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Board Compensation and Related Party Transactions: Evidence from Iran

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ABSTRACT

This paper investigates the effect of related party transactions (RPTs) onboard compensation in Iran. The study population consists of 870 observations and 145 companies listed on the Tehran Stock Exchange (TSE), over six years from 2012 to 2017.Our evidence demonstrated that total transactions with other related parties are associated with board compensation. This lends support to the conjecture that managers tend to manipulate earnings, and consequently, adjust their rewards through non-routine transactions with related parties. We also find that using total purchase and sale transactions, loans, and guaranteeing of other related parties is a method of reward-enhancing in an indirect way. Finally, our outcomes suggest that market competitiveness has no impact on compensation in the presence of both normal and abnormal RPTs.This study provides some policy implications concerning legislators' focuses on related party transactions by documenting that not all types of RPT carry similar fraud risk. Our study offers some preliminary insight into how different categories of RPTs may be used as manipulation leverage.

Keywords: *Related Party Transaction(RPT),Board Compensation, TSE, Iran.*

INTRODUCTION

This paper examines empirically the relationship between board compensation and related party transactions in Iran. Building on Accounting Standards of Iran, No.12, Related Party Transactions (RPT) isa transfer of resources, services, and obligations between related parties, regardless of demanding or not demanding their values. Connection with related parties may affect companies' flexibility and performance. Related parties can make transactions that others may not be able to. Also, values and costs between related parties may not be the same as are for others. Therefore, awareness of transactions, accounting balances, and relations between related parties may affect the evaluation of the users of financial statements, risk assessment, and later opportunities of a company (Iranian Accounting Standards, 2007). RPTs are commonly used around the world and may have detrimental effects on a firm's valuation. They are also connected to the swindling attitude of managers and controlling shareholders.

Although growing literature on the RPTs and its consequences on many aspects of corporations is seen, there is hardly any evidence on the relationship between board compensation and RPTs. Due to the moral problem of conflict of interests, there need to be some criteria to appraise managerial efforts and compensate for their attempts (Duong and Evans, 2015). Hence, the last line of income statement (profit) would be the best measure of decision making for the users of financial statementslike banks, shareholders, and tax departments, and also it would be an appropriate measure of managerial endeavors. While most companies use the income smoothing leverage to level out net income fluctuations from one period to the next,

RPTs may cause loss of shareholders' resources, and managers tend to cover this transmission of resources to themselves by earnings management (Gordon & Henry, 2005). Jian & Wong (2010) also stated that managers use RPTs to increase reported earnings.

We look into the argument on the relationship between board compensation and RPTs using data from Iran. Iran has some interesting features to explore this research. First, RPTs are considerable in Iran. Second, the mechanisms via which RPTs are conducted are somehow varied and twisted. Third, the financial and economic situation of Iran in the Middle-East and especially within developing countries due to economic sanctions during recent years makes our sample truly engrossing. In Iran's economic atmosphere, since firms have much financial distress because of economic sanctions and managers are pessimistic about the future of corporate businesses, they have numerous financial incentives to engage in earnings management (Salehi et al., 2018; Salehi et al., 2019: Moradi et al., 2020). Among many types of RPTs identified in Iran and most countries, four controversial types are introduced and examined in this study. In the financial statements of Iranian firms, RPTs are disclosed according to Article 129 of Commercial Code. However, for better disclosure of information needed by the users, trades and transactions with other related parties like major shareholders are also disclosed on another part of the financial statement appendix. We aim to investigate the relationship between these kinds of RPTs with compensation, and also, this study will examine the relationship between board compensation and major components of RPTs (purchase and sale transactions, loans, and guaranteeing of related parties and other related parties). Then, this paper will test if a competitive market has an impact on our examination. Last, but not the least, we will finish our study on the mentioned relationships by abnormal components of the variables as additional tests.

THE THEORETICAL FRAMEWORK, HYPOTHESES DEVELOPMENT, AND LITERATURE

In Iran, accounting standard number 12,"the disclosure of related parties' information" and auditing standard number 550, "related parties, art.129 of the Commercial Code," adopted in 1967, emphasize on RPTs and the performance of accountants and auditors. Additionally, instructions on disclosure requirements and approval of RPTs was introduced by the board of Tehran Stock Exchange (TSE) in 2010 to protect shareholders interests, prevent violations, organizing, and developing a fair and transparent market; according to paragraph 8, 11, and 18 of article 7 of securities market act of Islamic Republic of Iran, and from the beginning of 2011, it has been stated to be enforceable by all corporations (Iranian Accounting Standards, 2007; Iranian Auditing Standards, 2010; Iranian parliament, 2005; Mansour, 2014). According to Darabi & Davoudkhani (2015), although expropriation of wealth and resources of corporations may be a routine act in developed countries, in emerging economies, and due to violating the global markets and weaknesses in directing the firms, it has been seen more.In new flourished economics and specifically in Asia that appointment and retention of managers are made by deep penetration of major shareholders, expropriation of wealth is very routine and there are high information asymmetry and conflict of interests. Although every transaction with related parties is not made opportunistically, the dominant attitude is that decision-makers consider RPTs as a risk-taking measure and place great importance on them before buying any shares. In the new flourished capital market of Iran, due to the high level of concentration of ownership and information asymmetry between managers and owners, thinking about the opportunistic behavior of managers seems logical. Recent experiences also approve that not only RPTs may violate the value-making procedure of firms, but also they may make firms break down gradually (Sheri & Hamidi, 2012; Darabi & Davoudkhani, 2015).

With the corporations' development and business activities booming, shareholders assigned professional managers to control and manage their resources and assets. If managers receive appropriate feedback on their efforts, consequently they do their best in line with corporation activities. Thus, to maximize shareholders' interests, owners have to consider some motivational factors as compensation for managers' effort (Duong & Evans, 2015). Hanlon et al. (2003) indicated that there is a positive relationship between managers' stock options and future profits; besides,manager compensation leads a corporation toward success.On the other hand, according to agency theory managers usually prioritize their interests and neglect the shareholders (Salehi et al, 2018). In this situation, managers face some problems. First, how owners provide some incentives for the managers to maximize their efforts? And

then, how to put those efforts in line with the corporation benefits? To solve these problems, first, some suitable performance measurements should be considered to evaluate managers' activities, and then, provide sufficient compensations according to those activities. Consequently, there will be an alignment of interests between shareholders and managers; so that considering shareholders' interest and managers' efforts, managers receive bonuses, and accordingly, managers and shareholder's wealth increases. In another interesting study, Jamalikazemini and Tarighi (2020) figured out that disclosure quality is not connected with board compensation in Iranian companies with institutional and family ownership.Agency theory argues that separation of ownership and management may lead to a conflict of interests between shareholders and directors; so that compensation can balance their relationship (Kapopoulos & Lazaretou, 2007).

Management's compensation supports the alignment of the interests of shareholders and managers (Salehi et al., 2018). To pay appropriate compensation to managers, their performance, and effort within the firm's activities must be evaluated (Hui & Matsunaga, 2015). But some observations show that many companies keep paying bonuses despite the decreases in their profits (Nikoumaram & Pazouki, 2015).

As mentioned, the main purpose of accounting is to help investors in their decision-making process. The separation of ownership and management causes unawareness of shareholders from internal information of the firms. Information on RPTs is also the one that is difficult to understand. For example, Enron made most of its big transactions with related parties, and consequently, achieved huge profits that were not identifiable and traceable. Corporate governance mechanisms have a vital role in these transactions. Among these mechanisms, management contracts can be named in which owners try to prevent the opportunistic behavior of the managers by putting these transactions in terms of the contracts; this may decrease the opportunistic behavior of the managers (Rakhshan, 2011). Because external users do not have access to the information, managers do earning management opportunistically to maximize their rewards in the bonus plans. According to Ullah & Shah (2015), the opportunistic behavior of the agent (manager) can be modified by the substantial compensation attached tothe firm's performance. In this regard, many researchers by several studies found that with an increase in managers' compensation, motivation for manipulating accruals (profit) gets higher, and consequently, high-quality auditing and higher audit fees are required (Salehi et al, 2018). Studies of several researchers suggest the significant relationship between compensation and earning management (Piri et al., 2012); that is because corporate performance somehow is linked to the board compensation (Malekian et al, 2013; Mohsenimaleki et al, 2013).Therefore, limiting this action can be done by institutional board members more than independent board members. LU (2017) realized that RPTs is seen more among firms that have over-compensated directors or with a lower portion of equity-based compensation. Using data from Indonesia, Habib et al. (2017) proved that politically connected companies use related-party loans to tunnel resources and that this outcome is more marked for firms with government connections. Using a sample of 367 Indian manufacturing firms, Agnihotri & Bhattacharya (2019) found that related party transactions (RPTs) affect negatively the internationalization of emerging economy firms. Shan (2019) observed that there is a positive association between firm age and the level of voluntary related-party transactions disclosure, while the firm size is adversely connected. Based on a sample of firms listed on the Athens Stock Exchange, El-Helaly et al. (2018) showed that, averagely, real earnings management and RPTs appear to be used as alternatives. However, this substitution is not important if the firm is audited by Big auditors. Using the data of Iranian listed firms between 1999 and 2003, Namazi & Moradi (2005), found out that there is a significant relationship between the ratio of return on assets and its changes, firm size, ownership concentration, and financial risk with compensation. Namazi & Sirani (2004) concluded that the duration of a contract and its stability affect a firm's value in Iran. They also emphasize on determining bonuses on a percentage of Market Value Added (MVA), and that granting stocks to the managers makes them motivated to do their best. And finally, they showed that in an appropriate contract, compensation must be a linear function of profit, and there shouldn't be a limit consideration for it.In the dark atmosphere of the Iranian market between 2009 and 2014 due to economic sanctions ،Salehi et al. (2018) believed that the Iranian shareholders are protesters in their opposition to large salaries, bonuses, and share options granted to managers; hence, the compensation paid by most firms on the TSE as

compared to the advanced foreign companies are meeker with a base salary and inadequate motivations.

So far, much research has been done on Related Party Transactions, earnings management, and management's compensation, and how the auditors react to them. For instance, Gordon & Henry (2005), investigated the relationship between RPTs and earning management using 331 firms' data over 2000-2001. The results showed that abnormal accruals (as a measure of earning management) correlates with a kind of RPTs like financing with a fixed rate. They also concluded that if a corporation uses RPTs, it does not necessarily mean that there has just happened earning management. Although sometimes most of the RPTs are legal and considered as normal as transactions with non-related parties, the benefits of minor shareholders are denied, and that most of the RPTs are made within family businesses and operational businesses (Duprey, 2006). Kim & Woo (2008), proved that corporations are eager to manipulate earnings by the management of discretionary accruals. They also declared that there is a negative relationship between RPTs and the coefficient of earnings response, which is a bad evaluation of RPTs by the market. Cheung et al. (2009) found that these transactions may cause poor performance of the firms, and Chinese managers tend to disclose less information about RPTs. They concluded that there is a positive relationship between RPTs and the distortion of financial statements. They also showed that buying with higher values than normal from related parties and selling with lower values than normal to related parties may cause a decrease in share values. Finally, they demonstrated that a negative relationship between RPTs (with unconventional values) and firm values exists. Cheung et al. (2009), classified RPTs into seven categories which were labeled tunneling or propping on a priori basis. They stated that tunneling was found to be more frequent than propping, while propped up firms were more likely to have foreign shareholders and to be cross-listed abroad, as well as having poorer prior operating performance. Tunneling was concentrated among firms with state ownership and was not present among firms with private ownership. Chatterjee et al. (2009) showed that disclosure quantity in Indian firms is above the minimum quantity mentioned in Indian accounting standards. Besides, Peng et al. (2010) concluded that when a firm is both in a good or a bad financial condition, controlling shareholders tend to use RPTs. Ge et al. (2010) concluded that there is a negative relationship between RPTs and firm values, and such these transactions decrease share values. Jian & Wong (2010), stated that sales to related parties in poor companies are more and that all unusual sales to related parties were not accruals, but some of them were in cash. Kohlbeck & Mayhew (2010) displayed that firms using RPTs have lower values, and although RPTs disclosure has benefits for the users, in the end, it decreases share values. They also concluded that there is a negative relationship between RPTs and receiving financial facilities. Moscariello (2010) stated that because of the concentrated ownership structure in Italian firms, expropriation by major shareholders is not in favor of minor shareholders. The results also showed an opportunistic behavior in these kinds of transactions, and that there is a significant relationship between the values of these transactions and the variables which have effects on motivations and achieving properties prices. Wenxia et al. (2010) found out that there is a negative relationship between them, and these kinds of transactions have a damaging effect on share values. Khodamipour et al. (2012) concluded that after the approval of new disclosure requirements, the profit coefficient value for the firms selling goods to related parties decreases; and the profit coefficient value for the firms selling assets to related parties decreases. Tareq et al. (2012) concluded that there are RPTs with actual and distinct market values. In the first one, there is no measurement error, but the second one has a high error. They stated that evaluating and controlling RPTs in financial statements give insurance to the users in the process of decision making. Monaligod & Del Rosario (2012) stated that there is not a significant difference in categorizing firms by type of auditor; besides, firm size and type of auditor are not predictors of firms' disclosure quantity. Kohlbeck & Mayhew (2016) found a positive correlation between RPTs and future restatements, showing that restatements are more likely when a firm engages in RPTs. They also found that RPT firms pay lower audit fees. In the Iran context, Alavi et al. (2011)realized that 10 factors of corporate governance, 2 factors of governmental and quasi-governmental institutions percentage, andaudit type have positive relations with independent audit fees. Sheri & Hamidi (2012) examined if RPTs are opportunistic or efficient and showed the presence of opportunistic behavior in the market of Iran. Sarlak et al.

(2013) also investigated the relationship between earning management and RPTs among Iranian listed firms. According to the agency problem and conflict of interests, they showed that there is a positive relationship between RPTs and earning management.

What is worth mentioning is that Big auditors make firms less likely to report RPTs (Huyghebaert and Wang, 2012). Auditors mostly concern about the reports that have a significant effect on profit, and on the other hand, legislators mostly concern about loans and guaranteeing related parties (Habib et al., 2015). However, according to the previous researches on RPTs and corporate governance factors by other researchers, and with the contradictory results of auditors' performances in decreasing RPTs, we aim to investigate the impact of board compensation on RPTs. In the financial statements of Iranian firms, RPTs are disclosed according to Article 129 of Commercial Code[1]. However, for better disclosure of information needed by the users, trades and transactions with other related parties like major shareholders are also disclosed on another part of the financial statement appendix. We aim to investigate the relationship between these kinds of RPTs with compensation, and also, we will examine the relationship between compensation and major components of RPTs (purchase and sale transactions, loans, and guaranteeing of related parties). According to the expressed content and the results extracted from the previous studies, we have the following hypotheses:

H1a: There is a Significant Relationship Between Compensation and RPTs

If we consider RPTs to have a decreasing effect on managers' bonuses, we should expect a negative and significant coefficient on the RPTs. On the other hand, if RPTs are reward-enhancing, then the relationship between the two could be positive and significant. We examine *total related party transactions according to Article 129 of the Iranian Commercial Code* and *total transactions with other related parties*. In both, we expect positive and significant coefficients.

H1b: There is a Significant Relationship between Compensation and Purchase and Sale Transactions, Loans, and Guaranteeing of Related Parties

Furthermore, we examine the effect of another category of RPTs on board compensation (*purchase and sale transactions, loans, and guaranteeing of related parties*) as they are the most frequently occurring RPTs (Hong & Xue, 2008). Here we consider two types:*total purchase and sale, loans, and guaranteeing of related parties*; and *total purchase and sale, loans, and guaranteeing of other related parties*. Our expectation of the coefficients issignificant and positive.Following the study on the relationship between compensation and RPTs; we extend our research onthe abnormal RPTs and their relationship with compensation. The level of related party transactions can either be normal or abnormal for a firm. The estimation method of abnormal RPTs is derived from Jian & Wong (2010). According to the expressed content and the results extracted from previous studies, we have the following hypotheses:

H2a: There is a Significant Relationship Between Compensation and Abnormal RPTs

If we consider *abnormal RPTs* to have a high decreasing effect on managers' bonuses, we should expect a negative and significant coefficient on *abnormal RPTs*. On the other hand, if *abnormal RPTs* are highly reward-enhancing, then the relationship between the two could be positive and significant. We examine *total abnormal related party transactions according to Article 129 of the Iranian Commercial Code* and *total abnormal transactions with other related parties*. We expect positive and significant coefficients in both cases.

H2b: There is a Significant Relationship Between Compensation and Abnormal Purchase and Sale Transactions, Loans, and Guaranteeing of Related Parties.

Here we examinethe effect of abnormal RPTsand expect the same coefficient as we do for (H1b).Finally, we investigate whether the competitive industries market has an impact on the relationship between compensation and RPTs or not.Previous studies have shown that product market competition is an alternative for

[1]Board members and CEO of the firm, and board members and CEOs of other firms which are a member of the board or CEO of the firm, can not participate directly and indirectly in transactions with the firm without the permission of the board. If the board agrees, the firms' ombudsman must be informed and report its hearing to the first general meeting of shareholders with the details of transactions. Also, the beneficiary member of transaction has no voting right in the general meeting for making decision about the mentioned transaction.

internal monitoring to reduce agency costs (Giroud & Mueller, 2011). The reason is that firms with high costs in competitive markets may become bankrupt, and the fear of being bankrupt is an important motivational factor for managers to stay in a competitive market by increasing their efforts (Schmidt, 1997).Chen et al. (2012) argue that because firms in competitive industries confront bankruptcy risk more than in a non-competitive industry, they choose normal RPTs to reduce transaction costs and as a consequence, cause the reduction of potential bankruptcy risk. Due to this, they concluded that product market competition has a positive relationship with RPTs. Leventis et al. (2011) concluded that audit fees in competitive markets are lower, the need for monitoring managers is reduced, and also the effort of auditors (as an agency cost) is decreased. Jones & Raghunandan (1998) concluded that audit fees are higher for the firms involved in financial problems and those which are active in the field of advanced technology. Thus, in this paper,we measure product market competition using the Herfindahl–Hirschman Index (HHI) (Karuna, 2007; Li, 2010).According to the expressed content and the results extracted from previous studies, we have the following hypotheses:

H3a: There is a Significant Relationship Between Compensation and Rpts In Competitive Industries

We predict that if product market competition acts as an alternative governance mechanism, we would expect lower compensation in the presence of RPTs in a highly competitive market because firms will be obliged by market forces to improve their operational efficiency and to constrain deleterious RPTs to survive. We test this conjecture and expect the coefficients to be negative and significant if industry competitiveness curbs opportunistic RPTs, which would decrease managers' compensation.

H3b: There is a Significant Relationship Between Compensation and Purchase and Sale Transactions, Loans, and Guaranteeing of Related Parties In Competitive Industries

We expect the same coefficients as we do in H3a on each RPTs interacted with the top quantile of HH.

H3c: There Is A Relationship Between Compensation And Abnormal Rpts In Competitive Industries.

Here we have our next hypothesis as same as the previous one, with a difference that we have abnormal RPTs here. We still expect the same coefficients as we do for normal RPTs.We also expect the same coefficients as we do in H3C here.

H3d: There Is A Significant Relationship Between Compensation And Abnormal Purchase And Sale Transactions, Loans, And Guaranteeing Of Related Parties In Competitive Industries.

Additional Tests

In this section, we extend our research further on abnormal compensation and test all of the previous hypotheses again. As the level of compensation can either be normal or abnormal for a firm, we remove any normal components of compensation that are associated with industry classifications, firm characteristics, and managers' attributes and personalities. Our consideration and expectation of the coefficients are as same as our previous hypotheses. Here we have the following hypotheses:

H4a: There Is A Significant Relationship Between Abnormal Compensation And Rpts.

H4b: There is a Significant Relationship Between Abnormal Compensation and Purchase and Sale Transactions, Loans, and Guaranteeing of Related Parties.

H4c: There Is A Significant Relationship Between Abnormal Compensation and Abnormal Rpts.

H4d: There is a Significant Relationship Between Abnormal Compensation and Abnormal Purchase and Sale Transactions, Loans, And Guaranteeing Of Related Parties.

H4e: There is a Significant Relationship Between Abnormal Compensation And Rpts In Competitive Industries.

H4f: There is a Significant Relationship Between Abnormal Compensation and Purchase and Sale Transactions, Loans, and Guaranteeing of Related Parties in Competitive Industries.

H4g: There Is A Significant Relationship Between Abnormal Compensation and Abnormal RPTs In Competitive Industries.

H4h: There is a Significant Relationship between Abnormal Compensation and Abnormal Purchase and Sale Transactions,

Loans, and Guaranteeing of Related Parties In Competitive Industries

RESEARCH METHODOLOGY

Since the results can be used in the decision-making process, this research is applied research. The statistical model used in this study was a multivariate regression; the time range of the study was between 2012 and 2017 as long as six years.The total data needed to test the hypotheses in this study were collected directly from the financial statements on the Tehran Stock Exchange website.As a large number of transactions are disclosed by individual firms reporting multiple RPTs in the same fiscal year with different parties, or even with the same party, we summarize the value of RPTs occurring for the same company in the same year to obtain firm-year observations.To test our hypotheses, we employ three sets ofregression models with compensation as the dependent variable and RPTs as independent variables, along with additional tests' regression models. For each model, we include a relevant set of control variables.

Population and Statistical Sample

The target population included all companies listed on the TSE during the period 2012 to 2017. Common features of the companies to determine the population are as follows:

1. The type of business activity is productive and thus investment companies, leasing, credit, and financial institutions and banks are not included in the sample due to their different natures.
2. The financial periods of companies should be finished at the end of the solar year to enhance the comparability and homogeneity of companies in terms of the period.
3. According to the research period (2012-2017), the company must be listed on the TSE before the year 2012 and its name is not removed from the listed companies by the end of 2017.

Taking account of the above conditions, a sample size of 145 companies in the Tehran Stock Exchange has been selected.

Table1. *Industry Distribution*

Industry Name	Firms	Observations	%
01-Pharmaceutical	17	102	0.12
02-Machinery and Equipment	16	96	0.11
03-Automotive and Parts Manufacturing	21	126	0.14
04-Minerals and Mining	40	240	0.28
05-Chemical	23	138	0.16
06-Food & Beverage	14	84	0.1
07-Metal	14	84	0.1
Total	145	870	1.00

Industry distribution of sample firms is presented in Table 1, revealing that the minerals and mining industry accounts for 28% of the total sample observations followed by the chemical, automotive and parts manufacturing, and the pharmaceutical industries with 16%, 14%, and 12% of sample observations respectively.

The First Regression Model – RPTs

Our first model focuses on the relationship between compensation and RPTs. We employ the following equation to examine this relation:

$$Compensation_{it} = \beta_0 + \beta_1 TRPTS_{it} + \beta_2 TRPT129_{it} + \beta_3 13TRPTS_{it} + \beta_4 13TRPT129_{it} + \beta_5 SIZE_{it} + \beta_6 ROA_{it} + \beta_7 GROWTH_{it} + \beta_8 CR_{it} + \beta_9 RECEIVE_{it} + \beta_{10} INVENTORY_{it} + \beta_{11} PROFIT_{it} + \beta_{12} OPINION_{it} + \beta_{13} LEVERAGE_{it} + \beta_{14} TENURE_{it} + \beta_{15} DAC_{it} + \beta_{16} EXPORT_{it} + \beta_{17} SEGMENT_{it} + \beta_{18} GENDER_{it} + \varepsilon_{it}$$

Compensation is the natural log of total board compensation; *TRPT129* [2]is the natural log of total related party transactions. We include a set of control variables commonly used in this type of research. *SIZE* is the natural log of total assets; *ROA* is net income divided by total assets; *GROWTH* is measured by market-to-book equity; *CR* is current assets/current liabilities; *RECEIVE* is accounts receivable divided by total assets; *INVENTORY* is the ratio of total inventory to total assets; *PROFIT* is coded 1 if net income is positive, and 0 otherwise;*OPINION* represents two categorical values, with 1 for an unqualified opinion; 0 for a

[2]According to article 129 of Iranian Commercial Code

qualified opinion with or without explanatory notes; *LEVERAGE* is total liabilities divided by total assets; *TENURE* is the number of auditors tenure in years; DAC (the discretionary accruals) is derived from the model of Jones' compliance by Dechow et al. (1996); *EXPORT* is the natural log of total exports; *SEGMENT* is the number of business segments,*and GENDER* is coded 1 if there is a female on board, and 0 otherwise.

The Second Regression Model – abnormal RPTs

Our second regression model focuses on the relationship between compensation and abnormal RPTs. We employ the regression model below to estimate abnormal RPTs. The estimation method of abnormal RPTs is derived from Jian & Wong (2010):

$$RPT_{it} = k_0 + k_1\, SIZE_{it} + k_2\, LEVERAGE_{it} + k_3\, GROWTH_{it} NRPT_{it} = \varepsilon_{it}$$

We remove any normal components of RPTs that are associated with industry classifications and firm characteristics.The residual term is the measure of abnormal RPTs. We run the above regression for every four types of RPTs. Now we employ the following equation to examine the mentioned relationship:

$$Compensation_{it} = \beta_0 + \beta_1\, NTRPTS_{it} + \beta_2\, NTRPT129_{it} + \beta_3\, 13NTRPTS_{it} + \beta_4\, 13NTRPT129_{it} + \beta_5\, SIZE_{it} + \beta_6\, ROA_{it} + \beta_7\, GROWTH_{it} + \beta_8\, CR_{it} + \beta_9\, RECEIVE_{it} + \beta_{10}\, INVENTORY_{it} + \beta_{11}\, PROFIT_{it} + \beta_{12}\, OPINION_{it} + \beta_{13}\, LEVERAGE_{it} + \beta_{14}\, TENURE_{it} + \beta_{15}\, DAC_{it} + \beta_{16}\, EXPORT_{it} + \beta_{17}\, SEGMENT_{it} + \beta_{18}\, GENDER_{it} + \varepsilon_{it}$$

The Third Regression Model – RPTs within Competitive Industries

Our next regression model focuses on the relationship between compensation and RPTs within competitive industries. We measure product market competition using the Herfindahl–Hirschman Index (HHI) (Karuna, 2007; Li, 2010).HHI is measured by the sum of the squares of the percentage shares of each firm concerning the total size of the industry. Stronger product market competition is defined bythe higher value of HHI.The Herfindahl–Hirschman Index is defined as:

$$HH = \sum_{i=1}^{n} (\Pi)^2 \ldots\ldots\ldots\ldots$$

Where Π_i is the market share of company *i* (based on total revenue) among aparticular industry and the summation is performed over the total number of corporations in theindustry. We create two indicator variables for high and low HH respectively. HH dummy is coded one if the HH value falls in the top (bottom) quintile of PMCobservations. We assemble the mentioned indicators with RPTs values and run the regression:

$$Compensation_{it} = \beta_0 + \beta_1\, TRPTS_{it} + \beta_2\, TRPT129_{it} + \beta_3\, 13TRPTS_{it} + \beta_4\, 13TRPT129_{it} + \beta_5\, PMC\_H_{it} + \beta_6\, PMC\_L_{it} + \beta_7\, TRPTS_{it} * PMC\_H_{it} + \beta_8\, TRPT129_{it} * PMC\_H + \beta_9\, 13TRPTS_{it} * PMC\_H_{it} + \beta_{10}\, 13TRPT129_{it} * PMC\_H + \beta_{11}\, TRPTS_{it} * PMC\_L_{it} + \beta_{12}\, TRPT129_{it} * PMC\_L_{it} + \beta_{13}\, 13TRPTS_{it} * PMC\_L_{it} + \beta_{14}\, 13TRPT129_{it} * PMC\_L_{it} + \beta_{15}\, SIZE_{it} + \beta_{10}\, ROA_{it} + \beta_{16}\, GROWTH_{it} + \beta_{17}\, CR_{it} + \beta_{18}\, RECEIV_{it} + \beta_{19}\, INVENTORY_{it} + \beta_{20}\, PROFIT_{it} + \beta_{21}\, OPINION_{it} + \beta_{22}\, OPINION_{it} + \beta_{23}\, LEVERAGE_{it} + \beta_{24}\, TENURE_{it} + \beta_{25}\, DAC_{it} + \beta_{26}\, EXPORT_{it} + \beta_{27}\, SEGMENT_{it} + \beta_{28}\, GENDER_{it} + \varepsilon_{it}$$

And here, we have the model of abnormal RPTs in competitive industries:

$$Compensation_{it} = \beta_0 + \beta_1\, NTRPTS_{it} + \beta_2\, NTRPT129_{it} + \beta_3\, N13TRPTS_{it} + \beta_4\, N13TRPT129_{it} + \beta_5\, PMC\_H_{it} + \beta_6\, PMC\_L_{it} + \beta_7\, NTRPTS_{it} * PMC\_H_{it} + \beta_8\, NTRPT129_{it} * PMC\_H + \beta_9\, N13TRPTS_{it} * PMC\_H_{it} + \beta_{10}\, N13TRPT129_{it} * PMC\_H + \beta_{11}\, NTRPTS_{it} * PMC\_L_{it} + \beta_{12}\, NTRPT129_{it} * PMC\_L_{it} + \beta_{13}\, N13TRPTS_{it} * PMC\_L_{it} + \beta_{14}\, N13TRPT129_{it} * PMC\_L_{it} + \beta_{15}\, SIZE_{it} + \beta_{10}\, ROA_{it} + \beta_{16}\, GROWTH_{it} + \beta_{17}\, CR_{it} + \beta_{18}\, RECEIV_{it} + \beta_{19}\, INVENTORY_{it} + \beta_{20}\, PROFIT_{it} + \beta_{21}\, OPINION_{it} + \beta_{22}\, OPINION_{it} + \beta_{23}\, LEVERAGE_{it} + \beta_{24}\, TENURE_{it} + \beta_{25}\, DAC_{it} + \beta_{26}\, EXPORT_{it} + \beta_{27}\, SEGMENT_{it} + \beta_{28}\, GENDER_{it} + \varepsilon_{it}$$

Regression Model – Additional Tests

As the level of compensation can either be normal or abnormal for a firm, we use an OLS regression model to remove any normal components of compensation that are associated with industry classifications, firm characteristics, and managers' attributes and personalities. And the residual term is our measure of abnormal related party transactions.The estimation method of abnormal compensation is*:*

$$Compensation_{it} = \beta_0 + \beta_1\, SIZE_{it} + \beta_2\, INDUSTRY_{it} + \beta_3\, ROA_{it} + \beta_4\, GROWTH_{it} + \beta_5\, RECEIVE_{it} + \beta_6\, INVENTORY_{it} + \beta_7\, PROFIT_{it} + \beta_8\, OPINION_{it} + \beta_{10}\, TENURE + \beta_{11}\, LEVERAGE_{it} + \beta_{12}\, LEV_{it} + \beta_{13}\, QTOBIN_{it} + \beta_{14}\, EXPORT_{it} + \beta_{15}\, SEGMENT_{it} + \beta_{16}\, CR_{it} + \beta_{17}\, BOARD\_MEETING_{it} + \beta_{18}\, BOARD\_$$

$EDUCATION_{it} + \beta_{19} BOARD\_INDEPENDENCE_{it} + \beta_{20} BOARD\_SKILL_{it}$

$compensation_{it} = \varepsilon_{it}$

Where INDUSTRY, to specifically calculate the abnormal part of each industry; *RECEIVE* is accounts receivable divided by total assets;*LEV* is total liabilities divided by total investment; *QTOBIN* is measured by stock market values plus book values of debt divided by book values of assets; *BOARD_MEETING* is the number of board meetings; BOARD_EDUCATION represents four categorical values, with 1 for members with doctor degree; 2 for the master; 3 for bachelor; 4 for associate; *BOARD_INDEPENDENCE* is the number of executives on board; *and BOARD_SKILL* represents four categorical values, with 1 for members with finance degree; 2 for management; 3 for economic; 4 for engineering. Now werun all of the regressions with the presence of abnormal compensation. For the sake of brevity, we exclude reporting the regressions.

Variable Measurement

Dependent Variables

We use two dependent variables in our analysis: compensation and abnormal compensation. Compensation is the natural log of total rewards annually paid to a board of directors. Abnormal compensation is derived from our regression. We use the residual term as our measure of abnormal compensation to interact with RPTs.

Independent Variables

As independent variables, we use a series of RPTs in our study: total related party transactions according to the Article 129 of Iranian Commercial Code (TRPT129), total transactions with other related parties (TRPTs), total purchase and sale, loans, and guaranteeing of related parties according to Article 129 of Iranian Commercial Code (13TRPT129), total purchase and sale, loans, and guaranteeing of other related parties (13TRPTs). For the sake of comparability, we use the log of dependent and independent variables.

Data Analysis and Hypothesis Test

Descriptive Statistics

In summary, the features of a set of information may be declared by using appropriate descriptive statistics and facilitate the comparison of the test with other tests. The study descriptive statistics are presented in Table 2.

Table2. *Descriptive Statistics*

Variables	Mean	Median	SD	Max	Min
Compensation	5.172207	6.671953	3.145582	9.769156	0
TRPT129	11.7946	11.92405	5.557309	18.9111	1.0986
TRPTS	11.14957	11.397	5.88918	17.3884	3.0445
13RPT129	11.239	11.53325	5.596963	17.5814	0
13RPTS	11.13216	11.3307	5.798585	17.3875	1.0986
SIZE	13.72333	13.5456	1.561709	18.5314	9.9497
ROA	11.94861	10.015	14.07088	61.87	-34
GROWTH	0.250211	0.1762	0.521263	7.9113	-0.9311
CR	1.424376	1.19	1.081082	13.15	0.2
RECEIVE	0.258283	0.238317	0.164102	0.755701	0
INVENTORY	0.232371	0.2175	0.13646	0.8064	0
OPINION	0.424205	0	0.489944	1	0
LEVERAGE	0.615248	0.623445	0.239704	2.12431	0.01273
TENURE	2.545238	2	1.500259	8	1
DAC	-0.0152	0.067141	3.501129	59.16086	-72.4619
EXPORT	24.80425	24.71338	11.62691	30.64146	16.11974
SEGMENT	1.547126	0	2.901444	19	0
HH	0.007163	0.0033	0.01319	0.1783	0
NTRPT129	0.077499	0.354599	1.986124	5.049402	-11.4772
NTRPTS	0.012936	0.204865	1.554554	5.958694	-8.74451
N13RPT129	0.128903	0.457796	1.983738	5.181877	-11.7497
N13RPTS	-0.02018	0.169909	1.478959	5.957483	-9.83056
NCompensation	-20.5469	-22.3339	15.18816	3.900104	-81.8688
LEV	5.040984	3.363232	5.694561	54.4415	0.036148
QTOBIN	24.08954	1.158104	193.5343	4303.468	0.022816
BOARD_MEETING	10.58276	12	8.370282	48	0

BOARD_INDEPENDENCE	1.624138	2	1.022246	5	0
DOCTOR	0.737931	0	1.130317	5	0
MASTER	1.604598	1	1.318184	5	0
BACHELOR	2.183908	2	1.538376	7	0
ASSOCIATE	0.168966	0	0.505621	3	0
FINANCE	0.347126	0	0.626577	3	0
MANAGEMENT	0.662069	0	1.069855	5	0
ECONOMY	0.101149	0	0.327312	2	0
ENGINEER	1.385057	1	1.594729	5	0

Table 2 provides descriptive statistics of the variables. For purchase and sale, loans, and guaranteeing of related parties (13TRPT129 & 13TRPTS), the mean values are slightly smaller in comparison to overall RPTs (TRPT129 & TRPTS). This declares that purchase and sale, loans, and guaranteeing of related parties are the most substantial type of RPTs made by listed firms. The mean of BOARD_MEETING is 10.58, indicating that the majority of sample firms approximately held one meeting per month. The mean of BOARD_EDUCATION revealed that members who have a BACHELOR degree with 2.18 are the most, followed by MASTER, DOCTOR, and ASSOCIATE with 1.60, 0.73, and 0.16 respectively. Also, the mean of BOARD_SKILL revealedthat members who have ENGINEER degree with 1.38 are the most, followed by MANAGEMENT, FINANCE, and ECONOMY with 0.66, 0.34, and 0.10 respectively. The mean of BOARD_INDEPENDENCE is 1.62, demonstrating that the majority of sample firms approximately had 2 executive directors. Also, the means of SEGMENT and EXPORT indicate that our sample listed firms have operational complexities.

Main Tests Results

Table 3 presents our baseline model results, where we include our RPT variables (*TRPTS, TRPT129, 13TRPTS, & 13TRPT129*) as independent ones. We estimate different aspects of RPT compensation regression. As expected, we find that the coefficients on TRPT129 and TRPTS are 0.438865 and 0.013925 respectively, and TRPT129 has no significant relationship with compensation. We also find that the coefficients on 13TRPT129 and 13TRPTS are 0.6696291 and 0.016615 respectively, and 13TRPT129 has no significant relationship with compensation.

Table3. *Compensation and RPTs*

Variable	H1a		H1b	
	Coefficient	***Coefficient***	***Coefficient***	***Coefficient***
TRPT129	0.438865	-	-	-
TRPTS	-	0.013925**	-	-
13RPT129	-	-	0.6696291	-
13RPTS	-	-	-	0.016615**
SIZE	0.007765***	0.303809	0.2593446	0.122220
ROA	9.454e-11***	7.654e-07***	0.0002092***	1.682e-07***
GROWTH	0.048625**	0.208356	0.0524803	0.080875*
CR	0.574095	0.667316	0.9368495	0.839554
RECEIVE	0.217775	0.273358	0.6373626	0.171564
INVENTORY	0.971315	0.238785	0.0529576*	0.024756**
PROFIT	0.195830	0.111020	0.1725909	0.107321
OPINION	0.840371	0.004845***	0.1375802	0.009663***
LEVERAGE	0.366792	0.338260	0.6648610	0.653835
TENURE	0.986050	0.875941	0.8483580	0.908457
DAC	0.886953	0.977000	0.9068093	0.852408
EXPORT	0.110409	0.217684	0.2630030	0.110814
SEGMENT	0.955274	0.489709	0.2863781	0.368889
GENDER	0.255624	0.094997*	0.8213873	0.213399

Significant at the 0.10 level .Significant at the 0.05 level .***Significant at the 0.01 level.*

In Table 4, we estimate abnormal RPT compensation regression. As expected, we find that the coefficients on NTRPT129 and NTRPTS are 0.438865 and 0.013925 respectively,and NTRPT129 has no significant relationship with compensation. We also find that the coefficients on N13TRPT129 and N13TRPTS are 0.6696291 and 0.016615

respectively, and N13TRPT129 has no significant relationship with compensation.

Table4. *Compensation and abnormal RPTs*

Variable	H2a		H2b	
	Coefficient	Coefficient	Coefficient	Coefficient
NTRPT129	0.438865	-	-	-
NTRPTS	-	0.013925**	-	-
N13RPT129	-	-	0.6696291	-
N13RPTS	-	-	-	0.016615**
SIZE	0.009225***	0.816856	0.4940676	0.406605
ROA	9.454e-11***	7.654e-07***	0.0002092***	1.682e-07***
GROWTH	0.042570**	0.216312	0.0590266*	0.103060
CR	0.574095	0.667316	0.9368495	0.839554
RECEIVE	0.217775	0.273358	0.6373626	0.171564
INVENTORY	0.971315	0.238785	0.0529576*	0.024756**
PROFIT	0.177052	0.168629	0.1831388	0.128190
OPINION	0.840371	0.004845***	0.1375802	0.009663***
LEVERAGE	0.351935	0.466277	0.8369269	0.831589
TENURE	0.986050	0.875941	0.8483580	0.908457
DAC	0.886953	0.977000	0.9068093	0.852408
EXPORT	0.110409	0.217684	0.2630030	0.110814
SEGMENT	0.955274	0.489709	0.2863781	0.368889
GENDER	0.255624	0.094997*	0.8213873	0.213399

Significant at the 0.10 level.Significant at the 0.05 level.***Significant at the 0.01 level.*

In Table 5, we predicted that if product market competition acts as an alternative governance mechanism, we would expect lower compensation in the presence of RPTs in a highly competitive. We test this conjecture and expect the coefficients to be negative and significant if industry competitiveness curbs opportunistic RPTs, but the Panel A demonstrates that the coefficients for each kind of RPTs are positive and insignificant excluding 13RPTS with the coefficient of 0.0372375. Panel B shows that NTRPT129 and NTRPTS are 0.377229 and 0.141293 respectively. From the results, it is apparent that compensation neither has a significant relationship with NTRPT129 nor with NTRPTS. It also demonstrates that the coefficients on N13TRPT129 and N13TRPTS are 0.5586789 and 0.0505641 respectively, and N13TRPT129 has no significant relationship with compensation.

Table5. *Compensation, RPTs, and abnormal RPTs in competitive industries*

Variable	Panel A		Panel B	
	H3a	*H3b*	H3c	H3d
	Coefficient	*Coefficient*	*Coefficient*	*Coefficient*
TRPT129	0.364680	-	-	-
TRPTS	0.154429	-	-	-
13RPT129	-	0.5959488	-	-
13RPTS	-	0.0372375**	-	-
PMC_H	0.636544	0.6776442	0.966238	0.8846354
TRPT129*PMC_H	0.623796	-	-	-
TRPTS*PMC_H	0.971694	-	-	-
13TRPT129*PMC_H	-	0.8580253	-	-
13TRPTS*PMC_H	-	0.8301788	-	-
NTRPT129	-	-	0.377229	-
NTRPTS	-	-	0.141293	-
N13RPT129	-	-	-	0.5586789
N13RPTS	-	-	-	0.0505641*
NTRPT129*PMC_H	-	-	0.675386	-
NTRPTS*PMC_H	-	-	0.929619	-
N13RPT129*PMC_H	-	-	-	0.7383971
N13RPTS*PMC_H	-	-	-	0.6505001
SIZE	0.857171	0.2292334	0.915364	0.4395884
ROA	9.973e-06***	0.0006396***	7.286e-06***	0.0005306***

GROWTH	0.307332	0.0989203*	0.275127	0.1078625
CR	0.949160	0.8249411	0.932098	0.8379112
RECEIVE	0.018846**	0.3023240	0.018951**	0.2885438
INVENTORY	0.070751*	0.0148683**	0.066895*	0.0184398**
PROFIT	0.001389***	0.0145906**	0.001435***	0.0147574**
OPINION	0.031917**	0.0574570*	0.034379**	0.0595081*
LEVERAGE	0.832462	0.7454456	0.939169	0.8782666
TENURE	0.861955	0.6602297	0.873433	0.6874192
DAC	0.962643	0.8884289	0.973422	0.9191657
EXPORT	0.811287	0.4090624	0.812372	0.3949341
SEGMENT	0.345252	0.1993501	0.333583	0.1883731
GENDER	0.033499**	0.8620823	0.032914**	0.8544982

Significant at the 0.10 level.Significant at the 0.05 level.***Significant at the 0.01 level.*

Additional Tests Results

Table 6 presents our first additional test results where we estimate different aspects of abnormal compensation RPT regression. We include abnormal compensation as the dependent variable.We find that the coefficients on TRPT129 and TRPTS are 0.6019 and 0.60571 respectively. We also find that the coefficients on 13TRPT129 and 13TRPTS are 0.05688 and 0.16012 respectively, implying that there is no significant relationship between abnormal compensation and every four kinds of RPTs.

Table6. *Abnormal compensation and RPTs*

Variable	H4a		H4b	
	Coefficient	***Coefficient***	***Coefficient***	***Coefficient***
TRPT129	0.6019	-	-	-
TRPTS	-	0.60571	-	-
13RPT129	-	-	0.05688*	-
13RPTS	-	-	-	0.16012
SIZE	0.8363	0.87422	0.44026	0.79365
ROA	0.1279	0.19449	0.01909	0.13864
GROWTH	0.5562	0.13482	0.19088	0.10993
CR	0.1742	0.40319	0.19100	0.50673
RECEIVE	0.2978	0.02625**	0.34431	0.02694**
INVENTORY	0.6838	0.64456	0.07710*	0.31021
PROFIT	0.4669	0.38480	0.61353	0.88489
OPINION	0.1167	0.78198	0.15805	0.88409
LEVERAGE	0.8559	0.20951	0.70797	0.26527
TENURE	0.9358	0.56987	0.71075	0.41033
DAC	0.9398	0.72437	0.08468*	0.72502
EXPORT	0.2691	0.49903	0.04541**	0.32293
SEGMENT	0.5607	0.27296	0.54986	0.54500
GENDER	0.7400	0.58744	0.76691	0.43118

*Significant at the 0.10 level**.Significant at the 0.05 level.***Significant at the 0.01 level.

In Table 7, we estimate different aspects of abnormal compensation in abnormal RPT regression. We find that the coefficients on NTRPT129 and NTRPTS are 0.6019 and 0.60571 respectively. The coefficients imply that they have no significant relationship with compensation. We also find that the coefficients on N13TRPT129 and N13TRPTS are 0.05688 and 0.16012 respectively, implying that they have no significant relationship with compensation either.

Table7. *Abnormal compensation and abnormal RPTs*

Variable	H4c		H4d	
	Coefficient	***Coefficient***	***Coefficient***	***Coefficient***
NTRPT129	0.6019	-	-	-
NTRPTS	-	0.60571	-	-
N13RPT129	-	-	0.05688*	-
N13RPTS	-	-	-	0.16012

SIZE	0.9246	0.76871	0.70363	0.54678
ROA	0.1279	0.19449	0.01909**	0.13864
GROWTH	0.5327	0.13657	0.16387	0.12987
CR	0.1742	0.40319	0.19100	0.50673
RECEIVE	0.2978	0.02625**	0.34431	0.02694**
INVENTORY	0.6838	0.64456	0.07710*	0.31021
PROFIT	0.4496	0.40033	0.67754	0.91458
OPINION	0.1167	0.78198	0.15805	0.88409
LEVERAGE	0.8696	0.21851	0.71307	0.31452
TENURE	0.9358	0.56987	0.71075	0.41033
DAC	0.9398	0.72437	0.08468	0.72502
EXPORT	0.2691	0.49903	0.04541	0.32293
SEGMENT	0.5607	0.27296	0.54986	0.54500
GENDER	0.7400	0.58744	0.76691	0.43118

Significant at the 0.10 level ,Significant at the 0.05 level ,***Significant at the 0.01 level.*

In Table 8, we estimate different aspects of abnormal compensation RPT regression in competitive industries. Panel A demonstrates that the coefficients for each kind of RPTs are positive and insignificant. While Panel B shows that NTRPT129 and NTRPTS are 0.377229 and 0.141293 respectively. From the results, it is apparent that abnormal compensation neither has a significant relationship with NTRPT129 nor with NTRPTS. It also demonstrates that the coefficients on N13TRPT129 and N13TRPTS are 0.5586789 and 0.0505641 respectively, implying that they have no significant relationship with abnormal compensation either.

Table8. *Abnormal compensation, RPTs, and abnormal RPTs in competitive industries*

Variable	Panel A		Panel B	
	H4e	H4f	H4g	H4h
	Coefficient	*Coefficient*	*Coefficient*	*Coefficient*
TRPT129	0.62053	-	-	-
TRPTS	0.44505	-	-	-
13TRPT129	-	0.439718	-	-
13TRPTS	-	0.722760	-	-
PMC_H	0.04447**	0.079048*	0.005958***	0.012264**
TRPT129*PMC_H	0.10154	-	-	-
TRPTS*PMC_H	0.25796	-	-	-
13TRPT129*PMC_H	-	0.287346	-	-
13TRPTS*PMC_H	-	0.225146	-	-
NTRPT129	-	-	0.933561	-
NTRPTS	-	-	0.620175	-
N13RPT129	-	-	-	0.777949
N13RPTS	-	-	-	0.933769
NTRPT129*PMC_H	-	-	0.832471	-
NTRPTS*PMC_H	-	-	0.867993	-
N13RPT129*PMC_H	-	-	-	0.578263
N13RPTS*PMC_H	-	-	-	0.619502
SIZE	0.28332	0.477445	0.442251	0.729137
ROA	0.99754	0.173886	0.527957	0.051414*
GROWTH	0.05021*	0.005601***	0.013904**	0.001073***
CR	0.41735	0.847385	0.274039	0.797375
RECEIVE	0.07177*	0.012410**	0.053192*	0.007812***
INVENTORY	0.21816	0.071543*	0.385856	0.103881
PROFIT	0.63640	0.610281	0.727900	0.697220
OPINION	0.62505	0.411663	0.721262	0.484660
LEVERAGE	0.21155	0.445080	0.436390	0.879816
TENURE	0.36590	0.176575	0.476057	0.316898
DAC	0.75884	0.129824	0.635811	0.133089
EXPORT	0.02448**	0.004971***	0.031019**	0.011757***
SEGMENT	0.35816	0.571082	0.250108	0.357019
GENDER	0.50067	0.573065	0.565942	0.626012

**Significant at the 0.10 leve, **Significant at the 0.05 level, ***Significant at the 0.01 level.*

Table 9. *Appendix (Variable definitions)*

Variables	Explanation
COMPENSATION	Natural log of total board compensation
TRPT129	Natural log of total related party transactions according to Article 129 of Iranian Commercial Law
TRPTS	Natural log of total transactions with other related parties
13TRPT129	Natural log of total purchase and sale, loans, and guaranteeing of related parties according to Article 129 of Iranian Commercial Law
13TRPTS	Natural log of total purchase and sale, loans, and guaranteeing of other related parties
SIZE	Natural log of total assets
ROA	Net income divided by total assets
GROWTH	Growth in sales
CR	Current assets divided by current liabilities
RECEIVE	Accounts receivable divided by total assets
INVENTORY	The ratio of total inventory to total assets
PROFIT	1 if net income is positive, and 0 otherwise
OPINION	1 = unqualified opinion; 0 = qualified opinion with or without explanatory notes
LEVERAGE	Total liabilities divided by total assets
TENURE	Number of auditors tenure in years
DAC	Total accruals to the model of Jones' compliance by Dechow et al. (1996)
PMC	Product market competition using the Herfindahl-Hirschman Index (HHI)
EXPORT	Natural log of total exports
SEGMENT	Number of business segments
GENDER	1 if there is a female in the board, and 0 otherwise
NTRPT129	Natural log of abnormal TRPT129
NTRPTS	Natural log of abnormal TRPTS
N13TRPT129	Natural log of abnormal 13RPT129
N13TRPTS	Natural log of abnormal 13RPTS
COMPENSATION	Natural log of total abnormal board compensation
LEV	Total liabilities divided by total investment
Tobin's q	Stock market values plus book values of debt divided by book values of assets
BOARD_MEETING	Number of board meetings
BOARD_EDUCATION	1 = members with Ph.d. degree; 2 = master; 3 = bachelor; 4 = associate
BOARD_INDEPENDENCE	Number of executives on the board
BOARD_SKILL	1 = members with finance degree; 2 = management; 3 = economic; 4 = engineering

CONCLUSIONS

Existing literature has provided abundant evidence on the outcome of RPTs on a firm's performance, earning quality, earning management, etc. However, we aimed to probe the correlation between RPT's and boards' compensation, and the lack of research evidence in this regard has limited our understanding of the paid rewards based on RPTs. We extensively developed this topic. We focused on different kinds of RPTs conducted by Iranian listed firms because RPTs are an important incident in Iran and especially in developing countries. Also, we considered the market competitiveness and abnormal rewards that are paid within the firms, in addition to the presence of abnormal RPTs. With the financial and economic situation of Middle Eastern countries in recent years, Iran as a major developing country would be a desirable sample for the study.

We conduct our main empirical analysis by regressing RPTs on compensation. The findings show that total transactions with other related parties are associated with compensation, support the conjecture that managers tend to manipulate earnings, and consequently, adjust their rewards through non-routine transactions with related parties; where we can see RPTs (based on Article 129 of Commercial Code) are not associated with compensation. In this regard, Gordon et al. (2005), and Gao & King (2008) showed that there is a negative relationship between CEO compensation and

RPTs. Also, the major components of RPTs which are composed of purchase and sale transactions, loans, and guaranteeing of related parties are emphasized; where we can see that using the total purchase and sale transactions, loans, and guaranteeing of other related parties is a method of reward-enhancing in an indirect way. As we can mention, the routine purchase and sale transactions, loans, and guaranteeing of related parties are not associated with compensation. Concerning normal RPTs, we conjectured an increase in abnormal kinds of RPTs results in higher rewards and our findings of a positive and significant association between compensation and total transactions with other related parties lends support to the opportunistic use of this kind of RPTs as well as using the total purchase and sale transactions, loans, and guaranteeing of other related parties for the same purpose. We also see that routine RPTs are not associated with compensation. We also concluded if product market competition acts as an alternative governance mechanism, we would expect lower compensation in the presence of RPTs in a highly competitive market because firms will be obliged by market forces to improve their operational efficiency and to constrain deleterious RPTs to survive. Bu the findings showed that market competitiveness has no impact on the presence of both normal and abnormal RPTs. Finally, as additional tests, we considered whether abnormal compensation is associated with RPTs in the previously investigated hypotheses. We only observed that total purchase and sale transactions, loans, and guaranteeing of related parties are associated with abnormal compensation.

Our findings provide some policy implications,for legislators' focuses on related party transactions by documenting that not all types of RPT carry similar fraud risk. Our study offers some preliminary insight into how different categories of RPTs may be used as manipulation leverage.

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