

Abdullah; Hashmi, Muhammad Arsalan; Mateen, Abdul; Badshah, Yousuf Ali; Iqbal, Muhammad Sikander

Article

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*Corresponding author: Abdullah,
College of Management Sciences,
Karachi Institute of Economics &
Technology
E-mail: abdiman.0688@yahoo.com

Reviewing editor:
David McMillan, University of Stirling,
UNITED KINGDOM

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FINANCIAL ECONOMICS | RESEARCH ARTICLE

Does tax aggressiveness and cost of debt affect firm performance? The moderating role of political connections

Abdullah^{1*}, Muhammad Arsalan Hashmi², Abdul Mateen¹, Yousuf Ali Badshah¹ and Muhammad Sikander Iqbal¹

Abstract: Firms in emerging economies continue to suffer as a consequence of tax evasion, high cost of financing, political interference, weak governance systems, and bureaucratic institutions. In order to understand how these challenges complicate commercial activities, this study examines how tax aggressiveness, cost of debt, and political connections affect firm performance in Pakistan. Unlike previous research, we also explore if political connections moderate the association between (i) tax aggressiveness and firm performance and (ii) cost of debt and firm performance. Our robust empirical analysis reveals that tax aggressive firms have weaker performance while politically connected firms have better performance, *ceteris paribus*. Further, we find that tax aggressive firms having politically connected board members have better performance as compared to their non-connected counterparts. Similarly, firms with a high cost of debt and politically connected board members have better performance as compared to non-connected firms. Thus, we argue that political connections help connected firms in overcoming the adverse consequences of tax aggressiveness and the high cost of debt through their influence in procuring government projects, subsidies, and other benefits. Therefore, policymakers are advised to restrict politically connected board members from extending favors and concessions to connected firms. We also encourage shareholders to exercise their voting power and monitoring capabilities for mitigating agency problems inherent in politically connected firms.

Subjects: Quantitative Finance; Statistics for Business, Finance & Economics; Education - Social Sciences

Keywords: tax aggressiveness; cost of debt; firm performance; political connections

1. Introduction

Developing countries face a host of problems such as tax evasion (Khuong, Liem & Thu, 2020), high cost of financing (Alvarez-Botas & Gonzalez, 2019), political interference (Faccio, 2010), poor corporate governance (Al-ahdal et al., 2020) and institutional weaknesses (Khurshid, 2015) which adversely affect firm performance and economic growth. Prior studies indicate that tax aggressive behavior by managers compromises financial reporting transparency which increases agency conflicts between the contracting parties and aggravates the information asymmetry problem (Dyrenge et al., 2016). Further, firms face increased litigation risk, higher regulatory scrutiny, and adverse reputational consequences from engaging in tax aggressive behavior (Cook et al., 2017; Graham et al., 2014). These adverse consequences of tax aggressiveness increase the risk for investors, lenders, and shareholders. It has been argued that lenders are

reluctant to invest in firms with dubious accounting practices and high risk. Further, lenders that are willing to provide financing to such risky firms may enforce strict debt covenants and demand a high cost of debt. These debt covenants may restrict firms from investing in risky projects which adversely affects firm performance. We argue that firms invest in establishing political connections to overcome the adverse consequences of tax aggressiveness and the high cost of debt on firm performance, especially in developing countries (Yan & Chang, 2018). Prior studies suggest that firms exploit political linkages for procuring government projects, subsidies and avoiding regulatory scrutiny (Faccio, 2010; Khwaja & Mian, 2005).

Tax aggressiveness and evasion have remained a serious problem in Pakistan for a long time. According to the official statistics, Pakistan has a tax to GDP ratio of 11% which is considerably lower as compared to several emerging economies. The Ministry of Planning, Development and Special Initiatives has estimated that Pakistan has a shadow economy constituting nearly 40% of GDP. This indicates that a large part of the economy remains undocumented and does not contribute to the overall tax collection. The poor collection in Pakistan is mainly due to a flawed tax collection mechanism, corruption, and the lack of accountability for tax evaders. Further, the high level of corruption and lack of accountability encourages firms to engage in tax aggressive practices. Pakistan has suffered immensely due to the consistently low tax collection by the government over the last few decades. The low tax collection has adversely affected the public sector development expenditure, economic growth and contributed to high inflation in the country. Given the importance of adequate tax revenue for the development of Pakistan, it is imperative that policymakers, academics, industry stakeholders and the general public must make concerted efforts for wider structural changes to the taxation system in Pakistan.

Based on the above discussion, this study analyzes the nexus between tax aggressiveness, cost of debt, political connections, and firm performance in the context of an emerging economy i.e. Pakistan. Emerging economies have unique features and institutional dynamics which make them an interesting avenue for research. Pakistan is also an emerging economy with law and order challenges (Khurshid, 2015), political interference (Hashmi, Brahmana & Lau, 2018), and corruption (Ali et al., 2019). Further, previous studies did not provide sufficient evidence on the nexus between tax aggressiveness, cost of debt, political connections, and firm performance in the context of developing countries (Khuong, Liem & Thu, 2020). Thus, this study has several research objectives. First, the study investigates the relationship between tax aggressiveness and firm performance. Second, we examine the relationship between the cost of debt and firm performance. Third, we analyze whether political connections moderate the association between (i) tax aggressiveness and firm performance and (ii) cost of debt and firm performance, in the context of Pakistan.

Our study contributes to the existing literature in several interesting and unique ways. First, we document that tax aggressiveness and cost of debt affect firm performance in the context of a developing country i.e. Pakistan. Second, we provide evidence that political connections moderate the relationship between (i) tax aggressiveness and firm performance and (ii) cost of debt and firm performance. Third, we argue that firms invest in establishing political connections to overcome the adverse consequences of tax aggressiveness and the high cost of debt and exploit political linkages in procuring government projects, concessions, subsidies, and other discretionary benefits.

The study is structured in the following manner. The next section provides the theoretical background, review of influential literature, and hypotheses development. Subsequently, data and methodology is presented. It is followed by a discussion of the results and further analysis of the study. Lastly, the conclusion of the study is presented highlighting the key implications, limitations, and suggestions for future research.

2. Literature review

2.1. Theoretical background

The theoretical foundation of this study is mainly based on the agency theory. The agency theory explains the conflict which may arise between the contracting parties i.e. the principal and agent (Fama & Jensen, 1983). Further, this theory elaborates how governance and monitoring mechanisms may be used to limit the misappropriation by agents and diverging interests of contracting parties (Jensen & Meckling, 1976). Prior literature suggests that firms suffer from severe agency problems if they are politically connected. These agency problems are a consequence of politically connected board members pursuing their political agenda and expropriating firms' resources at the expense of key stakeholders. Further, several studies document that managers usually save resources through tax evasion and other accounting misappropriations and then use these accumulated resources for furthering their private interests. This may lead to adverse reputational consequences for a firm and compromise the shareholders' wealth maximization objective.

2.2. Hypothesis development

2.2.1. Tax aggressiveness and firm performance

Tax aggressiveness refers to deliberate attempts by firms' to reduce their tax obligations using various accounting strategies (Hanlon & Heitzman, 2010). Tax aggressiveness can potentially benefit as well as harm a firm and its stakeholders. Firms pursuing tax aggressive strategies may have higher free cash flow resulting in improved creditworthiness, lower risk, and cost of capital (Khuong et al., 2020). The benefits of tax aggressiveness ensue when the interests of managers are aligned with the shareholders (Desai & Dharmapala, 2009). The agency theory suggests that when there are conflicts of interest between managers and shareholders, managers may expropriate excess free cash flow obtained from tax aggressiveness. Contrarily, some studies have argued that tax aggressive firms are considered riskier by shareholders and creditors as they may face tax audits, regulatory action, and penalties that would damage their reputation (Drake et al., 2017; Guenther et al., 2017). Further, tax aggressive firms usually face stringent debt covenants from lenders as they are plagued with agency conflicts and weak performance (Hasan et al., 2014). In addition, tax aggressive firms may face a higher cost of equity as shareholders perceive them to be less transparent having acute information asymmetry problems (Balakrishnan et al., 2019; Goh et al., 2016).

The existing literature on tax aggressiveness and firm performance is scarce and reports mixed results (Khuong et al., 2020; Chen et al., 2014). Several studies document a positive association between tax aggressiveness and firm performance (Inger, 2014). These studies argue that tax aggressiveness would benefit a firm if the tax strategy is transparent and avoids complex business transactions. Further, it is contended that tax aggressiveness will positively affect firm performance when a firm has superior corporate governance mechanisms (Desai & Dharmapala, 2009). On the contrary, many studies found a negative relationship between tax aggressiveness and firm performance (Hanlon & Slemrod, 2009; Zhang et al., 2017). The weak firm performance is due to higher agency costs and increased information asymmetry. Tax aggressiveness may also lead to complicated business transactions which provide opportunities for managers to expropriate excess free cash flow and undermine firm performance (Bushman et al., 2004; Cook et al., 2017). Therefore, we can develop the following hypothesis:

H1: Tax aggressiveness is negatively associated with firm performance, ceteris paribus.

2.2.2. Cost of debt and firm performance

The influence of the cost of debt on firm performance may be analyzed using the agency theory. The agency theory implies two different perspectives on how the cost of debt may affect firm

performance (Jensen & Meckling, 1976; Myers, 1977). First, the theory suggests that a higher level of debt financing and cost of debt are associated with higher agency costs that reduce firm performance (Majumdar & Chhibber, 1999; Le & Phan, 2017). The higher agency costs may be a direct result of conflicts of interest between shareholders and debt-holders as each is pursuing their private interests. Second, the agency theory also asserts that firms employ debt financing for reducing the conflicts of interests between managers and shareholders (Weill, 2008). Firms can use debt financing to put pressure on managers to generate sufficient free cash flow for servicing debt obligations (El-Chaarani, 2015). Moreover, the high cost of debt also reduces the likelihood of free cash flow expropriation by managers. Therefore, the high cost of debt resulting from debt financing tends to enhance firm performance (El-Chaarani, 2015; Jensen, 1986).

Prior studies have provided mixed results on the association between the cost of debt and firm performance. Different authors have investigated the relationship between the cost of debt and firm performance in various contexts. Some studies have suggested a negative association between the cost of debt and firm performance in Vietnam (Le & Phan, 2017), Nigeria (Akeem et al., 2014), Sweden (Yazdanfar & Ohmar, 2015), and India (Dawar, 2014; Majumdar & Chhibber, 1999). Contrarily, Tsuruta (2015a) found a positive relationship between the cost of debt and firm performance in Japan. In addition, El-Chaarani (2015) also documented a positive relationship between the cost of debt and firm performance in several countries. Furthermore, some studies reported mixed results between the cost of debt and firm performance in China (Dalci, 2018), the USA (Simerly & Li, 2000), Malaysia (Salim & Yadav, 2012), Ghana (Abor, 2005) and Egypt (Ebaid, 2009). In view of the agency theory and empirical evidence, we develop the hypothesis:

H2: Cost of debt is negatively associated with firm performance, ceteris paribus.

2.2.3. Political connections and firm performance

Political connections usually arise when corporate boards comprise directors with political linkages. The role of political connections on firm performance can be analyzed in the light of agency theory. The agency theory suggests that politicians may expropriate minority shareholders' wealth and pursue objectives that may not maximize firm value. The literature suggests that politically connected firms expropriate minority shareholders' wealth in several ways. First, politically connected board members directly entrench minority shareholders. Second, they motivate majority shareholders to entrench minority shareholders. Third, they influence management to hire politically connected managers for pursuing their own social and political goals. Several studies suggest that political connections will negatively affect firm performance (Fisman, 2001; Faccio, 2006; Liu et al., 2013; Fan et al., 2007). Lemmon and Lins (2003) argue that firms with politically connected shareholders have lower market performance as compared to non-connected firms. Jackowics et al. (2014) found that Polish firms have shown a negative relationship between political connections and firm performance. Similarly, in the Malaysian context, Jaffar and Abdul-Shukor (2016) document that political connections diminish firm performance and value.

On the other hand, the resource dependence theory suggests that political connections influence the external environment and resources of a firm (Hillman, Withers & Collins, 2009). The theory implies that firms develop linkages with political figures so that they can easily access scarce resources held by other entities. For example, firms with political connections can easily procure government grants, loans, and contracts. In other words, firms use political connections to overcome external environment uncertainties. Several studies have used the resource dependence theory to analyze the role of political connections on firm performance (Guo et al., 2014; Hillman, 2009; Bona-Sanchez et al., 2014). These studies document a positive relationship between political connections and firm performance. Past studies suggest that political connections are more valuable for firms operating in emerging economies (Guo et al., 2014). Su et al. (2014) argue that firms with political connections have superior performance due to their competitive

advantage acquired from access to intangible resources and government support. Given the evidence from emerging economies, we hypothesize a positive effect of political connections on firm performance.

H3: Political connections are positively associated with firm performance, ceteris paribus.

Tax aggressiveness undermines the financial reporting quality and increases agency problems within the firm (Dyreng et al., 2016). Prior studies have also argued that tax aggressive firms suffer from adverse reputational consequences due to regulatory scrutiny and legal action by stakeholders (Cook et al., 2017; Graham et al., 2014). As a consequence, tax aggressive firms may face problems in raising external capital and lenders may employ stringent debt covenants which restrict such firms from investing in risky projects. Furthermore, lenders also demand a higher cost of debt from tax aggressive firms in order to be compensated for bearing higher risk. In view of the adverse consequences for tax aggressive firms, we argue that these firms develop political connections for exploiting political linkages and the influential status of politicians for overcoming reputational issues and gaining convenient and cost-effective access to financing (Khawaja & Mian, 2005; Faccio, 2010; Sapienza, 2004). Thus, the presence of politicians on the board will provide benefits to tax aggressive firms and those with a high cost of debt which will ultimately improve firm performance. Hence, we develop the following hypotheses:

H4: Political connections moderate the association between tax aggressiveness and firm performance, ceteris paribus.

H5: Political connections moderate the association between cost of debt and firm performance, ceteris paribus.

3. Methodology

3.1. Data and sampling

To investigate the relationship between variables, this study used a dataset of 201 non-financial companies listed on the Pakistan Stock Exchange for the period 2015 to 2019. This provided us with 1005 firm-year observations for empirical analysis. We have excluded financial firms listed on the Pakistan Stock Exchange as they have different regulatory practices and performance metrics. The data was extracted from the annual reports of the listed firms which were available on the companies' websites. We have restricted our sample size to 201 non-financial firms as the dataset was manually collected since access to a data repository was not available. Our dataset is tremendously important for studying political expropriation and tax evasion as Pakistan provides a unique institutional context characterized by weak rule of law, government ineffectiveness, political interference, and high corruption.

3.2. Measurement of variables

This study investigates the relationship between political connections, tax aggressiveness, cost of debt, and firm performance. This section provides the measurement of variables used in this study.

3.2.1. Firm performance

This study uses firm performance as a dependent variable. The firm performance was measured using return on assets (ROA) consistent with Shaskia (2012), Yanikkaya et al. (2018), Tangngisalu et al. (2020), Pattiruhu and Paais (2020), and Ali and Faisal (2020). ROA was calculated as a proportion of net profit to a firm's total assets. We chose ROA as the measure of firm performance mainly for two reasons. First, ROA is a more widely used measure of firm performance/profitability in the finance literature (Abdullah, Hashmi & Iqbal, 2022; Ciftci, Tatoglu, Wood, Demirbag, & Zaim, 2019; Mardnly

et al., 2018). Second, our review of the literature indicated that several previous studies related to tax aggressiveness and cost of debt have predominantly used ROA as the only measure of firm performance/profitability (Lim et al., 2018; Chen, 2012; Flamini, Vola, Songini, & Gnan, 2021).

3.2.2. Key independent and moderating variables

The study uses tax aggressiveness and cost of debt as key independent variables. The literature provides several proxies for measuring tax aggressiveness (Landry et al., 2013; Lanis & Richardson, 2012). We have measured tax aggressiveness as a dummy variable taking a value of 1, if a firm is tax aggressive and 0, otherwise consistent with Richardson, Taylor and Lanis (2013) and Richardson, Taylor and Lanis (2016). A firm is considered tax aggressive if it pays a lesser percentage of corporate taxes as compared to the corporate tax rate defined by the government (Chen et al., 2010; Lanis & Richardson, 2012). We specify a firm to be tax aggressive in two steps. First, we calculated the effective tax rate by dividing taxes paid with the earnings before taxes (EBT). Second, we compared the effective tax rate with a corporate tax rate defined by the government. Further, the cost of debt was computed as a proportion of interest expense to a firm's total interest-bearing debt consistent with Ha, Trang and Vuong (2022). Moreover, the study has used political connections as an independent as well as a moderating variable. Political connections represent a dummy variable taking a value of 1, if a firm is politically connected and 0 otherwise (Faccio et al., 2006; Faccio, 2010; Hashmi, Brahmana & Lau, 2018). A firm is considered politically connected if the directors on the board are either directly or indirectly affiliated with a political party. A firm is considered to have direct political connections when a politician is present on the board (Faccio et al., 2006). Further, indirect political connections may be developed when a board member has a close association with a political party or politician (Faccio, 2010; Hashmi, Brahmana & Lau, 2018).

3.2.3. Control variables

In addition to independent, dependent, and moderating variables, several control variables were also used such as firm size, leverage, and property plant & equipment in our empirical analysis. Firm size was measured through the natural logarithm of total assets (Altaf & Shah, 2017) and leverage was measured as a proportion of total debt to total assets (Pattiruhu & Paais, 2020). Further, property, plant, and equipment were measured as a ratio of fixed assets to total assets of a firm (Febriyanto & Firmansyah, 2018).

3.3. Model specifications

This section presents the model specifications used for ascertaining the relationships between the variables. Models, 1–3 represent the baseline models which were estimated to validate H1, H2, and H3, respectively. H1, H2, and H3 will be supported if the coefficients of tax aggressiveness (TAXAGG), cost of debt (COD), political connections (POLC) are statistically significant, respectively. Models 1–3 are presented below:

$$ROA = \beta_1 + \beta_2 TAXAGG + \beta_3 SIZE + \beta_4 LEV + \beta_5 PPE + \sum \beta_i YEAR_DUMMY + \sum \beta_j INDUS_DUMMY + u \quad (1)$$

$$ROA = \beta_1 + \beta_2 COD + \beta_3 SIZE + \beta_4 LEV + \beta_5 PPE + \sum \beta_i YEAR_DUMMY + \sum \beta_j INDUS_DUMMY + u \quad (2)$$

$$ROA = \beta_1 + \beta_2 POLC + \beta_3 SIZE + \beta_4 LEV + \beta_5 PPE + \sum \beta_i YEAR_DUMMY + \sum \beta_j INDUS_DUMMY + u \quad (3)$$

Further, Models 4–5 represent the interaction models which were estimated to validate whether POLC moderates the association between (i) TAXAGG and ROA (ii) COD and ROA. H4 and H5 will be supported by the results if the coefficients of TAXAGG*POLC and COD*POLC, respectively are statistically significant. Models 4 and 5 are presented below:

$$ROA = \beta_1 + \beta_2 POLC + \beta_3 TAX + \beta_4 TAX * POLC + \beta_5 SIZE + \beta_6 LEV + \beta_7 PPE + \sum \beta_i YEAR_DUMMY + \sum \beta_j INDUS_DUMMY + u \quad (4)$$

$$ROA = \beta_1 + \beta_2 POLC + \beta_3 COD + \beta_4 COD * POLC + \beta_5 SIZE + \beta_6 LEV + \beta_7 PPE + \sum \beta_i YEAR_DUMMY + \sum \beta_j INDUS_DUMMY + u \quad (5)$$

3.4. Statistical analysis

The Feasible Generalized Least Squares (FGLS) technique was used to investigate the impact of tax aggressiveness, cost of debt, political connections on firm performance. The FGLS technique is usually used when the dataset suffers from heteroscedasticity, non-normality, heterogeneity, time-invariant cross-sectional dependence, and serial correlation (Afonso et al., 2021; Le & Nguyen, 2019; Kmenta, 1986; Parks, 1967). Further, we have used the Prais-Winsten Panel-Corrected Standard Errors (PW-PCSE) technique to cross-validate our results from the FGLS technique. Beck and Katz (1995) suggest that the PW-PCSE technique is better able to deal with the issues of a panel dataset such as unit-level heteroscedasticity, heterogeneity, and serial correlation. Further, this technique accounts for spherical errors and offers better inference as compared to linear models (Bailey & Katz, 2011).

4. Results and discussion

4.1. Descriptive statistics

Table 1 presents the descriptive statistics of the variables used in this study. The results suggest that the mean value of ROA is 3.76% (standard deviation of 11.38%). The mean value is lower as compared to the mean values of 8.918% and 8.3% reported by Ismail (2016) and Anser and Malik (2013), respectively for firms listed on the PSX. Further, the mean value of POLC is 58.20% (standard deviation of 49.34%) which suggests that 58.20% of the sample firms are politically connected. This mean value is quite higher as compared to 2.7% reported by Kusnadi (2019) for a sample comprising of firms from developed and emerging economies. Moreover, the mean value of TAXAGG is 0.7691 (standard deviation of 0.4215) which suggests that 76.91% of our sample firms are tax aggressive. The mean value is higher as compared to 65% and 35% reported by Herusetya and Stefani (2020) and Dunbar, Higgins, Phillips and Plesko, (2010) for the Indonesian and US firms, respectively. In addition, the results suggest that the mean value of COD is 0.2762 (standard deviation of 2.5434) which implies that the average cost of debt for our sample firms is 27.62%. The cost of debt is higher as compared to 5.4% reported by Ha, Trang and Vuong (2022) for Vietnamese firms. Lastly, Table 1 reports mean values of 4.4372, 0.6877, and 0.6217 for SIZE, LEV, and PPET, respectively. The Shapiro-Wilk statistics reported in Table 1 are statistically significant suggesting that the variables are non-normally distributed. The total number of firm-year observations is 1005.

4.2. Pearson correlations

Table 2 provides the Pearson correlations of the research variables. The results suggest that ROA has a positive and significant correlation with POLC ($r = 0.2189$). This indicates that politically connected firms have better financial performance. Contrarily, we find that ROA has a negative and significant association with TAXAGG ($r = -0.1363$), COD ($r = -0.0096$), SIZE ($r = -0.1644$), LEV ($r = -0.4668$) and PPET ($r = -0.0829$). These results suggest that firms that are tax aggressive and those having a high cost of debt usually have weak financial performance. Similarly, firms that are large, have high leverage, and abundant property, plant, and equipment tend to have weak financial performance. Table 2 also shows that POLC has a negative and significant correlation with TAXAGG ($r = -0.0668$). Thus, we argue that politically connected firms are usually less tax aggressive, perhaps because they face increased scrutiny from the general public and rival politicians. Further, TAXAGG is positively and significantly correlated with LEV ($r = 0.0932$) and PPET ($r = 0.0628$) which implies that large firms with abundant property, plant and equipment are usually more tax aggressive. This may be because these large firms have greater opportunities to evade taxes through creative accounting practices.

Table 1. Descriptive Statistics

	Mean	Standard Deviation	Shapiro-Wilk statistic	No. of Observations
ROA	0.0376	0.1138	10.566***	1005
POLC	0.5820	0.4934	-5.106	1005
TAXAGG	0.7691	0.4215	1.972**	1005
COD	0.2762	2.5434	15.84***	1005
SIZE	4.4372	1.0285	8.787***	1005
LEV	0.6877	0.8730	14.677***	1005
PPE	0.6217	1.1496	15.316***	1005

Table 2. Pearson Correlations

	ROA	POLC	TAXAGG	COD	SIZE	LEV	PPE
ROA	1						
POLC	0.2189***	1					
TAXAGG	-0.1363***	-0.0668**	1				
COD	-0.0096	0.0100	0.0221	1			
SIZE	-0.1644***	0.0548*	-0.0471	-0.0217	1		
LEV	-0.4668***	-0.0956***	0.0932***	0.0200	0.0929***	1	
PPE	-0.0829***	-0.0388	0.0628**	-0.0073	0.0056	-0.0587*	1

Note: ***, ** and * indicate the statistical significance at the 1%, 5% and 10% levels, respectively.

4.3. Panel regression results

4.3.1. Baseline regression results

The baseline panel regression results are reported in Table 3. The results suggest that TAXAGG has a negative and statistically significant relationship with ROA in Model 1 ($\beta = -0.0047$, $p < 0.01$). This implies that tax aggressive firms have lower profitability as compared to others. This result is consistent with the agency theory and the existing literature (Khuong et al., 2020; Balakrishnan et al., 2019). It has been argued that the tax aggressive behavior of managers usually increases agency conflicts as managers may utilize the surplus cash to pursue their private interests (Dawar, 2014). Further, tax aggressive firms are more susceptible to regulators' scrutiny, creditors scepticism, and decline shareholders' trust, leading to an adverse reputational risk that lowers firm performance (Khuong et al., 2020; Drake et al., 2017; Balakrishnan et al., 2019; Goh et al., 2016; Guenther et al., 2017; Hasan et al., 2014).

Moreover, Table 3 suggests that COD does not have a statistically significant relationship with ROA in model 2 ($\beta = -0.0006$, $p > 0.10$). This implies that COD does not affect firm profitability in our sample. This may be because our sample comprises relatively large firms listed on the PSX. These firms do not have significant debt financing and therefore, their performance remains largely unaffected by changes in COD. This finding is not consistent with the previous literature. For instance, Dawar (2014) reports a significantly negative relationship between the cost of debt and firm performance in the context of Indian companies. Weill (2008) and Tsuruta (2015b) found a positive relationship between the cost of debt and firm performance. In addition, the results suggest that POLC has a significant and positive association with ROA in model 3 ($\beta = 0.0419$, $p < 0.01$). This implies that firms with political connections have better profitability as compared to their non-connected counterparts. It has been argued that political connections contribute to firm performance positively, especially in emerging economies (Guo et al., 2014; Su

Table 3. Panel Regression Results—Baseline Models

	FGLS			PW PCSE		
	(1) ROA	(2) ROA	(3) ROA	(1) ROA	(2) ROA	(3) ROA
POLC			0.0419*** (0.0034)			0.0413*** (0.0091)
TAXAGG	-0.0047*** (0.0015)			-0.0089* (0.0052)		
COD		-0.0006 (0.0004)			-0.0008 (0.0005)	
SIZE	-0.0099*** (0.0016)	-0.0115*** (0.0016)	-0.0136*** (0.0015)	-0.0104*** (0.0033)	-0.0087 (0.0054)	-0.0141*** (0.0040)
LEV	-0.0606*** (0.0033)	-0.0592*** (0.0035)	-0.0610*** (0.0033)	-0.0655*** (0.0094)	-0.0745*** (0.0010)	-0.0686*** (0.0055)
PPE	-0.0038*** (0.0011)	-0.0045*** (0.0012)	-0.0049*** (0.0012)	-0.0078** (0.0031)	-0.0059** (0.0024)	-0.0058*** (0.0013)
Constant	0.0892*** (0.0100)	0.0921*** (0.0101)	0.0575*** (0.0106)	0.0966*** (0.0253)	0.0823* (0.0447)	0.0655*** (0.0153)
YEAR_DUMMY	Yes	Yes	Yes	Yes	Yes	Yes
INDUS_DUMMY	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	N/A	N/A	N/A	0.3145	0.2608	0.4338
Wald-Chi Squared Statistic	1343.33***	1159.50***	1452.81***	2724.75***	1055.28***	10,991.68***
No. of observations	1005	1005	1005	1005	1005	1005

Note: ***, ** and * indicate the statistical significance at the 1%, 5% and 10% levels, respectively.

et al., 2014). Politically connected firms may enjoy access to external financing conveniently on suitable terms (Faccio, 2010), favorable interest rates (Desai & Olofsgard, 2011; Sapienza, 2004) which leads to better performance. Further, the results suggest that SIZE, LEV, and PPE have a negative and significant association with ROA. This implies that larger firms with high leverage and PPE have lower profitability.

4.3.2. Interaction model results

Table 4 presents the panel regression results from the interaction models. The results suggest that the coefficient of TAXAGG*POLC is positive and statistically significant in model 4 ($\beta = 0.0145$, $p < 0.01$). This implies that POLC moderates the association between TAXAGG and ROA. In other words, we find that tax aggressive firms with politically connected board members have better performance as compared to their non-connected counterparts. This may be because tax aggressive firms are vulnerable to regulatory scrutiny, distrust of shareholders, and scepticism by other stakeholders which adversely affects their performance (Khuong et al., 2020; Drake et al., 2017; Balakrishnan et al., 2019; Goh et al., 2016; Guenther et al., 2017; Hasan et al., 2014). However, tax aggressive firms with politically connected board members may overcome these issues by exploiting political linkages which enables connected firms to avoid regulatory scrutiny without compromising investor sentiments.

Further, the results suggest that the coefficient of COD*POLC is positive and statistically significant in model 5 ($\beta = 0.0078$, $p < 0.01$). This implies that POLC moderates the association between COD and ROA. This indicates that firms that have a high cost of debt and politically

Table 4. Panel Regression Results—Interaction Models

	FGLS		PW PCSE	
	(4) ROA	(5) ROA	(4) ROA	(5) ROA
POLC	0.0300*** (0.0044)	0.0398*** (0.0035)	0.0188* (0.0108)	0.0389*** (0.0100)
TAXAGG	−0.0134*** (0.0030)		−0.0222*** (0.0080)	
COD		−0.0077*** (0.0026)		−0.0099** (0.0042)
TAXAGG*POLC	0.0145*** (0.0036)		0.0259** (0.0102)	
COD*POLC		0.0078*** (0.0027)		0.0099** (0.0042)
SIZE	−0.0126*** (0.0015)	−0.0130*** (0.0015)	−0.0139*** (0.0041)	−0.0136*** (0.0037)
LEV	−0.0622*** (0.0033)	−0.0602*** (0.0034)	−0.0687*** (0.0057)	−0.0664*** (0.0056)
PPE	−0.0048*** (0.0012)	−0.0049*** (0.0012)	−0.0056*** (0.0014)	−0.0059*** (0.0014)
Constant	0.0649*** (0.0113)	0.0577*** (0.0105)	0.0846*** (0.0163)	0.0657*** (0.0152)
YEAR_DUMMY	Yes	Yes	Yes	Yes
INDUS_DUMMY	Yes	Yes	Yes	Yes
R-Squared	N/A	N/A	0.4451	0.4370
Wald-Chi Squared Statistic	1827.62***	1464.48***	20,356.08***	25,413.62***
No. of observations	1005	1005	1005	1005

Note: ***, ** and * indicate the statistical significance at the 1%, 5% and 10% levels, respectively.

connected board members usually have better performance. This may be because firms with politically connected boards may overcome the adverse effects of high COD by using their influence for procuring government projects, concessions, subsidies, and other discretionary benefits. Further, to cross-validate our main results from FGLS, we employed the PW-PCSE technique. The PW-PCSE technique is capable of dealing with heteroscedasticity, heterogeneity, and serial correlation (Bailey & Katz, 2011; Beck & Katz, 1995). Overall, the results are broadly consistent with our results from the FGLS technique. Thus, the PW-PCSE results cross-validate our earlier findings and enhance the robustness of our arguments.

5. Further analysis

The further analysis section aims to analyze how political connections influence a firm's tax aggressiveness and cost of debt. The existing literature suggests that politically connected firms usually take sub-optimal decisions (Zhao et al., 2013), pursue their private agenda (Boubakri et al., 2012), have lower earnings quality (Hashmi, Brahmana & Lau, 2018), and engage in rent-seeking and tax evasion activities (La-Porta et al., 1998). Therefore, we intend to investigate whether politically connected firms in Pakistan also engage in tax aggressiveness and derive benefits in the form of lower cost of debt. In addition, we also investigate whether the cost of debt is influenced by a firm's tax aggressiveness. Previous literature indicates that lenders are reluctant to invest in firms notorious for dubious accounting practices and have higher risk. Moreover, lenders who are willing to provide financing to such firms may demand higher returns to be compensated for the additional risk therefore, this may increase the firm's cost of debt.

To analyze the influence of POLC on TAXAGG we estimated model 6. The dependent variable in the model is TAXAGG, which is a dummy variable. Therefore, we employed three binary choice models i.e. Logit, Probit, and Complementary log-log for empirical analysis. Model 6 is presented below:

$$TAXAGG = \beta_1 + \beta_2 POLC + \beta_3 SIZE + \beta_4 LEV + \beta_5 PPE + \sum \beta_i YEAR_DUMMY + \sum \beta_j INDUS_DUMMY + u \quad (6)$$

Furthermore, models 7 and 8 were estimated to investigate whether POLC and TAXAGG affect COD, respectively. The models were estimated using the FGLS panel regression technique. Models 7 and 8 are presented below:

$$COD = \beta_1 + \beta_2 POLC + \beta_3 SIZE + \beta_4 LEV + \beta_5 PPE + \sum \beta_i YEAR_DUMMY + \sum \beta_j INDUS_DUMMY + u \quad (7)$$

$$COD = \beta_1 + \beta_2 TAX + \beta_3 SIZE + \beta_4 LEV + \beta_5 PPE + \sum \beta_i YEAR_DUMMY + \sum \beta_j INDUS_DUMMY + u \quad (8)$$

The results of models 6–8 are reported in Table 5. The results of model 6 indicate that politically connected firms are less likely to be tax aggressive. This is apparent from the negative coefficients of POLC in model 6 from LOGIT ($\beta = -0.2397$, $p < 0.1$), PROBIT ($\beta = -0.1428$, $p < 0.1$), and complementary log-log model ($\beta = -0.1331$, $p < 0.1$). The negative association between POLC and TAXAGG is perhaps due to the increased public visibility and scrutiny of politically connected firms in Pakistan which deters them from tax evasion. In Pakistan, there is a tendency for political parties to monitor politically connected firms associated with a rival party, and any misappropriation may be used for their political gains and advancing campaign propaganda. This finding may be applicable in countries with weak rule of law and poor investor protection mechanisms. Further, we did not find a significant effect of POLC on COD in model 7 ($\beta = -0.0015$, $p > 0.1$). However, we find that tax aggressive firms are likely to have higher COD in model 8 ($\beta = 0.0417$, $p < 0.01$). The positive association between TAXAGG and COD is perhaps because lenders face higher investment risks and appraisal costs for investing in firms involved in dubious accounting practices. Therefore, lenders may demand a high rate of return which ultimately increases the COD.

Table 5. Further Analysis

	LOGIT	PROBIT	COMPLEMENTARY LOG-LOG	FGLS	
	(6) TAXAGG	(6) TAXAGG	(6) TAXAGG	(7) COD	(8) COD
POLC	-0.2397* (0.1396)	-0.1428* (0.0815)	-0.1331* (0.0692)	-0.0015 (0.0103)	
TAXAGG					0.0417*** (0.0090)
SIZE	-0.1091 (0.0726)	-0.0635* (0.0361)	-0.0578 (0.0387)	-0.0026 (0.0038)	-0.0071 (0.0047)
LEV	0.6794*** (0.2325)	0.3682** (0.1476)	0.2923** (0.1412)	0.0601*** (0.0155)	0.0348** (0.0177)
PPE	0.5130** (0.2524)	0.2742* (0.1485)	0.2183* (0.1258)	-0.0053* (0.0028)	-0.0034 (0.0032)
Constant	1.2464*** (0.4358)	0.7801*** (0.2313)	0.4505* (0.2634)	0.1556** (0.0665)	0.1144** (0.0466)
YEAR_DUMMY	Yes	Yes	Yes	Yes	Yes
INDUS_DUMMY	Yes	Yes	Yes	Yes	Yes
Pseudo R-Squared	0.0319	0.0315	N/A	N/A	N/A
Wald-Chi Squared Statistic	23.37***	21.67***	29.82***	194.77***	243.76***
No. of observations	1005	1005	1005	1005	1005

Note: ***, ** and * indicate the statistical significance at the 1%, 5% and 10% levels, respectively.

6. Conclusion

Developing countries face a host of problems such as tax evasion, high cost of financing, political interference, poor corporate governance, and institutional weaknesses which adversely affect financial performance and economic growth. The objective of this study is to examine the impact of tax aggressiveness and the cost of debt on firm performance. Further, we investigate whether political connections moderate the association between (i) tax aggressiveness and firm performance and (ii) cost of debt and firm performance. Our dataset contains a sample of 201 non-financial firms listed on the Pakistan Stock Exchange. For empirical analysis, we employed two robust panel regression techniques i.e. FGLS and PW-PCSE. Our results indicate that tax aggressiveness has a significant and negative association with firm performance while we did not find any significant relationship between the cost of debt and firm performance. In addition, we find that political connections positively moderate the association between (i) tax aggressiveness and firm performance and (ii) cost of debt and firm performance. We find novel evidence that tax aggressive firms with politically connected board members have better performance as compared to their non-connected counterparts. Moreover, we contend that political connections may help connected firms in overcoming the adverse consequences of the high cost of debt by using their influence in procuring government projects, subsidies, and other benefits.

Our results have several implications. First, policymakers should restrict politically connected board members from using their influential status in an unconstitutional manner by extending favors and concessions to connected firms. Second, shareholders should use their voting power to enhance the reporting quality by closely monitoring the tax and other policies of firms which would reduce agency costs. Third, we strongly recommend stringent policies in emerging economies for ensuring transparency and safeguarding of shareholders' interests, especially when firms are politically connected. This is important as there are ethical repercussions of developing political connections for deriving undue benefits such as preferential debt financing, avoiding regulatory scrutiny and government subsidies. Further, the study has some limitations including a limited sample size from a single country and a limited time horizon. We suggest future researchers examine the nexus between political connections, tax aggressiveness, cost of debt, and firm performance in a cross-country setting. Moreover, future studies may examine other consequences of political connections in a sample of developing countries.

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Author details

Abdullah¹
 E-mail: abdiman.0688@yahoo.com
 ORCID ID: <http://orcid.org/0000-0001-8400-5295>
 Muhammad Arsalan Hashmi²
 ORCID ID: <http://orcid.org/0000-0003-2336-0431>
 Abdul Mateen¹
 Yousuf Ali Badshah¹
 Muhammad Sikander Iqbal¹
¹ College of Management Sciences, Karachi Institute of Economics & Technology, Pakistan.
² Institute of Business & Health Management, Dow University of Health Sciences, Pakistan.

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