009; Ang et al., 2013; Dicko and Breton, 2013a, 2013b; Dicko and El Ibrami, 2013; Li and Xia, 2013; Dicko and Khemakhem, 2015). More specifically, they achieve better market and accounting performance than non-connected companies. Claessens et al. (2008) analysed listed companies in Brazil around the time of the 1998 and 2002 elections and concluded that companies that contributed financially to federal campaigns experienced higher stock returns and obtained more bank financing than non-contributing companies.

In the USA, Goldman et al. (2009) analysed companies listed on the S&P 500 Index and found positive abnormal stock returns following the announcement of a politically connected individual's appointment to the board. Brown (2016) found a positive link between political connections, lobbying activities and firm financial performance in the United States transportation industry (46 firms over 15 years).

In Singapore, Ang et al. (2013) investigated the link between the political connections and financial performance (measured by Tobin's Q) of publicly traded companies. After measuring political connections based on the number of politically connected directors in each company, they found that political connections typically added little to the value of a company but appeared to be somewhat important for industries subject to more stringent government regulations.

Using a sample of merger and acquisition deals made by politically connected acquirers and their matched non-connected peers in 22 countries, Brockman et al. (2013) investigated the association between a firm's political connections and its mergers and acquisitions performance. They found that in countries with weak legal systems and high levels of corruption, politically connected firms performed better than non-connected firms in the period after a merger or acquisition. The results were the reverse in countries with strong legal systems and low levels of corruption.

3.2 Political connections and access to financial resources

The literature indicates that politically connected firms, more than non-connected companies, obtain more government contracts (Wang, 2014; Dicko, 2016b) and greater access to financial resources (Charumilind et al., 2006).

According to Faccio et al. (2006), politically connected firms are significantly more likely to be bailed out than similar non-connected firms. This conclusion was based on an analysis of 450 politically connected firms from 35 countries for the period between 1997 and 2002.

In the USA, Goldman et al. (2013) analysed publicly traded companies and found that after the 1994 House and Senate elections, companies with boards connected to the winning (losing) party experienced a significant increase (decrease) in procurement contracts. Further, Houston et al. (2014), after investigating S&P 500 Index companies (USA), concluded that the cost of bank loans was significantly lower for companies that had board members with political ties.

In the Canadian context, Dicko and El Ibrami (2013) noted, after investigating a random sample of publicly listed companies, that political connections (and other types of connections, such as economic and social) positively influence long-term debt. Further, based on companies listed on the S&P/TSX Composite Index during the 2010 to 2014 period inclusive, Dicko (2016b) found that political connections were positively and significantly associated with winning government contracts. These firms obtained more government contracts and higher value contracts than those with no such connections.

Charumilind et al. (2006) analysed Thai firms before the 1997 financial crisis and concluded that firms with connections to banks and politicians had greater access to long-term debt than firms without such ties. After analysing the data of listed companies in Taiwan from 1991 to 2008, Chen et al. (2014b) concluded that politically connected firms obtain preferential treatment for bank loans.

Wu and Cheng (2011) studied a sample of Chinese firms listed on the Shanghai and Shenzhen stock exchanges between 2002 and 2004 and concluded that managerial political connections play a significant and positive impact on obtaining government subsidies only when managerial reputation is high and/or firm past performance is superior to that of other firms. In regard to the same category of Chinese firms (but for the period 2002 to 2007), Yang et al. (2012) argued that political connections influence banks' lending policies, with the result that politically connected private enterprises acquire more loans from banks. Wu et al. (2013) found that CEO political connections have a positive impact on Chinese firms' ability to raise capital from public markets and that CEO political connections with the central government play a more important role in IPO performance than political connections with regional governments. In 2014a, Chen et al. showed that Chinese companies with political connections tend to enter industries

with high entry barriers, as they are more likely to obtain entry permits from the government and can gain more benefits after breaking into these industries.

3.3 Political connections, ownership structure and research hypothesis

Few studies have investigated the link between political connections and ownership structure. Bona-Sánchez et al. (2014) analysed the effect of political connections (through boards of directors) on earnings informativeness in listed Spanish non-financial companies, where ownership concentration is prevalent. They found that political connections negatively affected earnings informativeness and that the divergence between the dominant owner's voting and cash flow rights (also known as ownership concentration) had a positive effect on the informativeness of accounting earnings in politically connected firms. Ownership concentration therefore seems to have a positive effect in politically connected firms.

In the literature, ownership structure is one of the most important characteristics of publicly listed companies (LaPorta et al., 1998; Aggarwal et al., 2009). It can influence corporate governance (Bozec and Bozec, 2007; Bozec, 2008), financial performance (Bozec and Laurin, 2008; Bozec et al., 2010) and cost of capital (Bozec et al., 2014). The Canadian context is characterised by a large proportion of concentrated ownership companies, in which a separation between voting rights and cash flow rights, as well as multiple voting shares, is common (Bozec et al., 2008). Several studies in Canada have shown that concentrated ownership is not associated with good governance (Bozec and Bozec, 2007; Bozec, 2008; Bozec et al., 2010), and that it is difficult to predict the influence of ownership structure on the relationship between political connections and firm financial performance. For these reasons, we posit the following hypothesis:

- H Firm ownership structure could have a mediating or moderating effect on the relationship between political connections and financial performance.

4 Research method

In this section, we present the sample, analysis model, variables and variable measurements.

4.1 Sample and analysis model

This study was conducted on S&P/TSX Composite Index companies, excluding financial institutions (banks and insurance companies). A total of 259 companies were analysed for the 2010 to 2015 period inclusive. The company list and financial data were downloaded from the Compustat database. Our general analysis model is the following:

$$\begin{aligned} \text{Financial performance} = & \text{Political connections} + \text{Ownership concentration} \\ & + \text{Ownership concentration} * \text{Political connections} \\ & + \text{Control variables} + \text{error term} \end{aligned} \quad (1)$$

4.2 Study variables

Our model uses dependent, independent and control variables.

4.2.1 Dependent variable: financial performance

In this study, we chose to use three financial performance indicators commonly featured in previous studies:

- return on assets (ROA), measured by the ratio of earnings before interest and taxes to total assets
- return on equity (ROE), measured by the ratio of earnings before interest and taxes to equity
- Tobin's Q, based on market value plus total contingencies divided by total assets

4.2.2 Independent variables

We use two independent variables, political connections and ownership concentration.

a *Political connections*: In the literature, a company is considered politically connected if its major shareholder or one of its executive officers or board members is or was a member of the government, a Prime Minister (or head of government), a member of parliament or a member or leader of a political party, an individual with prior or current links to politicians and/or someone who has made or makes contributions to political parties. This variable is measured mainly by a dummy variable coded 1 if the firm is politically connected and 0 otherwise (Faccio, 2006; Dicko, 2016a, 2016b). However, as we do not believe that this measurement method allows us to capture the full extent of firms' political connections, we opted to use two additional measurement methods, bringing our variables to five:

- Being politically connected (political connections): a dummy variable that equals 1 if the firm has at least one politically connected board member, executive member or major shareholder, and 0 otherwise;
- Being politically connected through the board of directors (political connections-BoD): equals 1 if at least one of the board members has political connections, and 0 otherwise;
- Being politically connected through the executive (political connections-management): equals 1 if at least one of the executive members has political connections;
- Number of connections in the board of directors (number of connections-BoD): measured according to the number of directors with political connections. In Singapore, Ang et al. (2013) used the ratio of politically connected directors to total number of directors on the board. In Canada, the number of directors with political connections is generally very low, which is why we use only the number of directors with political connections;

- Number of connections in the executive team (number of connections-management), measured by the number of executive officers with political connections.

Note that the variable ‘political connections’ is not used at the same time as ‘political connections-BoD’ or ‘political connections-management’.

- b *Ownership concentration*: In this study, we wanted to know if ownership concentration plays a role in the relationship between political connections and a firm’s financial performance. We chose to measure this variable with a dummy variable which takes the value of 1 if the firm has concentrated ownership and 0 otherwise. A firm is considered to have concentrated ownership when the major shareholder controls at least 10% of the capital (Corbetta and Salvato, 2004; Bozec et al., 2008).

4.2.3 *Control variables*

Several variables are chosen as control variables:

- *Managerial ownership*: measured by the percentage of ordinary shares held by executive officers. Importantly, some authors have argued that managerial ownership can influence a firm’s financial performance (Wright et al., 1996).
- *Institutional ownership*: measured by the percentage of ordinary shares held by institutional shareholders. In the capital market, institutional shareholders also play a key role in corporate governance.
- *Firm size* is one of the variables that likely influences financial performance the most, as it is used in all financial studies. We measured firm size by the natural logarithm of total revenues.
- *Indebtedness*: just like firm size, debt is one of the main financial resources companies use to improve performance. It is measured by the ratio of long-term debt to total equity.
- *Relative cash*: to operate, firms need cash. We measured relative cash by the ratio of total cash to total assets.
- *Relative property, plant and equipment (relative PPE)*: in some industries, such as manufacturing, PPE is the most important asset and is measured by the ratio of total net tangible assets to total assets.
- *Industry*: measured by a dichotomous variable coded 1 to 19 according to the industries listed in the North American Industry Classification System (NAICS):
 - 1 for agriculture, forestry, fishing and hunting
 - 2 for mining, quarrying, and oil and gas extraction
 - 3 for utilities
 - 4 for construction

- 5 for manufacturing
 - 6 for wholesale trade
 - 7 for retail trade
 - 8 for transportation and warehousing
 - 9 for information
 - 10 for finance and insurance
 - 11 for real estate and rental and leasing
 - 12 for professional, scientific and technical services
 - 13 for management of companies and enterprises
 - 14 for administrative and support, waste management and remediation services
 - 15 for educational services
 - 16 for health care and social assistance
 - 17 for arts, entertainment and recreation
 - 18 for accommodation and food services
 - 19 for other services (except public administration).
- US listing: being listed in US financial markets can change the way that some activities are managed, and this fact could influence a firm's financial performance. We measured US listing using a dummy variable coded 1 if the firm was listed on US markets and 0 otherwise.

To avoid the multicollinearity problem between our five measures of political connections, we decided to perform our statistical analyses by using two versions of our detailed models as follows:

First detailed model with the following measures of political connections: 'political connections', 'number of connections-BoD' and 'number of connections-management':

$$\begin{aligned}
 \text{ROA, ROE or Tobin's Q} = & a + b_1 \text{Political connections} \\
 & + b_2 \text{Number of connections-BoD} + b_3 \text{Number of connections} \\
 & - \text{Management} + b_4 \text{Ownership concentration} + b_5 \text{Political connections} \\
 & * \text{Ownership concentration} + b_6 \text{Number of connections-BoD} \\
 & * \text{Ownership concentration} + b_7 \text{Number of connections} \\
 & - \text{Management} * \text{Ownership concentration} + b_8 \text{Managerial ownership} \\
 & + b_9 \text{Institutional ownership} + b_{10} \text{Firm size} + b_{11} \text{Indebtedness} + b_{12} \text{Relative cash} \\
 & + b_{13} \text{Relative PPE} + b_{14} \text{Industry} + b_{15} \text{US listing} + \varepsilon
 \end{aligned} \tag{2}$$

Second detailed model with the following measures of political connections: 'political connections-BoD', 'political connections-management', 'number of connections-BoD' and 'number of connections-management':

$$\begin{aligned}
& \text{ROA, ROE or Tobin's Q} = a + b_1 \text{Political connections-BoD} \\
& + b_2 \text{Political connections} - \text{Management} + b_3 \text{Number of connections-BoD} \\
& + b_4 \text{Number of connections} - \text{Management} + b_5 \text{Ownership concentration} \\
& + b_6 \text{Political connections-BoD} * \text{Ownership concentration} \\
& + b_7 \text{Political connections} - \text{Management} * \text{Ownership concentration} \\
& + b_8 \text{Number of connections-BoD} * \text{Ownership concentration} \\
& + b_9 \text{Number of connections} - \text{Management} * \text{Ownership concentration} \\
& + b_{10} \text{Managerial ownership} + b_{11} \text{Institutional ownership} + b_{12} \text{Firm size} \\
& + b_{13} \text{Indebtedness} + b_{14} \text{Relative cash} + b_{15} \text{Relative PPE} + b_{16} \text{Industry} \\
& + b_{17} \text{US listing} + \varepsilon
\end{aligned} \tag{3}$$

5 Results of statistical analyses

5.1 Results of descriptive and variance analyses

According to the descriptive data (not presented here), 42% of our sample consists of companies from the mining, quarrying, and oil and gas extraction industries. The second largest industry is manufacturing (16% of our sample), and real estate and rental and leasing is the third largest (8.8%). Given that mining, quarrying, and oil and gas extraction currently faces climate change pressure and greater regulatory challenges, companies in this industry could be using political connections to reduce regulatory pressures.

In Table 1, Panel A, we can see that nearly 52% of our sample companies are politically connected. The fact that a large part of our sample is comprised of mining industry companies could explain the high percentage of politically connected firms.

Table 1 Descriptive statistics and analysis of variance results

		<i>N</i>	<i>Percentage</i>	<i>Mean</i>	<i>Std. dev.</i>	<i>F</i>	<i>Sig.</i>
ROA	Firm is not politically connected	776	48%	-0.135	3.611	2.278	0.131
	Firm is politically connected	839	52%	0.053	0.113		
ROE	Firm is not politically connected	772	48%	-0.046	2.582	4.830	0.028
	Firm is politically connected	839	52%	0.184	1.553		
Tobin's Q	Firm is not politically connected	775	48%	1.032	1.032	0.004	0.948
	Firm is politically connected	839	52%	1.035	1.183		
	Total	1614	100%	1.034	1.113		

Table 1 Descriptive statistics and analysis of variance results (continued)

		<i>Panel B. Using the 'political connections-BoD' variable</i>					
		<i>N</i>	<i>Percentage</i>	<i>Mean</i>	<i>Std. dev.</i>	<i>F</i>	<i>Sig.</i>
ROA	Firm is not politically connected through BoD	776	48%	-0.135	3.611	2.276	0.132
	Firm is politically connected through BoD	839	52%	0.053	0.113		
ROE	Firm is not politically connected through BoD	772	48%	-0.047	2.582	4.886	0.027
	Firm is politically connected through BoD	839	52%	0.185	1.553		
Tobin's Q	Firm is not politically connected through BoD	775	48%	1.028	1.033	0.034	0.854
	Firm is politically connected through BoD	839	52%	1.038	1.182		
	Total	1,614	100%	1.034	1.113		
		<i>Panel C. Using the 'political connections-management' variable</i>					
		<i>N</i>	<i>Percentage</i>	<i>Mean</i>	<i>Std. dev.</i>	<i>F</i>	<i>Sig.</i>
ROA	Firm is not politically connected through executive	1,346	83%	-0.045	2.718	0.088	0.766
	Firm is politically connected through executive	269	17%	0.004	0.846		
ROE	Firm is not politically connected through executive	1,342	83%	0.098	1.237	1.086	0.298
	Firm is politically connected through executive	269	17%	-0.048	4.373		
Tobin's Q	Firm is not politically connected through executive	1,345	83%	1.063	1.156	5.523	0.019
	Firm is politically connected through executive	269	17%	0.888	0.854		
	Total	1,614	100%	1.034	1.113		

Table 1 also shows that on average, politically connected firms are more profitable than non-connected firms in terms of ROA (0.053#-0.135), ROE (0.184#-0.046) and Tobin's Q (1.035#1.032). Although the descriptive statistics indicate that there is a link between political connections and firm financial performance, the results of variance analyses demonstrate that ROA is the only significantly different indicator between politically connected and non-connected firms. Politically connected firms have significantly better return on assets, whereas results are not significant for ROE and Tobin's Q. Further, political connections seem to have a positive and significant link to

one financial performance indicator, ROE, consistent with previous studies (Dicko and El Ibrami, 2013; Dicko and Khemakhem, 2015).

Table 2 Descriptive statistics and analysis of variance results

<i>Panel A. Using the 'ownership concentration' variable</i>							
		<i>N</i>	<i>Percentage</i>	<i>Mean</i>	<i>Std. dev.</i>	<i>F</i>	<i>Sig.</i>
ROA	Ownership is dispersed	697	43%	0.035	0.133	1.048	0.306
	Ownership is concentrated	917	57%	-0.092	3.323		
ROE	Ownership is dispersed	697	43%	0.123	1.069	0.698	0.404
	Ownership is concentrated	914	57%	0.035	2.644		
Tobin's Q	Ownership is dispersed	697	43%	1.004	0.997	0.855	0.355
	Ownership is concentrated	917	57%	1.056	1.193		
	Total	1,614	100%	1.034	1113		
<i>Panel B. Using the 'political connections*ownership concentration' variable</i>							
		<i>N</i>	<i>Percentage</i>	<i>Mean</i>	<i>Std. dev.</i>	<i>F</i>	<i>Sig.</i>
ROA	Firm is either non-connected or has non-concentrated ownership	1,147	71%	0.052	0.069	0.044	0.835
	Firm is politically connected and has concentrated ownership	468	29%	0.055	0.120		
ROE	Firm is either non-connected or has non-concentrated ownership	1,147	71%	0.138	0.157	0.080	0.778
	Firm is politically connected and has concentrated ownership	468	29%	0.192	1.656		
Tobin's Q	Firm is either non-connected or has non-concentrated ownership	1,147	71%	0.880	0.518	2.001	0.158
	Firm is politically connected and has concentrated ownership	468	29%	1.087	1.258		
	Total	1,615	100%	1.058	1.184		
<i>Panel C. Using the 'political connections-BoD*ownership concentration' variable</i>							
		<i>N</i>	<i>Percentage</i>	<i>Mean</i>	<i>Std. dev.</i>	<i>F</i>	<i>Sig.</i>
ROA	Firm is not politically connected through BoD or has non-concentrated ownership	1,147	71%	-0.075	2.971	0.908	0.341
	Firm is politically connected through BoD and has non-concentrated ownership	468	29%	.055	.120		

Table 2 Descriptive statistics and analysis of variance results (continued)

		<i>Panel C. Using the 'political connections-BoD*ownership concentration' variable</i>					
		<i>N</i>	<i>Percentage</i>	<i>Mean</i>	<i>Std. dev.</i>	<i>F</i>	<i>Sig.</i>
ROE	Firm is not politically connected through BoD or has non-concentrated ownership	1,143	71%	.025	2.271	2.078	.150
	Firm is politically connected through BoD and has non-concentrated ownership	468	29%	.192	1.656		
Tobin's Q	Firm is not politically connected through BoD or has non-concentrated ownership	1,146	71%	1.012	1.047	1.500	.221
	Firm is politically connected through BoD and has concentrated ownership	468	29%	1.087	1.258		
	Total	1,614	100%	1.034	1.113		
		<i>Panel D. Using the 'political connections-management*ownership concentration' variable</i>					
		<i>N</i>	<i>Percentage</i>	<i>Mean</i>	<i>Std. dev.</i>	<i>F</i>	<i>Sig.</i>
ROA	Firm is not politically connected through executive or does not have concentrated ownership	1456	90%	-.037	2.614	.000	.988
	Firm is politically connected through executive and has concentrated ownership	159	10%	-.034	1.098		
ROE	Firm is not politically connected through executive or has non-concentrated ownership	1452	90%	.113	1.250	5.173	.023
	Firm is politically connected through executive and has concentrated ownership	159	10%	-.287	5.564		
Tobin's Q	Firm is not politically connected through executive or has non-concentrated ownership	1455	90%	1.042	1.120	.784	.376
	Firm is politically connected through executive and has concentrated ownership	159	10%	.959	1.041		
	Total	1614	100%	1.034	1.113		

We moreover observe that all political connections come through the board of directors. Since an equal number of firms have or do not have connections through the board, the same results were obtained with the 'political connections' and 'political connections-BoD' variables (Table 1, Panel A results are similar to those of Panel B).

Table 1, Panel C shows that 17% of firms are also politically connected through the members of the executive as well as through the board. Firms that are politically connected through the members of their executive have significantly lower financial performance, according to the Tobin's Q. The results are the same but not significant for ROA and ROE. We conclude from Table 1 that when firms have political connections solely via the board of directors, they have significantly better financial performance related to ROA through these connections than all other firms. When the firm is politically connected through the BoD and through the executive, its financial performance (according to the Tobin's Q) is significantly lower than the financial performance of a non-connected firm.

Table 2 (Panel A) indicates that nearly 57% of the studied companies have concentrated ownership. This result is in line with the findings of previous studies showing that Canadian firms mainly have concentrated ownership (Bozec et al., 2008). Table 2 (Panel B) reports that 29% of our sample companies are both politically connected and have concentrated ownership. From Panel A, we observe that on average, concentrated ownership firms have lower ROA ($-0.092\#0.035$) and ROE ($0.035\#0.123$) and higher Tobin's Q ($1.056\#1.004$) than dispersed ownership firms. However, these results are not significant.

Based on Table 2, Panel B, firms that have both political connections and concentrated ownership are, on average, more profitable according to ROA ($0.055\#0.052$), ROE ($0.192\#0.138$) and Tobin's Q ($1.087\#0.880$). Once again, these results are not significant. In other words, having political connections as well as concentrated ownership does not make any significant difference in the firm's financial performance. This could be an initial indication that ownership concentration does not affect the relationship between political connections and firm financial performance, contradicting our research hypothesis regarding the moderating or mediating effect of ownership concentration on this relationship.

While the results in Panel C are similar to those in Panel B (Table 2), Panel D shows that firms that are politically connected through executive members and have concentrated ownership obtain a significantly lower ROE than other firms.

So far the results of variance analyses show that being politically connected makes a positive and significant difference only for ROA. Further, being politically connected through the executive members results in a significant negative difference for ROE and Tobin's Q. It is therefore not in the firm's interest to be politically connected through its executive members, especially when the firm has concentrated ownership.

5.2 *Results of Pearson correlation analyses*

The results presented in Table 3 show that political connections (the fact of being politically connected) are positively and significantly correlated with firm size, ROE and industry, and negatively and significantly correlated with relative cash and PPE. These results are the same for political connections through the board of directors. Conversely, ownership concentration is positively and significantly correlated with relative cash and PPE, and negatively and significantly correlated with firm size and industry. More important, having both political connections and concentrated ownership is not significantly linked to firm financial performance indicators. Once again, the results of these correlation analyses do not corroborate our research hypothesis.

Table 3 Pearson correlation analysis results

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1 ROA	1																					
2 ROE	.087**	1																				
3 Tobin's Q	-.045	.010	1																			
4 Political connections	.038	.055*	.002	1																		
5 Political connections-BoD	.038	.055*	.005	.985**	1																	
6 Political connections-Management	.007	-.026	-.058*	.156**	.1	1																
7 Number of connections-BoD	.031	.082**	-.042	.779**	.786**	.193**	1															
8 Number of connections-Management	.009	-.011	-.059*	.120**	.145**	.860**	.190**	1														
9 Ownership concentration	-.025	-.021	.023	-.021	-.021	.021	-.003	-.039	1													
10 Political connections*Ownership concentration	.009	.012	.061	.446**	.446**	-.146**	-.035	-.240**	.914**	1												
11 Political connections-BoD*Ownership concentration	.024	.036	.030	.616**	.616**	.083**	.498**	.030	.556**	1.000**	1											
12 Political connections-Management*Ownership concentration	.000	-.057*	-.022	.075**	.075**	.740**	.081**	.542**	.288**	.192**	.249**	1										
13 Number of connections-BoD*Ownership concentration	.021	.070**	-.010	.505**	.505**	.084**	.697**	.054*	.456**	.536**	.820**	.224**	1									
14 Number of connections-Management*Ownership concentration	.002	-.041	-.026	.066**	.066**	.682**	.096**	.598**	.265**	.180**	.226**	.921**	.231**	1								
15 Firm size	.239**	.115**	-.216**	.304**	.312**	.298**	.380**	.291**	-.096**	-.322**	.091**	.111**	.155**	.100**	1							
16 Indebtedness	.002	.449**	-.045	.038	.039	.038	.070**	.029	-.016	-.016	.028	.005	.060*	.005	.067**	1						
17 Relative cash	-.035	-.068**	.390**	-.055*	-.046	-.064**	-.065**	-.058*	.115**	.068	.059**	-.005	.015	-.010	-.264**	-.019	1					
18 Relative PPE	-.019	-.001	-.080**	-.076**	-.087**	-.043	-.098**	-.020	.050*	-.071	-.065**	-.033	-.074**	-.011	-.064*	-.011	-.198**	1				
19 US listing	-.003	-.002	.068**	.090**	.090**	.039	.070**	.033	.012	1	.055**	.029	.045	.026	.050*	-.007	.057*	.140**	1			
20 Industry	.038	.002*	-.052*	.160**	.178**	.049*	.182**	.065**	-.099**	.040	.111**	.025	.137**	.014	.159**	.019	-.072**	-.582**	-.131**	1		
21 Managerial ownership	.014	.005	.065**	-.060*	-.061*	-.066**	-.060*	-.078**	.023	.126**	-.023	-.013	-.020	-.026	-.097**	-.002	.001	.051*	.024	-.107**	1	
22 Institutional ownership	-.003	-.092**	-.084**	.050	.059*	.139**	.045	.074**	.164**	.197**	.094**	.158**	.080**	.116**	.085**	-.028	-.015	-.008	.041	-.003	.205**	1

The number of political connections through the board of directors, firm size and indebtedness are positively and significantly correlated with ROE. By contrast, the fact of being politically connected through the executive and the number of executive members' connections are negatively and significantly correlated with the Tobin's Q. This reflects the results of the variance analyses previously presented. The percentage of managerial ownership is positively and significantly correlated with Tobin's Q. Firm size is also positively and significantly linked to ROA.

These correlation results corroborate those of the variance analyses indicating that being politically connected in general and through the board of directors is positive for firm financial performance except when the firm is politically connected through the executive. Further, ownership concentration does not play a significant role in the relationship between political connections and firm financial performance.

5.3 Results of linear regression analyses

In this study, we chose to use three financial performance indicators. We performed three linear regression analyses to examine the impact of political connections and ownership structure on firm financial performance. In the following sections, regression results are presented separately according to financial performance indicator. Furthermore, the results are presented by each year of analysis, as well as for the overall six-year period (2010–2015 inclusive). To reduce the multicollinearity problem, we performed our regression analyses using the two detailed models presented in the research method section.

5.3.1 Results of linear regression analyses according to first detailed model

5.3.1.1 Results of analyses with the ROA financial performance indicator

In this section, results are presented from the panel data analyses both for each year and for the overall six-year period. Thus, Table 4 shows that for the latter period, being politically connected is positively and significantly linked to firm financial performance as measured by ROA. This result is consistent with previous findings pertaining to various environments and presented in our literature review. Conversely, the number of political connections through the board of directors (number of connections-BoD) and through the executive members (number of connections-management) is not significantly linked to ROA. Ownership concentration and percentage of managerial ownership do not significantly influence ROA, but percentage of institutional ownership is negatively and significantly related to ROA. More important, we note that having both political connections and concentrated ownership does not significantly influence ROA, which contradicts our research hypothesis. Among the control variables, firm size, relative cash and industry are positively and very significantly related to ROA, while indebtedness and relative PPE are negatively but not significantly related to ROA. It is important to note that our model's p-value is very significant, with an adjusted R^2 of 15%.

A look at the panel data analyses results shows that neither the political connections variable nor the other main independent variables have a significant link with the ROA. We can then conclude that the impact of political connections on the ROA financial performance indicator becomes significant only over the long term, whereas the year-to-year effect is not perceptible in a statistically significant sense.

Table 4 Linear regression analysis results – first detailed model (2)

	2010		2011		2012		2013		2014		2015		Over 6 years (2010–2015)		
	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	VIF
(Constant)	-1.209	.231	-719	.474	-202	.840	-1.625	.108	-2.531	.013	-2.618	.011	-3.915	.000	
Political connections	.490	.626	-1.129	.262	.367	.715	1.574	.120	1.575	.119	1.381	.172	2.017	.044	5.945
Number of connections-BoD	-.327	.745	1.627	.108	-.638	.525	-.352	.726	-.685	.495	-.718	.475	-.606	.545	16.390
Number of connections-Management	-.517	.607	.650	.518	-.431	.668	-.095	.925	-.605	.547	-.522	.603	-.711	.477	2.845
Ownership concentration	-.205	.838	-.741	.461	-.559	.578	1.039	.302	1.178	.243	.879	.382	1.038	.300	15.024
Political connections*Ownership concentration	.201	.841	1.892	.062	.018	.986	-.928	.356	-1.336	.185	-1.211	.230	-1.007	.314	29.975
Number of connections-BoD*Ownership concentration	.039	.969	-1.763	.082	.530	.598	.222	.825	.802	.425	1.002	.320	.566	.572	19.909
Number of connections-Management*Ownership concentration	.473	.638	.575	.567	1.768	.081	.812	.419	.820	.415	.830	.409	2.120	.034	2.611
Firm size	3.328	.001	2.466	.016	1.227	.224	.283	.778	2.692	.009	2.942	.004	5.350	.000	1.507
Indebtedness	.019	.985	.374	.709	-.804	.424	-.557	.579	.467	.642	-.424	.673	-.011	.992	1.025
Relative cash	3.326	.001	5.868	.000	2.597	.011	1.109	.914	2.362	.021	1.260	.212	6.699	.000	1.280
Relative PPE	-.767	.446	-.894	.374	.209	.835	.318	.751	.247	.806	-.191	.849	-.595	.552	1.446
Industry	.782	.437	-.316	.753	1.509	.135	1.912	.060	1.480	.143	2.697	.009	3.367	.001	1.351
Managerial ownership	.361	.720	-.571	.569	-.208	.836	1.092	.278	.439	.662	-.300	.765	.347	.729	1.054
Institutional ownership	-1.171	.246	-.833	.407	-.404	.687	-.834	.407	-.594	.555	-1.271	.208	-2.009	.045	1.108
R ²	.261		.422		.193		.148		.209		.359		.177		
Adjusted R ²	.115		.314		.040		-.011		.065		.229		.155		
P value	.058		.000		.251		.532		.149		.003		.000		

Note: The US listing control variable was excluded from the regression analysis because it did not result in a wide variance.

Table 5 Linear regression analysis results – first detailed model (2)

	2010		2011		2012		2013		2014		2015		Over 6 years (2010–2015)			
	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	VIF	
(Constant)	-1.734	.087	-846	.400	-0.76	.940	-1.623	.109	-2.650	.010	-2.237	.029	-3.708	.000		
Political connections	.676	.501	-334	.739	.372	.711	1.368	.175	1.669	.099	.817	.417	1.479	.140	5.945	
Number of connections- BoD	-.553	.582	.608	.545	-.511	.611	-.456	.650	-.866	.389	-.701	.486	-1.272	.204	16.390	
Number of connections- Management	-.798	.428	.292	.771	.060	.953	-.300	.765	-.903	.369	-.769	.445	-1.721	.086	2.845	
Ownership concentration	-.053	.958	-.374	.710	-.344	.732	.845	.401	1.078	.285	.989	.326	.788	.431	15.024	
Political connections*Ownership concentration	-.098	.922	.781	.437	-.003	.998	-.870	.387	-1.437	.155	-1.237	.220	-1.497	.135	29.975	
Number of connections- BoD*Ownership concentration	.303	.763	-.601	.550	.174	.862	.258	.797	.902	.370	.908	.367	1.605	.109	19.909	
Number of connections- Management*Ownership concentration	.955	.343	.579	.564	2.315	.023	1.387	.170	1.167	.247	.458	.649	1.648	.100	2.611	
Firm size	4.077	.000	2.292	.025	1.050	.297	.719	.474	2.959	.004	2.628	.011	5.033	.000	1.507	
Indebtedness	11.765	.000	2.203	.031	-4.351	.000	1.166	.247	4.586	.000	60.941	.000	94.980	.000	1.025	
Relative cash	3.062	.003	3.361	.001	.096	.924	.227	.821	2.160	.034	2.269	.026	5.883	.000	1.280	
Relative PPE	-1.175	.244	-1.508	.136	-.814	.418	.466	.642	-.204	.839	-.010	.992	-.686	.493	1.446	
Industry	1.081	.283	.944	.348	2.211	.030	1.663	.101	1.360	.178	1.373	.174	2.302	.022	1.351	
Managerial ownership	.001	.999	-.549	.584	-.793	.430	.793	.430	.371	.711	-.088	.930	-.069	.945	1.054	
Institutional ownership	-.203	.840	-.795	.429	.139	.890	-.662	.510	-.190	.850	-.675	.502	-.708	.479	1.108	
R ²	.723		.294		.387		.176		.374		.985		.948			
Adjusted R ²	.669		.162		.271		.022		.260		.982		.946			
P value	.000		.014		.000		.334		.000		.000		.000			

Note: The US listing control variable was excluded from the regression analysis because it did not result in a wide variance.

Thus, these results indicate that political connections have an impact on firm financial performance (when measured by the ROA), confirming previous studies. They also demonstrate that ownership concentration does not impact firm financial performance, but certain types of ownership could. Lastly, ownership structure does not mediate or moderate the relationship between political connections and firm financial performance, except when it interacts with the number of executive members' connections.

5.3.1.2 Results of analyses with the ROE financial performance indicator

According to the results presented in Table 5 for the overall six-year period, none of the independent variables has a significant link to ROE – whether political connections (including the number of political connections through the board of directors and the executive), ownership concentration, percentage of managerial ownership, or percentage of institutional ownership. These results contradict our hypothesis. Conversely, except for relative PPE, all the other control variables are positively and very significantly related to ROE.

The same trend is observed in the panel data analyses results, except for the variable that interacts with the number of executive members' connections and ownership concentration, and only according to results for 2012. Based on these figures, it is difficult to make sense of this exception to the results.

When ROE is used as a firm financial performance indicator, political connections and ownership structure do not have a significant effect, and ownership concentration does not mediate or moderate this relationship.

5.3.1.3 Results of analyses with the Tobin's Q financial performance indicator

The results presented in Table 6 show that being politically connected is positively and significantly related to the Tobin's Q when the overall six-year period is considered. However, number of political connections through the board of directors and the executive, as well as ownership concentration, are not significantly related to the Tobin's Q even though these relationships are negative. The percentage of managerial ownership is positively related to the Tobin's Q, and the percentage of institutional ownership is negatively but very significantly related to this indicator. More notably, having both political connections and concentrated ownership does not significantly impact the Tobin's Q. Among the other control variables, only relative cash has a very significant link to this indicator. This relationship is barely significant regarding industry.

The results for each year of analysis once again show that neither the variable political connections nor the other main independent variables are significantly related to the Tobin's Q financial performance indicator.

These results are similar to those obtained with ROA as a dependent variable. Ownership concentration therefore does not affect the relationship between political connections and firm financial performance.

Table 6 Linear regression analysis results – first detailed model (2)

	2010		2011		2012		2013		2014		2015		Over 6 years (2010–2015)			
	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	VIF	
(Constant)	.951	.345	1.562	.123	.626	.533	.268	.789	-.614	.541	-.223	.824	.851	.395		
Political connections	.710	.480	.483	.630	.789	.433	.659	.512	1.084	.282	1.486	.142	2.202	.028	5.945	
Number of connections-BoD	-.983	.329	-.157	.876	-.595	.554	-.202	.841	-.617	.539	-.1.144	.257	-.1.458	.145	16.390	
Number of connections-Management	-.523	.602	.207	.837	-.151	.880	-.141	.888	-.461	.646	-.813	.419	-.707	.480	2.845	
Ownership concentration	-.272	.787	-.377	.707	-.054	.957	-.372	.711	.058	.954	.546	.587	-.121	.904	15.024	
Political connections*Ownership concentration	-.271	.787	.317	.752	-.217	.829	.123	.902	-.473	.637	-.1.266	.210	-.733	.464	29.975	
Number of connections-BoD*Ownership concentration	.580	.563	-.199	.842	.223	.825	.059	.953	.674	.502	1.729	.088	1.059	.290	19.909	
Number of connections-Management*Ownership concentration	.446	.657	-.084	.934	.160	.874	.019	.985	.255	.799	.491	.625	.526	.599	2.611	
Firm size	-.783	.436	-2.256	.027	-1.046	.299	-.559	.578	.519	.606	.713	.478	-1.560	.119	1.507	
Indebtedness	.346	.730	-.040	.968	-.704	.483	-.368	.714	.013	.990	-2.219	.030	-.697	.486	1.025	
Relative cash	7.489	.000	4.992	.000	5.984	.000	6.959	.000	5.652	.000	1.512	.135	15.743	.000	1.280	
Relative PPE	.691	.492	-.968	.336	-.095	.925	-.100	.921	.431	.668	-.334	.739	-.194	.846	1.446	
Industry	.400	.690	.198	.843	1.247	.216	-.105	.916	.939	.351	1.473	.145	1.825	.069	1.351	
Managerial ownership	-.034	.973	.515	.608	1.499	.138	1.551	.125	1.308	.195	1.177	.243	2.746	.006	1.054	
Institutional ownership	-2.733	.008	-3.379	.001	-3.044	.003	-2.184	.032	-2.621	.011	-3.235	.002	-7.414	.000	1.108	
R ²	.586		.467		.499		.519		.395		.271		.439			
Adjusted R ²	.504		.368		.404		.429		.285		.124		.423			
P value	.000		.000		.000		.000		.000		.050		.000			

Note: The US listing control variable was excluded from the regression analysis because it did not result in a wide variance.

Table 7 Linear regression analysis results – second detailed model (3)

	2010		2011		2012		2013		2014		2015		Over 6 years (2010–2015)		
	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	VIF
(Constant)	-1.671	.096	-.986	.325	-.841	.401	-1.608	.109	-2.157	.032	-2.312	.022	-3.598	.000	
Political connections-BoD	-.961	.337	.538	.591	1.126	.261	.863	.389	.922	.358	.791	.429	1.302	.193	6.726
Political connections-Management	.260	.795	.069	.945	-.241	.810	.530	.596	.972	.332	.388	.698	.864	.387	8.440
Number of connections-BoD	-.049	.961	-.393	.694	-.574	.567	-.520	.603	-.642	.522	-.310	.757	-.844	.399	8.377
Number of connections-Management	-.649	.517	-.476	.634	-.357	.722	-.691	.490	-.955	.341	-.245	.807	-1.259	.208	5.661
Ownership concentration	-.088	.930	-.044	.965	-.343	.732	.472	.637	1.737	.084	1.630	.105	1.740	.082	2.344
Political connections-BoD*Ownership concentration	1.351	.178	.096	.924	-.058	.954	-.032	.974	-.775	.439	-.636	.525	-.249	.804	9.307
Political connections-Management*Ownership concentration	-.400	.690	-.122	.903	-.783	.435	-.333	.739	-.872	.384	.126	.900	-.839	.402	11.758
Number of connections-BoD*Ownership concentration	-.666	.506	-.143	.886	.131	.896	.011	.991	.519	.604	.684	.494	.318	.750	9.627
Number of connections-Management*Ownership concentration	.657	.512	.502	.616	1.504	.134	.389	.698	.784	.434	-.409	.683	1.087	.277	8.849
Firm size	6.518	.000	5.177	.000	3.605	.000	3.244	.001	4.746	.000	3.178	.002	9.738	.000	1.409
Indebtedness	.336	.737	-.188	.851	-1.176	.241	-1.519	.130	-.052	.959	-.858	.392	-.399	.690	1.013
Relative cash	3.677	.000	5.601	.000	2.477	.014	.422	.674	2.077	.039	.840	.402	5.970	.000	1.200
Relative PPE	.594	.553	-1.674	.095	-1.487	.138	-.317	.752	-.223	.824	-.594	.553	-1.876	.061	1.696
US listing	.121	.904	.347	.729	.258	.797	.070	.944	-.198	.843	-.004	.997	.085	.932	1.039
Industry	1.672	.096	-.200	.842	1.767	.079	3.293	.001	2.375	.018	4.391	.000	5.491	.000	1.682
Managerial ownership	.843	.400	1.593	.113	1.976	.049	2.244	.026	2.004	.046	1.047	.296	3.918	.000	1.085
Institutional ownership	-1.199	.232	-.841	.401	-1.140	.255	-1.396	.164	-1.627	.105	-2.161	.032	-3.417	.001	1.116
R ²	.204		.217		.175		.157		.173		.244		.144		
Adjusted R ²	.143		.160		.116		.098		.115		.188		.134		
P value	.000		.000		.000		.001		.000		.000		.000		

Dependent variable: ROA

Table 8 Linear regression analysis results – second detailed model (3)

	2010		2011		2012		2013		2014		2015		Over 6 years (2010-2015)		
	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	VIF
(Constant)	-2.588	.010	-1.883	.061	-1.207	.229	-0.671	.503	-1.798	.073	-0.668	.505	-1.852	.064	
Political connections-BoD	1.322	.187	.890	.375	1.233	.219	.429	.668	.449	.654	.259	.796	1.083	.279	6.726
Political connections-Management	.747	.456	1.299	.195	.034	.973	.227	.821	.247	.805	-.332	.740	-.137	.891	8.440
Number of connections-BoD	-1.246	.214	-0.426	.670	-0.710	.478	-0.218	.827	-0.435	.664	-0.155	.877	-0.693	.489	8.377
Number of connections-Management	-1.434	.153	-1.237	.217	-0.502	.616	-0.383	.702	-0.470	.639	.086	.931	-0.419	.675	5.661
Ownership concentration	-0.407	.685	.313	.754	-0.364	.716	-0.816	.415	.639	.524	1.534	.126	1.088	.277	2.344
Political connections-BoD*Ownership concentration	-.286	.775	-1.122	.263	-.708	.480	.359	.720	-.559	.577	-2.686	.008	-2.807	.005	9.307
Political connections-Management*Ownership concentration	-0.439	.661	-.583	.561	-.875	.382	-.096	.923	-0.263	.793	.249	.804	.132	.895	11.758
Number of connections-BoD*Ownership concentration	.504	.615	.619	.536	.370	.712	-.088	.930	.411	.682	2.882	.004	2.905	.004	9.627
Number of connections-Management*Ownership concentration	.875	.383	.488	.626	1.933	.054	.343	.732	.473	.637	-.576	.565	.014	.989	8.849
Firm size	3.010	.003	4.462	.000	2.943	.004	1.015	.311	3.816	.000	1.274	.204	3.529	.000	1.409
Indebtedness	33.062	.000	14.162	.000	3.550	.000	1.524	.129	71.980	.000	18.265	.000	54.994	.000	1.013
Relative cash	4.373	.000	4.760	.000	.506	.613	-.902	.368	2.836	.005	-.151	.880	1.842	.066	1.200
Relative PPE	2.106	.036	-2.361	.019	-1.078	.282	.243	.808	-0.438	.662	-1.359	.175	-1.392	.164	1.696
US listing	1.135	.258	1.157	.248	.515	.607	.062	.950	-.006	.995	.286	.776	.565	.572	1.039
Industry	2.728	.007	3.223	.747	2.801	.006	1.865	.063	1.093	.276	.019	.985	1.910	.056	1.682
Managerial ownership	.906	.366	1.571	.117	.942	.347	.306	.760	2.058	.041	-.493	.622	.517	.605	1.085
Institutional ownership	-.954	.341	-.891	.374	-.404	.687	-.016	.987	-1.346	.180	.339	.735	-.260	.795	1.116
R ²	.848		.554		.242		.074		.959		.668		.679		
Adjusted R ²	.836		.521		.188		.010		.956		.643		.675		
P value	.000		.000		.000		.308		.000		.000		.000		

Table 9 Linear regression analysis results – second detailed model (3)

Dependent variable: Tobin's Q	2010		2011		2012		2013		2014		2015		Over 6 years (2010-2015)	
	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.	t	Sig.
(Constant)	1.960	.051	1.840	.067	.845	.399	.349	.727	-.442	.659	-.111	.912	2.104	.036
Political connections-BoD	2.011	.046	1.440	.151	.977	.330	.743	.458	-.050	.961	1.001	.318	2.181	.029
Political connections-Management	-.077	.939	.405	.686	.159	.874	.422	.674	.369	.713	-.124	.902	.574	.566
Number of connections-BoD	-.757	.450	-.924	.357	-.719	.473	-.381	.704	-.193	.847	-.852	.395	-1.225	.221
Number of connections-Management	.084	.933	.062	.951	-.187	.852	-.462	.644	-.419	.676	-.185	.854	-.471	.637
Ownership concentration	.012	.990	-.523	.602	-1.126	.261	-.826	.409	-.152	.879	-.151	.880	-1.225	.221
Political connections-BoD*Ownership concentration	-.688	.492	.421	.674	1.018	.310	.483	.630	.159	.874	-1.480	.140	.247	.805
Political connections-Management*Ownership concentration	-.343	.732	-.854	.394	-.565	.572	-.414	.679	-.405	.686	.519	.604	-.895	.371
Number of connections-BoD*Ownership concentration	.169	.866	.024	.981	-.326	.745	-.191	.849	.221	.826	1.610	.109	.382	.702
Number of connections-Management*Ownership concentration	.464	.643	.350	.727	.365	.715	.209	.835	.182	.856	-.404	.686	.427	.670
Firm size	-3.652	.000	-3.795	.000	-1.359	.176	-.560	.576	.534	.594	-.504	.615	-4.222	.000
Indebtedness	-2.156	.032	-1.846	.066	-2.129	.034	-1.482	.140	.029	.977	-1.936	.054	-1.611	.107
Relative cash	7.445	.000	4.402	.000	5.514	.000	7.489	.000	5.194	.000	1.573	.117	13.997	.000
Relative PPE	.664	.507	-.084	.933	-.061	.951	.432	.666	-.640	.523	-1.930	.055	-1.410	.159
US listing	-.050	.960	.224	.823	.447	.656	.482	.630	1.290	.198	1.672	.096	1.871	.061
Industry	-1.604	.110	-.593	.554	.367	.714	.752	.453	.705	.481	.983	.327	-.573	.567
Managerial ownership	.166	.869	1.089	.277	2.031	.043	2.743	.007	1.959	.051	1.318	.189	3.870	.000
Institutional ownership	-2.030	.044	-2.282	.023	-2.399	.017	-1.866	.063	-1.513	.131	-2.121	.035	-4.929	.000
R ²	.392		.245		.233		.269		.159		.119		.201	
Adjusted R ²	.346		.190		.178		.218		.100		.054		.192	
P value	.000		.000		.000		.000		.000		.025		.000	

5.3.2 Results of linear regression analyses according to the second detailed model

The second regression model uses two versions of the ‘political connections’ variable: ‘political connections-BoD’ and ‘political connections-management’. According to the overall six-year results as reported in Tables 7, 8 and 9, being politically connected through the board of directors and having concentrated ownership (political connections-BoD*ownership concentration) is negatively and very significantly linked to the ROE, while the number of connections through the board interacting with ownership concentration is positively and very significantly related to ROE. In addition, being politically connected through the board is positively and significantly related to the Tobin’s Q financial performance indicator. The year-to-year results do not reveal any significant relationship between dependent variables and the main independent variables.

5.4 Endogeneity problem and robustness check

According to the Pearson correlation analyses results, there is a very significant link between the main independent variable, ‘political connections’, and most of the control variables, except for Indebtedness. These significant correlations could be the source of an endogeneity problem likely to influence the regression results. Furthermore, we can see that the variance inflation factor (VIF) indicators (from Tables 6 to 9) show that the following variables have considerable collinearity problems (as their VIFs are greater than 3): political connections, number of connections-BoD, ownership concentration, political connections*ownership concentration, and number of connections-BoD*ownership concentration. As Shen et al. (2015) argue that political connections could be endogenously determined by firms’ characteristics, we decided to perform a two-stage least squares regression analysis based on our first detailed model (2) presented above. As instrumental variables, we used all our control variables plus the following: -market to book value, -book per share value, -relative inventories (total inventories divided by total assets), -and the four governance indices developed and assessed by Institutional Shareholders Services (ISS), i.e., board of directors, shareholders’ rights, compensation structure and audit and risk control. The results of the 2SLS are presented in Table 10.

The above results are similar to those presented in Tables 4, 5 and 6. More specifically, political connections are positively and significantly linked to firm financial performance when measured by ROA and Tobin’s Q. Number of political connections through the board of directors (number of connections-BoD) and through the executive members (number of connections-management) is not significantly linked to ROA, ROE or Tobin’s Q. Ownership concentration and percentage of managerial ownership do not significantly influence ROA, ROE or Tobin’s Q, but percentage of institutional ownership is negatively and significantly related to ROA. These results indicate that political connections have an impact on firm financial performance and that endogeneity and collinearity do not significantly influence the results. More important, we note that having both political connections and concentrated ownership does not significantly influence ROA, ROE or Tobin’s Q, which contradicts our research hypothesis.

Table 10 2SLS regression analysis results – first detailed model (2)

	<i>ROA</i>		<i>ROE</i>		<i>Tobin's Q</i>	
	<i>t</i>	<i>Sig.</i>	<i>t</i>	<i>Sig.</i>	<i>t</i>	<i>Sig.</i>
Constant	-2.362	.019	-2.337	.020	-2.228	.026
Political connections	2.408	.016	1.326	.186	2.644	.008
Number of connections- BoD	-.553	.581	1.109	.268	-1.546	.123
Number of connections- Management	-1.146	.252	.192	.848	-.822	.411
Ownership concentration	-.787	.432	.607	.544	-.921	.357
Political connections*Ownership Concentration	-.746	.456	.112	.911	-.801	.424
Number of connections- BoD*Ownership concentration	.971	.332	-.174	.862	1.000	.318
Number of connections- Management*Ownership concentration	.686	.493	-.686	.493	.293	.769
Firm size	2.329	.020	1.455	.146	1.685	.093
Indebtedness	.197	.844	45.057	.000	.724	.469
Relative cash	3.437	.001	3.104	.002	3.001	.003
Relative PPE	-1.162	.246	-1.074	.283	-.987	.324
Industry	-.413	.680	-.123	.902	-.126	.899
Managerial ownership	-.282	.778	-1.060	.290	.213	.831
Institutional ownership	-1.752	.080	-.239	.812	-1.475	.141
R ²	.040		.881		.031	
Adjusted R ²	.016		.878		.008	
Model Sig.	.062		0.000		.196	

6 Conclusions and discussion

The main aim of this study was to learn whether ownership concentration plays a mediating or moderating role in the relationship between political connections and firm financial performance. Our results show that, over the long term, political connections have a positive effect on firm financial performance (especially when measured by ROA and Tobin's Q), an outcome consistent with previous studies involving the Canadian and other contexts. For example, Dicko and El Ibrami (2013) found that the number of political connections in Canadian firms is positively and significantly linked to ROA and market-to-book ratio. Dicko and Khemakhem (2015) also reported that political connections significantly affect firm financial performance (measured by ROA and ROE) for companies on the S&P/TSX Composite Index. Brown (2016) investigated firm-level rent seeking through corporate political activity (CPA) in the USA air transportation industry in a sample of 46 firms over 15 years and found that lobbying intensity and

political connections were positively related to subsequent profitability. In Singapore, Ang et al. (2013) concluded that “companies in certain highly regulated industries may find that having certain types of directors who are politically connected could have a positive and significant impact on their firm’s value” [Ang et al., (2013), p.164].

Every politically connected firm in our sample is connected first through the board of directors. According to differences noted in relation to the firms that are also connected through their executive, firms that are politically connected through the executive are less financially profitable over the long term in terms of ROE and Tobin’s Q.

Moreover, the results of the panel data analyses show that political connections do not have an observable statistically significant impact on a yearly basis. This variable must be examined over a longer horizon in order to witness a significant effect.

Our results also show that ownership concentration does not affect firm financial performance. Last, and more important, ownership structure does not affect the relationship between political connections and firm financial performance. Although we do not have a comparison basis for this last result, we can refer to Bona-Sánchez et al. (2014), who investigated 114 non-financial firms listed on the Spanish stock exchange at the end of 2011. Based on their findings, they concluded that for politically connected firms, ownership concentration (defined as divergence between the dominant owner’s voting rights and cash flow rights) positively influenced the informativeness of accounting earnings. Even though the authors did not examine the link between ownership structure, political connections and performance, these results indicate that ownership could have a mediating or a moderating effect on firm political connections. It is important to note that our results are not consistent with the latter study given differences between the Canadian and Spanish contexts in terms of ownership structure and corporate governance. In addition, our results could be explained by the fact that since most Canadian companies have concentrated ownership, most of the studied companies have the same ownership structure and thus are not expected to exhibit any observable significant differences based on this ownership. The same result is expected in terms of political connections.

Our study makes two main contributions: first, it is the first investigation in the Canadian context to analyse the mediating role of ownership structure on the relationship between political connections and firm financial performance. Second, it enriches the literature on the impact of firms’ political connections. Even though other authors have highlighted the important role of ownership structure in corporate governance (LaPorta et al., 1998; Aggarwal et al., 2009), our study reports that firm ownership does not seem to have an impact on firms’ political connections. These results could be explained by the fact that most Canadian companies have concentrated ownership and have political connections regardless of their ownership structure, and that these connections have the same impact as ownership structure on financial performance. In addition, both concentrated ownership and dispersed ownership firms use and benefit from political connections in the same way. These findings indicate that in Canada, the presence of political connections in corporations has the same impact for all types of ownership structure.

In addition to augmenting the literature on the impact of firm political connections in the Canadian context, our results show that this impact must be investigated over the long term, otherwise it would be impossible to observe a statistically significant effect. Lastly, our findings also confirm the positive impact of political connections on firm financial performance.

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