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POLITICAL CONNECTIONS AND COST STICKINESS: THE MODERATING ROLE OF PRODUCT MARKET COMPETITION

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Abstract

The impact of political connections on business organizations, has been the subject of interest for many researches throughout the world. Since executive and non-executive directors, with political connections, can bring diverse benefits to the firm through using their connections and relations with politicians, they are often considered to be really powerful. In addition to investigating the relationship between firm's political connections and cost stickiness, this study also examined the moderating impact of product market competition on this relationship. To this end, the data from 154 listed firms in Tehran Stock Exchange, multiple regression, and panel data model were used. The results showed that firm's political connections would increase cost stickiness, and product market competition mitigated the direct relationship between firm's political connections and cost stickiness.

Keywords: *Political Connections, Cost Stickiness, Product Market Competition.*

JEL Code: *P48, D24, P23.*

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1. Introduction

Traditional theories of cost behavior state that cost changes depend only on the amount of changes at the activity level, and these changes are made symmetrically. Recent studies have documented an important nonlinear behavior for cost and profit, which is cost stickiness - economic asymmetry in cost response **(Anderson et.al, 2003).** Cost stickiness is asymmetry in managers' decisions against committed resources. Management, in periods of declining demand, could incur the costs of adjusting operating assets or could incur operational costs associated with surplus production capacities, by keeping the level of operational assets constant. Since the market demand level is random, when the demand level declines, it is likely that management will evaluate whether the decline in demand is temporary or not. If management fails to reduce the level of operating assets and incurs operating costs associated with surplus operating assets, to avoid adjusting costs of surplus assets until it makes certain that the demand has been reduced, cost stickiness behavior will occur because operating costs have not been reduced relative to sales **(Namazi and Davani, 2010).** This asymmetric response of costs to sale changes also reflects the asymmetric response of profits to sale changes. As a result, the firm's profit will be more sensitive to sale decline than to sale increase **(Banker et al, 2014).** Previous domestic studies have examined the relationship between cost stickiness and multiple variables, including management's perspective**,** corporate governance **(Khani et al, 2014; Aghaie and Hassani, 2014),** managers' personal incentives **(Aghaie and Hassani, 2014),** earnings quality and earnings forecast error and conditional conservatism **(Sjadi et.al, 2014),** financial ratios **(Raee et.al, 2014),** and cost-volume-profit analysis, but researchers have not yet paid attention to the impact of political connections on cost stickiness.

2. Review of Literature

The impact of political connections on business organizations, has been the subject of many research efforts, throughout the world, in the context of an increase in executive and non-executive directors, with active political connections, in firms of developed and developing economies. In particular, the importance of perceiving the role of firms with political connections in economies of developing countries is due to their growth and their subsequent importance in the last decade **(Bliss and Gul, 2012a).** In addition, considering the impact of political connections in Asian countries is one of the issues that had attracted researchers' attention **(Berkman and Galpoththage, 2016).**

Since executive and non-executive directors, with political connections, can bring diverse benefits to the firm, through using their connections and relations with politicians, they are often considered to be really powerful. Previous studies examined the impact of political connections on firm's value**,** achieve financing **(Claessens et al, 2008),** tax rate **(Adhikari et.al, 2006),** cost of debt and equity **(Bliss and Gul, 2012b; Boubakri et.al, 2012),** and financial reporting quality **(Chaney et.al, 2011).** Previous studies have provided evidence of the benefits and costs of political connections for firms. In terms of benefits, managers, with political connections, can play the role of a resource for the firm. Based on this argument, previous studies have found out that political connections helped the firm, through facilitating tax laws, allowing the firm to use subsidy plans or improving financing contracts **(Faccio, 2016; Claessens et al, 2008; Bliss and Gul, 2012b; Boubakri et al, 2012).** In contrast, critics argue that policies and state regulations create an uncertainty environment and increase transaction costs for business organizations. **Johnson and Mitton**

(2013) found out that firms, with political connections tended towards lower efficiency. Similarly, other studies also suggest that firms, with political connections, did not efficiently use their resources **(Fan et al, 2007; Faccio, 2010).** Thus, political connections, despite their advantages, could lead the firm towards increased agency costs **(Chaney et al, 2011; Boubakri et al, 2012).** Since firms, with political connections, generally benefit from their connections, they may hide their activities from the investors **(Leuz and Oberholzer-Gee, 2003)** and this way, they may eliminate the right of minority shareholders **(La Porta et al, 2000).**

Anderson et al, (2003) argued that when sales decreased, managers decided to accumulate scarce resources in order to avoid the cost of adjusting resources, such as paying compensation to dismissed workers and losses of disposal of equipment. In contrast, when demand increased, compared to available resources, managers can respond to the demands by adding their required resources. This asymmetry in resource adjustments led to cost stickiness. According to **Anderson et al. (2003),** several studies have confirmed cost stickiness **(Chen et.al, 2012; Dierynck et.al, 2012; Kama and Weiss, 2013).** Based on the agency theory, due to the incompatibility of managers and shareholders' incentives, managers opportunistically developed the firm, more than its optimum size, in order to maintain unused resources to increase their personal advantage. Managers may not want to lose authority, power, rewards, and reputation**.** Thus, due to increasing agency costs, creating political connections can increase managers' opportunistic behavior and cost stickiness.

Product market completion has been identified as an external disciplinary mechanism of corporate governance, that links the interests of managers and stakeholders, and improves efficiency **(Hart, 1983; Grullon and Michaely, 2007).** Theoretical studies have shown that competition can directly affect managerial behaviors and hence it reduces agency problems. In **Hart's (1983)** model, increased competition would reduce managers' charges and would increase their incentive to work more. Similarly, **Holmström (1982) and Nalebuff and Stiglitz (1983)** also argued that increased competition provided more information for owners, which can reduce the problem of moral hazards.

In Iran, **Nicoo Maram and Bani Mahda (2008)** studied the connection-based economy, political connections, and accruals quality. Their results showed that the existence of political connections in sample firms reduced the accruals quality. They also reported that accruals quality index recorded a direct relationship with variables of audit firm's size, the profitability index, and the financial leverage and inversely related to the size of firms with political connections. On the other hand, **Barzegar and Najari (2015)** showed the existence of a significant relationship between political connections and dividend policy of listed firms in Tehran Stock Exchange. In the field of cost stickiness, the factors influencing cost stickiness behavior were examined and analysed. **Zanjir Dar et al, (2013)** reported that administrative, general, and sales costs, as well as the cost of goods sold were sticky and the stickiness intensity was very high for the cost of goods sold, and indicators such as the number of employees, the amount of firm's current assets, and the debt ratio affected the intensity of administrative, general, and sales costs and cost of goods sold. Meanwhile, the intensity of cost stickiness intensity, for goods sold in current assets, was lower than fixed assets, and identifying these features and their impact on cost behavior, can greatly help managers to have better insight and more comprehensive budgeting.

Benjamin et al, (2016) came to the conclusion that firms, with political connections tended to pay lower dividends. Meanwhile, institutional ownership was accompanied by higher dividend payments. In fact, their study showed that high levels of institutional ownership moderated the negative relationship between firms' political connections and dividends. **Brooks (2016)** also argued that in order to minimize the agency costs, associated with political connections, firms having these connections would have to use specialized auditors. Examining active firms in the US capital market and in line with the mentioned argument, he found a direct relationship between political connections and choosing industry's specialized auditors. In the field of cost stickiness, **Xue and Hong (2016)** examined the impact of corporate governance and earnings management as well as their interaction with cost stickiness. Their results indicated that good corporate governance can reduce cost stickiness, though its impact was not as strong and severe as earnings management.

3. Statement of the Problem

The new empirical evidence confirmed that product market competition encouraged managers to have a closer alignment with shareholders' interests. More product market competition would reduce personal benefits of managerial control. Competition between firms is a more effective disciplinary mechanism than other internal mechanisms of corporate governance or external monitoring mechanisms. The product market competition reduced agency problems between managers and agents, and as a result, it can moderate the increasing impact of firm's political connections on cost stickiness.

4. Need of the Study

Firms, with political connections, generally benefit from their connections and may hide their activities from investors and thereby, may eliminate the right of controlling shareholders. On the other hand, theoretical studies have shown that competition can directly affect management behavior and thus reduce agency problems. This study strives to find out the relationship between political connections and cost stickiness, emphasizing the moderating role of product market competition.

5. Objectives of the Study

The aim of this study was to test whether firm's political connections increased cost stickiness and whether product market competition mitigated the direct relationship between firm's political connections and cost stickiness.

6. Hypotheses of the Study

NH-1: Political connections of a firm do not increase the cost stickiness.

NH-2: Product market competition does not mitigate the direct relationship between firm's political connections and cost stickiness.

7. Research Methodology

7.1 Sample Selection

154 firms, listed in the Tehran Stock Exchange were selected as the sample of this study, through systematic elimination method.

7.2 Sources of Data

The required data, for the 154 sample firms, were collected from the Tehran Stock Exchange, Iran.

7.3 Period of the Study

The period of the study was four years from 2011 to 2015.

7.4 Tools used in the Study

Regression and correlation techniques were used in the study.

8. Analysis of Data

The reliability of the variables had to be examined before the data analysis. Reliability means the mean and variance of the variables and their covariance, to be constant over the years and over different years. As a result, using these variables in the model would not create false regressions. Thus, Im, Shin, and Pesaran Test was used in this study. The attributes of variables' quality are presented in **Table-1**. It was found that, the mean and median values of quantitative variables were close to each other and also outlier data, that negatively affected the quality of analyses, were eliminated. The value of significance level of Im, Shin, and Pesaran Test, for all variables, was less than 0.05, and therefore, all variables were persistent over the period of study.

The results of testing the first hypothesis are presented in **Table-2.** It is worth mentioning that based on the results of Chow Test and the results of Hausman Test, panel data model and fixed effects model were used respectively. Given the results of the Table, since t statistics of sales revenue decline x sales revenue ratio was greater than -1.965 and its significance level was smaller than 0.05, there was significant and reverse relationship between sales revenue decline x sales revenue ratio of operational costs of listed firms in Tehran Stock Exchange. In other words, cost stickiness was present at all levels of the sample under investigation. On the other hand, since t-statistics for political connections x sales revenue decline x sales revenue ratio variable was greater than -1.965 and its significance level was smaller than 0.05, there was inverse and significant relationship between political connections x sales revenue decline x sales revenue ratio and the ratio of operational costs of listed firms in Tehran Stock Exchange. Therefore, firm's political connections enhanced the cost stickiness and as a result, the **NH-1** (Firm's political connections do not increase cost stickiness), was rejected. Dourbin-Watson Statistics of the model was 2.143, which was between 1.5 and 2.5. Meanwhile, the significance level of F statistics was 0.000, which was less than 0.05, indicating the significance of the model. Another significant point, in Table.2, is adjusted R-squared. The value of adjusted R-squared of the model was approximately 63%, indicating that about 63% of changes in the dependent variable can be explained by independent and control variables. It should be noted that using estimated generalized least squares method as well as White Diagonal correction, led to the elimination of probable variance heterogeneity effects.

The results of testing the second hypothesis are presented in **Table-3**. It is worth mentioning that based on the results of Chow Test and the results of Hausman Test, panel data model and fixed effects model were used. According to the results of the Table, since t-statistics of sales revenue decline x sales revenue ratio was greater than -1.965 and its significance level was smaller than 0.05, significant and reverse relationship existed between sales revenue decline x sales revenue ratio and the ratio of operational costs of listed firms in Tehran Stock Exchange. In otherwords, there was cost stickiness at the level of the sample under investigation. On the other hand, since t statistics for political connections x sales revenue decline x sales revenue ratio variable was greater than -1.965 and its significance level was smaller than 0.05, there was inverse and significant relationship between political connections x sales revenue decline x sales revenue ratio and the ratio of operational costs of listed firms in Tehran Stock Exchange. Thus, firm's political connections enhanced the cost stickiness and as a result, the first hypothesis of the study, stating that "firm's political connections increase

cost stickiness", was confirmed. Meanwhile, t-statistics for Herfindahl-Hirschman index x political connections x sales revenue decline x sales revenue ratio was greater than -1.965 and its significance level was smaller than 0.05, indicating that there was significant and inverse relationship between Herfindahl-Hirschman index x political connections x sales revenue decline x sales revenue ratio and the ratio of operational costs of listed firms in Tehran Stock Exchange. Thus, product market competition, Herfindahl-Hirschman index is an inverse criterion for it, mitigated the increasing impact of firm's political connections on cost stickiness. Hence, the **NH-2** (Product market competition is not accompanied by mitigating the direct relationship between firm's political connections and cost stickiness), was rejected.

Dourbin-Watson Statistics of the model was 2.116, which was between 1.5 and 2.5. Meanwhile, the significance level of F statistics was 0.000, which was less than 0.05, indicating the significance of the model. Another significant point, in **Table-3,** is adjusted R-squared. The value of adjusted R-squared of the model was approximately 76%, indicating that about 76% of changes in the dependent variable can be explained by independent and control variables. It should be noted that using estimated generalized least squares method as well as White Diagonal correction, led to the elimination of probable variance heterogeneity effects.

9. Findings of the Study

The study found that firm's political connections led to increased cost stickiness. In this regard, it is necessary to explain that state policies and regulations often create an uncertainty environment and increase transaction costs for business organizations. Firms, with political connections, tended towards lower efficiency and they did not use their resources effectively and efficiently. Therefore, despite their advantages, political connections did cause the firm to increase its agency costs. Firms, with political connections, generally benefited from their connections and may hide their activities from investors, and thereby, may eliminate the right of controlling minority shareholders. Due to reduced efficiency and increasing agency costs, firm's political connections enhanced cost stickiness. This result concurred with the results of **La Porta et al. (2000), Leuz** and **Oberholzer-Gee (2003), Johnson** and **Mitton(2003), Fan et al. (2007), Faccio (2010), Chaney et al. (2011), Boubakri et al. (2012), Benjamin et al. (2016)** and **Barzegar** and in contrast with the results of **Faccio (2006), Claessens et al. (2008), Bliss** and **Gul (2012a), Boubakri et al. (2012),** and **Brooks (2016).**

The increased product market competition was accompanied by providing more information to owners, reducing the problem of moral hazards, encouraging managers to move closer to shareholders' interests, reducing individual benefits of managerial control, and reducing agency problems between managers and agents. It undermined the impact of firm's political connections on cost stickiness. This result was consistent with the results of **Allen and Gale (2000)** and**, Guadalupe and Pérez-González (2010),** and **Giroud** and **Mueller (2011).**

10. Suggestions of the Study

It is recommended to investors, in listed firms in Tehran Stock Exchange, to take into account the increasing role of firm's political connections as well as the significant and reducing role of product market competition, while using firms' operational analysis. Paying attention to the role played by political connections in country's capital market and firms' transparency and efficiency is also

suggested to major economic and political policy-makers and decision-makers as well as to Tehran's Securities and Exchange Organization. In addition, due to the effective monitoring role of product market competition, it is suggested that Securities and Exchange Organization could provide more support for programs to increase competition in industries.

11. Conclusion

The traditional cost behavior model, regardless of managers' role in the process of resource adjustment, establishes a link between costs and various levels of activities. However, due to the irregular behavior of some costs, managers make separate decisions for making changes in resources related to them since such resources cannot be increased or reduced to a small amount, or because resource changes cannot be matched with small changes in demands fast enough **(Zanjir Dar et al, 2014). Anderson et al, (2003), Calleja et al, (2006), Noreen et al, (1997)** concluded that mostly costs are sticky and the amount of cost reduction at the time of sales decline, would be less than the increase in costs in response to the same increase in sales. These results are in contrast with the traditional model of linear relations in variable and fixed costs and suggest an alternative theory for cost behavior, that is based on intentional management decisions. **Anderson et al. (2003)** argued that when sales decline, in order to avoid the cost of resource adjustment, such as compensation for dismissed workers and losses of equipment disposal, managers decide to accumulate scarce resources. In contrast, when demand increases relative to the amount of available resources, managers can respond to the demands by adding their required resources. This asymmetry in resource adjustments leads to cost stickiness. Following **Anderson et al. (2003),** several studies confirmed cost stickiness **(Dierynck et al., 2012; Kama and Weiss, 2103),** and thus, **Anderson et al. (2003)**'s cost stickiness theory became a dominant subject in cost behavior studies. The results of this study indicated that cost stickiness did exist in the sample under study and confirmed the arguments of **Anderson et al. (2003), Chen et al. (2012); Dierynck et al. (2012), Kama and Weiss (2013), and Zanjir Dar et al. (2014).**

12. Limitations of the Study

The study covered only a sample of 154 firms, out of 339 total firms, listed in the Tehran Stock Exchange, for a period of only four years from 2011 to 2015.

13. Scope for Further Research

In future, the researchers could endeavor to find out the other significant factors, which could be influenced by the political connections of the listed firms in any economy. It is recommended to use the models of this study, by utilizing other indicators of measuring product market competition such as the Lerner index and reciprocal of the number of industry firms, and compare and summarize the results. The impact of other monitoring tools and mechanisms, such as corporate governance mechanisms on the relationship between firm's political connections and cost stickiness, could also be examined.

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Table-1: Qualitative Characteristics of Variables

Im, Shin, and Pesaran		SD	Minimum	Maximum	Median	Mean	Variables
Significance	t statistics						
0.000	-19.453	0.135	-0.386	0.443	0.063	0.055	Operating cost ratio
0.000	-19.085	0.147	-0.493	0.543	0.056	0.047	Sales revenue ratio
0.000	-24.384	0.466	0.000	1.000	0.000	0.32	Sales revenue decline
0.000	-11.604	0.481	0.000	1.000	1.000	0.675	Political connections
0.000	-4.379	0.167	0.04	0.844	0.186	0.254	Herfindahl-Hirschman index
0.000	-14.496	0.148	-0.485	0.56	0.071	0.082	Asset return
0.000	-9.022	1.481	10.166	19.106	13.71	13.837	Firm size
0.000	-6.967	0.201	0.089	0.986	0.606	0.59	Financial leverage
0.000	-23.624	0.261	-0.342	1.142	0.133	0.186	Firm growth
0.000	-8.117	12.121	13.000	64.000	38.000	36.792	Firm age
0.000	-12.673	0.175	0.134	0.989	0.76	0.732	Major ownership
0.000	-12.101	0.282	0.000	1.000	0.6	0.582	Board independence

Source: Data were extracted from http://new.tse.ir/en/ and computed using SPSS

Table-2: The Relationship between Political Connections and Cost Stickiness

Significance	t statistics	SD	Coefficient	Variable
0.000	5.345	0.011	0.063	Fixed coefficient
0.000	10.456	0.017	0.186	Sales revenue ratio
0.000	-8.635	0.075	-0.654	Sales revenue decline x sales revenue ratio
0.000	-3.922	0.056	-0.223	Political connections x sales revenue decline x sales revenue ratio
0.000	-10.266	0.016	-0.172	Asset returns
0.000	3.948	0.001	0.004	Firm size
0.000	-5.301	0.008	-0.047	Financial leverage
0.002	-3.021	0.005	-0.016	Firm growth
0.276	-1.09	0.0001	-0.0001	Firm age
0.008	2.627	0.007	0.019	Major ownership
0.001	3.247	0.004	0.015	Board independence
Adjusted R-squared= 0.628				F statistics= 17.249
Dourbin-Watson statistics= 2.143				Significance level= 0.000
Hausman test statistics= 129.962				Chow test statistics= 1.452
Hausman test significance level= 0.000				Chow test significance level= 0.000
Fixed effects model, EGSL method, and White Diagonal correction				

Source: Data were extracted from http://new.tse.ir/en/ and computed using SPSS

Table-3: The Relationship between Product Market Competition, Political Connections and Cost Stickiness

Significance	t statistics	SD	Coefficient	Variable
0.000	5.387	0.005	0.03	Fixed coefficient
0.000	11.938	0.016	0.199	Sales revenue ratio
0.018	-2.36	0.06	-0.142	Sales revenue decline x sales revenue ratio
0.000	-4.216	0.065	-0.277	Political connections x sales revenue decline x sales revenue ratio
0.008	-2.65	0.02	-0.054	Herfindahl-Hirschman index x political connections x sales revenue decline x sales revenue ratio
0.000	-10.138	0.016	-0.172	Asset returns
0.000	4.423	0.001	0.005	Firm size
0.000	-5.54	0.009	-0.05	Financial leverage
0.000	-3.617	0.005	-0.019	Firm growth
0.205	-1.267	$9.96x10^{-5}$	-0.0001	Firm age
0.001	3.124	0.007	-0.023	Major ownership
0.000	3.517	0.004	0.016	Board independence
Adjusted R-squared= 0.763				F statistics= 19.003
Dourbin-Watson statistics= 2.116				Significance level= 0.000
Hausman test statistics= 118.711				Chow test statistics= 1.493
Hausman test significance level= 0.000				Chow test significance level= 0.000
Fixed effects model, EGSL method, and White Diagonal correction				

Source: Data were extracted from http://new.tse.ir/en/ and computed using SPSS