CORPORATE GOVERNANCE, RELATED PARTY TRANSACTIONS AND FIRM PERFORMANCE AMONG FAMILY OWNED FIRMS IN PAKISTAN

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FACULTY OF BUSINESS AND ACCOUNTANCY
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ABSTRACT

Ownership concentration is one of the major issues in Pakistani family-owned firms. The controlling shareholders expropriate funds through related party transactions (RPTs) and exploit the interest of minority shareholders, despite the introduction of corporate governance code in 2002. This motivates the study to examine the relationship between corporate governance and firm performance with moderation role of RPTs. Using panel data of 150 family-owned firms listed on the Karachi Stock Exchange from 2004 to 2014, the study examines three CG factors - independence of non-executive director, family directorship and family ownership as independent variables and firm performance as the dependent variable. RPTs are used as a moderating variable between CG and firm performance. It has categorized all RPTs in three types i.e. RPTs Benefit-based, RPTs Expense-based and RPTs Other-based. This categorization of RPTs has empirically examined. RPTs Benefit-based include bonus, convertible, and right issue shares. RPTs benefit-based transactions have positive effect on the family-owned firm performance. RPTs Expense-based includes organizational expenditure, insurance, royalty payments, and other expenses. RPTs Other- based includes ordinary shares, dividends, donations, interests, investments, purchase of assets, sale of assets, employee benefits, lease, loans, and advance payments. RPTs other based transactions have negative effect on firm performance. The study has also developed index of independence non-executive directors comprising three dimensions, namely, board composition, financial expertise, and tenure of the independent non-executive director. The result shows that 90% of family-owned firms in Pakistan scored low for independent non-executive director's index. The study also found that independence directors has significant positive effect on firm performance while RPTs, family directorship and family ownership have negative effect on firm performance. It was also found that RPTs positively moderate the relationship between independent non-executive directors and firm performance. Similarly, RPTs negatively moderate the relationship between family ownership and firm performance. However, there is no moderation of RPTs on the relationship between family directorship and firm performance. The result implies that the introduction of corporate governance has less impact on firm performance due to the RPTs being exercised by family firms in Pakistan. Findings of the study should help the regulatory authority body such as the Securities and Exchange Commission of Pakistan (SECP) to further enhance significant disclosure and enforce the code of corporate governance about

role of the independent non-executive director and family directorship among Pakistani firms.

Keywords: Ownership concentration, related party transactions, minority shareholders, independent non-executive director and family directorship.

ABSTRAK

Pemusatan pemilikan adalah salah satu isu utama dalam firma milik keluarga Pakistan. Para pemegang saham yang mengawal dana berpatutan melalui urus niaga pihak berkaitan (RPT) dan mengeksploitasi kepentingan pemegang saham minoriti, walaupun pengenalan kod tadbir urus korporat pada tahun 2002. Ini mendorong kajian untuk mengkaji hubungan antara tadbir urus korporat dan RPT dan impaknya terhadap prestasi firma. Menggunakan data panel 150 firma milik keluarga yang disenaraikan di Bursa Saham Karachi dari tahun 2004 hingga 2014, kajian ini mengkaji tiga faktor CG - kebebasan pengarah, pengarah keluarga dan pemilikan keluarga sebagai pembolehubah bebas dan prestasi firma sebagai pemboleh ubah yang bergantung. RPTs digunakan sebagai pemboleh ubah perantara antara CG dan prestasi firma. Kajian ini telah membangun indeks kebebasan pengarah yang terdiri daripada tiga dimensi, iaitu, komposisi lembaga, kepakaran kewangan, dan pengarah pengarah bukan eksekutif bebas. Hasilnya menunjukkan bahawa 90% daripada firma milik keluarga di Pakistan mendapat mata yang rendah untuk indeks pengarah bebas. Kajian itu juga mendapati bahawa pengarah kebebasan mempunyai kesan positif yang signifikan terhadap prestasi firma manakala RPT, pengarah keluarga dan pemilikan keluarga mempunyai kesan negatif terhadap prestasi firma. Ia juga mendapati bahawa RPTs menyederhanakan hubungan antara pengarah bebas dan prestasi firma secara positif. Walau bagaimanapun, RPTs menyederhanakan hubungan antara pemilikan keluarga dan prestasi firma secara negatif. Hasilnya menunjukkan bahawa pengenalan tadbir urus korporat kurang memberi kesan kepada prestasi firma kerana RPT yang dilaksanakan oleh firma keluarga di Pakistan. Penemuan kajian ini akan membantu badan pengawalseliaan seperti Suruhanjaya Sekuriti dan Bursa Pakistan (SECP) untuk meningkatkan dan menguatkuas firma-firma Pakistan.

Keywords: Ownership concentration, related party transactions, minority shareholders, independent non-executive director and family directorship.

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DEDICATION

To My Respected Father (late)

Haji Nawab Khan

And My Beloved Mother (late),

Bakth sultana

You Both are World to Me

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IDI	:	Independent non-executive director Index
INED	:	Independent Non-executive Director
BOD	:	Board of Director
FOM	:	Family Owned Firms
FO	:	Family ownership
FD	:	Family Directorship
CG	:	Corporate Governance
RPTs	:	Related Party Transactions
RPTs Benefit	:	Related Party Transaction Benefit Based
RPTs Expense	:	Related Party Transaction Expense Based
RPTs Other	:	Related Party Transaction Other Based
ROE	:	Return on Equity
ROA	:	Return on Asset
Q	:	Tobin's Q
PM	:	Profitability
FS	:	Firm Size
KSE	:	Karachi Stock Exchange
ISE	:	Islamabad Stock Exchange
LSE	:	Lahore Stock Exchange
SECP	:	Securities and Exchange Commission of Pakistan
IV	:	Instrumental Variable

GMM	:	Generalized Method of Moments
FE	:	Fixed Effect Method
RE		Random Effect Method
DW	:	Durbin-Watson
DWH	:	Durbin-Wu-Hausman
FIU	:	Fraud Investigation Unit
IDC	:	Composition of Independent non-executive director
IDFE	:	Financial Expertise of Independent non-executive director
IDT	:	Tenure of Independent non-executive director

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CHAPTER 1: INTRODUCTION

1.1 Background of the study

Abusive related party transactions (RPTs) are methods that can be used by insider[1] shareholders to exploit outsider shareholders (Ryngaert & Thomas, 2012). Similarly, various cases of financial scams which shocked various top global family owned firms, such as WorldCom, Parmalat, Adelphia Communications, Coloroll, Maxwell Group, Nortel, Polly Peck, Royal Ahold and Satyam, occurred due to abusive RPTs (Ge, Drury, Fortin, Liu, & Tsang, 2010; Zalewska, 2014). This exploitation of outsider shareholders is consistent with a model of Berle and Means (1932a) that developed the relationship between ownership structure and performance of firms with scattered ownership where every owner holds a small percentage of total ownership. Similarly, this exploitation by insider shareholders is supported by agency theory (M. C. Jensen & Meckling, 1976).

Corporate governance (CG) becomes very important from ownership and management of the company. Corporate governance emerges from two issues: (i) agency issue and (ii) trade cost. Controlling families may have the benefit and ability to expropriate resources at the expense of minority shareholders. By contrast, family firms face more severe Type II agency problems (Fama & Jensen, 1983a, 1983b; Shleifer & Vishny, 1997). This conflict of interest may arise between major and minority shareholders, which mostly prevails in East Asia and in the West where large shareholders control firms (Claessens, Djankov, Fan, & Lang, 2002).

[1]Insiders are referred to as major or controlling shareholders, family, financial institution, or government, whereas outsider shareholders are minority shareholders (La Porta et al., 1998).

Controlling shareholders may have the enticements and capabilities to expropriate the interest of minority shareholders (Claessens, Djankov, & Lang, 2000; R. Porta, Lopez-de-Silanes, & Shleifer, 1999) or the "expropriation of resources," which may be an evident source of expropriation (S. Johnson, La Porta, de Silanes, & Shleifer, 2000). Therefore, major shareholders expropriate funds from lower to upper levels through their pyramidal structure due to the difference between cash flow and control rights. This process, called tunneling, makes them wealthier (Riyanto & Toolsema, 2008) and negatively impacts the interest and at the expense of minority shareholders. Such transfer of resources is not only costly for minority shareholders but also decreases economic transparency, shows biased accounting figures, and renders the examination of a company's true performance difficult. Similarly, a significant amount of tunneling was found in terms of the transfer of pricing contracts and asset sales or even the outright cash appropriation in India (Bertrand, Mehta, & Mullainathan, 2002).

Gordon, Henry, and Palia (2004) viewed RPTs in two categories. The first one views RPTs as conflict-of-interest transactions, and the second regards RPTs as efficient transactions. First, the perspective from conflict-of-interest transactions can also called abusive RPTs; this view is in line with agency theory (Berle & Means, 1932a; M. C. Jensen & Meckling, 1976) which potentially harms the interest of shareholders (Aharony, Wang, & Yuan, 2010; Y.-L. Cheung, Rau, & Stouraitis, 2006; Gordon et al., 2004; Jiang, Lee, & Yue, 2008; Jiang, Lee, & Yue, 2010). Second, the efficient transaction view extends the concept of transaction costs developed by (Coase, 1937; Williamson, 1975) and shows that RPTs benefit instead of harm shareholders. This efficient transaction is further supported by various researchers (Sea Jin Chang & Hong, 2000; Jian & Wong, 2010; Khanna & Palepu, 2000; Stein, 1997).

RPTs are defined as "*transactions between a company and its subsidiaries, affiliates, principal owners, officers or their families, directors or their families, or entities owned or controlled by its officers or their families*."[2] Furthermore, The International Accounting Standards (IAS) defined RPTs as "*a related party can be a person, an entity, or an unincorporated business*."[3] This definition has two sections. The first section recognizes "in a person, or a close member of that person's family, being a related party from the perspective of the reporting entity." The second section ascertains "in an entity being related to the reporting entity." Studies on several scandals, such as WorldCom, Parmalat, Adelphia Communications, Coloroll, Maxwell Group, Nortel, and Polly Peck, have reported that RPTs are used as means to expropriate resources and cause fraud. Although RPTs are beneficial because they save transaction cost and improve operating efficiency of companies, fraudulent activities through RPTs are a great concern of regulators and investors.

Corporate governance practices and structures have witnessed enormous changes during the last two decades. Most firms in developing and developed countries have concentrated ownerships (R. L. Porta, Lopez-de-Silane, Shleifer, & Vishny, 1998). Controlling shareholders normally use their stakes of ownership concentration. They also exercise control rights that surpass their cash flow rights and that provide insiders with opportunities to expropriate outsider shareholders using various means of firm operations and financial decisions (Bertrand et al., 2002; Claessens et al., 2002; Faccio, Lang, & Young, 2001; Gopalan & Jayaraman, 2012; S. Johnson, Boone, Breach, & Friedman, 2000; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000; La Porta, Lopez-de-Silanes,

[2]US GAAP Statement of Financial Accounting Standards 57.

[3]As stated in paragraph 29.2, IAS 24 (revised) (PricewaterhouseCoopers, 2010).

& Zamarripa, 2003). In this manner, the wealth of minority shareholders are exploited through tunneling (K. H. Bae, Kang, & Kim, 2002; Buysschaert, Deloof, & Jegers, 2004). Almost all countries have developed their own sets of codes for CG, which can serve as guidelines too. Thus, CG codes date back to the late 20th century (Cadbury, 1992; Remuneration & Greenbury, 1995; Sarbanes, 2002).

In the Pakistani context, CG is a new phenomenon. This phenomenon should be better understood to equip organizations for attracting foreign investors while markets are properly governed. The stock exchanges of any country are the main avenue for attracting foreign direct investments. In Pakistan, they must be focused on achieving good CG standards and facilitated to become integral parts of the measurement of the performance of organizations (Gulzar & Wang, 2010). The ownership of these family-owned firms in Pakistan are structured either by cross or pyramidal shareholding, where members of the board of director belong to the same family (Javid & Iqbal, 2010). The controlling family is the major owner and controller, whereas immediate and distant family members assist in controlling various firms among family-owned firms (Ghani, Haroon, & Ashraf, 2010).When family-owned firms grow, a conflict of interest arises among owners, managers, and employees (Bennedsen & Wolfenzon, 1998; R. Porta et al., 1999). Whether a good CG system issues the right policies to manage such conflicts of interest or not becomes interesting (Sarbah & Xiao, 2015). The unique situation in Pakistan merits a thorough examination.

In addition, Pakistan has under-developed and highly speculative activities in capital markets, low levels of stock market capitalization and foreign direct investment, weak law enforcement, and high level of corruption (Gohar & Karacaer, 2009). A few family-owned firms are powerful and dominate the economic landscape. The controlling

shareholders in Pakistani family-owned firms expropriate funds from the bottom to upper type firms through pyramidal ownership (Ikram & Naqvi, 2005). Resources are expropriated because of the high percentage of concentrated ownership, that is, almost half of corporate ownership is held by large or concentrated owners. Such high ownership concentration has a highly negative effect on company performance (Javid & Iqbal, 2008). Furthermore, the efficiency of corporate sector and development of economy are decreased, which may expropriate resources and exploit minority shareholders by large shareholders (Abbas, Naqvi, & Mirza, 2013).

Thus, whether CG codes are sufficiently developed to safeguard the right of shareholders requires further investigation. The controlling shareholder in family firms transfers resources in groups through pyramidal structure. This resource expropriation by the controlling shareholder can adversely affect both minority shareholder and economy as transparency is reduced. This impact results manipulates accounting figures and causes difficulty for investors and users to evaluate actual firm performance. Related party transactions are one of the factors used by controlling shareholders to exploit the interest of minority shareholders. This study elucidates the exploitation of minority shareholder's interest through RPTs. The problem statement is presented against this backdrop.

1.2 Problem Statement

Ownership concentration is one of the major issues in Pakistani family firms (Y. Ali, Tahir, & Nazir, 2015b; E. Hussain & Shah, 2015). The percentage of concentrated ownership accounts for approximately half of the corporate ownership held by large or concentrated owners (Javid & Iqbal, 2008). ownership concentration has a high negative impact on company performance (A. R. Khan, Hossain, & Siddiqui, 2011). The efficiency of the corporate sector and development of economy also decreased because of the

expropriation of resources and exploitation of the interest of minority shareholders by large shareholders (Abbas et al., 2013). The controlling shareholders in family-owned firms expropriate funds from the low- to high-level firms through the pyramidal structure. Hence, expropriating funds exploits the interest of minority shareholders. Such a case supports agency theory (M. C. Jensen & Meckling, 1976) and conflict of interest (Gordon et al., 2004).

Despite the introduction of CG codes, the performance of these family-owned firms continued to decline (Afza & Nazir, 2015). This declining pattern is attributed to the variation in the roles of controlling shareholders in Pakistan based on the preference of the firm owner (Tahir & Sabir, 2015). In addition, other issues such as governing board, independence of the board, imbalance of power in the board, non-executive directors' firm succession, trust and confidence of the investors, and disclosure of family-owned firms exist (B. Ameer, 2013). These issues create problems for minority shareholders and other stake holders (Mehboob, Tahir, & Hussain, 2015b).

In several expropriation cases in Pakistan, major shareholders exploit the interest of minority shareholders. First, Taj Textile Enterprises was fined Rs. 4,000 due to abusive RPTs of Rs. 246.856 million. Second, the loans given to the directors Technologies Limited in Netsol were considered RPTs. Third, a fine of Rs. 20,000 was imposed each director in Best Way Cement Limited against advance to Rs. 209 million. Surprisingly, the penalty imposed is extremely low compared with the manner in which they acted on their professional responsibilities. A penalty of Rs. 25,000 was imposed for auditor negligence on non-compliance of international accounting standard on Mehboob Sheikh & Co, Chartered Accountants. Similarly, a fine of Rs. 25,000 was imposed on Ganagt & Co., Chartered Accountants and Salman & Company, Chartered Accountants, for certain

irregularities in the preparation of financial statements of the company. These irregularities went beyond their responsibilities under the ordinance of companies, 1984 and the International Accounting and Auditing Standards. International evidence (International Finance Corporation [IFC] 2007) supports this amount of fine should a company fail to provide full disclosure.

In addition, IFC 2007 highlights certain CG weaknesses,[4] namely, low percentage of experienced personnel corporate board with little to no protection for minority shareholders. Law enforcement lacks respect for investor rights as courts are laden with cases, prosecution is costly, and settlement takes a long time. Listed companies generally conduct adequate and timely disclosure. However, certain groups in the manufacturing sector and those that are state owned do not follow rules and regulation. As the penalty for not providing full disclosure is low, companies are not motivated to follow rules and regulations. They also highlighted the issues of conflict-of-interest disclosure and RPTs. A few family owned firms are influential, and they control resources (Zulfiqar & Fayyaz, 2014), and are usually involved in their expropriation at the expense of minority shareholders (A. A. Ibrahim, 2006).

A developing country such as Pakistan, with its underdeveloped capital markets, presents the perfect setting to examine these problems. This context also has low stock market capitalization and foreign direct investment. In addition, these markets are characterized by high activities of speculation and levels of corruption (Gohar & Karacaer, 2009). Previous studies have proven that affiliated firms perform less than unaffiliated firms (Ghani et al., 2010; Kali & Sarkar, 2011). The average values of

[4]A Survey of Corporate Governance Practices by International Finance Corporation in Pakistan 2007.

Tobin's Q and ROA for affiliated firms are significantly lower than those of unaffiliated firms. These studies have suggested that the family firms' group activities can be monitored through the interpretation of outsiders. This factor reduces agency problems and performance in family-owned and unaffiliated firms. Faccio et al. (2001) argued the existence of agency problem in Asian firms with CG and political environment. Similarly, studies reported agency problem occurs in family-owned firms in Pakistan where major shareholders exploit the interest of minority shareholders (Abdullah, Shah, Gohar, & Iqbal, 2011). The study examines the expropriation of resources in Pakistan prior to the implementation of CG codes in 2002 (Securities and Exchange Commission of Pakistan [SECP] codes, 2002). Ikram and Naqvi (2005) showed the expropriation of assets of 86 family-owned firms over a 10-year period (i.e., 1993–2003. The authors confirmed the existence of tunneling in family-owned firms, and examined how firms group tunnel resources. However, they failed to explain how these family-owned firms transfer resources.

The present study differs from other studies in two aspects. First, we examine the effect of CG in Pakistan in relation to its performance after the implementation of CG codes in Pakistan. Second, we explore the moderation role of RPTs on the relationship between CG and firm performance in Pakistani family-owned firms. Based on these arguments, the research questions for this study are as follows.

1.3 Research Questions

This study aims to answer the following research questions:

1. Does RPTs affect the performance of Pakistani family-owned firms?
2. Does the number of independent non-executive directors (INED) affect the performance of Pakistani family-owned firms?

3. Does number of family directors (FD) affect the performance of Pakistani family-owned firms?
4. Does family ownerships (FO) affect the performance of Pakistani family-owned firms?
5. Does RPTs moderate the relationship between CG mechanisms (i.e., independent non-executive director (INED), family directorship (FD), and FO) and performance of Pakistani family-owned firms?

1.4 Research Objectives

Based on the research questions in Section 1.3, the objectives of research are formulated as follows:

1. To examine the effect of RPTs on firm performance;
2. To examine the effect of INED on firm performance;
3. To examine the effect of FD on firm performance;
4. To examine the effect of FO on firm performance;
5. To examine the moderation effect of RPTs on the relationship between CG mechanisms (i.e., INED, FD and FO) and firm performance.

1.5 Contribution of the study

This study contributes to the body of literature in six distinct areas. First, it extends the usefulness of Agency theory types (II) and conflict-of-interest transactions in supporting the underlying nature of Related Party Transactions (RPTs). The two primary views on Related Party Transactions in the present literature which can result in either positive or negative impact on interest of minority shareholders and investors. This study has confirmed both Agency theory types (II) and the conflict-of-interest transactions (Gordon et al. 2004a; 2004b; Kohlbeck & Mayhew 2004) that major shareholder of

family-owned firm exploit the interest of minority shareholder through transfer of resources. Such Transfer has done through certain RPTs. These RPTs were categorized into different types of Related Party Transactions and it has impacts on firm performance. Furthermore, it also adopts a different approach to categorized RPTs. Consistent with the observations of numerous researchers like Gordon et al. (2004), Y.-L. Cheung et al. (2006), A. C. H. Lei and Song (2008), Y.-L. Cheung, Jing, Lu, Rau, and Stouraitis (2009), M. Kohlbeck and Mayhew (2010), Jian and Wong (2010), Ryngaert and Thomas (2012), Srinivasan (2013) and M. P. Williams and Taylor (2014), this study have categorized types of RPTs, an obvious demarcation in terms of the impact of different types of RPTs on firm performance has been shown in this study. Therefore, this study has categorized the RPTs between controlling shareholder companies and subsidiaries and classified them into 12 different types of RPTs in Pakistani family-owned firms, which are further sub-categorized. This categorization has done on basis of content analysis and previous literature. Detailed categorization is shown in Appendix A. In addition, two types of RPTs, namely, benefit-based and expense-based transactions, have been ignored or remain undiscovered. This study further contributes by identifying these types of RPTs. Meanwhile, 10 other types of RPTs have been categorized (i.e., other types of RPTs) and discussed by various researchers along with their implications. First category of RPTs is Benefit-based RPTs. This types of RPTs has further analyzed and have positive effect on the family owned firm performance. Benefit-based RPTs includes bonus, convertible, and right issue shares. RPTs benefit-based transactions. This is consistent to similar concept of propping in which major shareholder take decision internally for firm in their financial distress position. Similarly, second category of RPTs is RPTs expense-based. This types of RPTs expense-based transactions has further analyzed and have negative effect on firm performance. RPTs expense-based, includes organizational expenditure, insurance, royalty payments, and other expenses. This is consistent to similar concept of tunneling

in family-owned firms in which major shareholders transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. The major shareholders have strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exist for that indirect controlling owner, thus making her wealthier on the cost of minority shareholders. Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. While, third category of RPTs is RPTs other based. This type of RPTs other based has further analyzed and have negative effect on firm performance. RPTs other based include ordinary shares, dividends, donations, interests, investments, purchase of assets, sale of assets, employee benefits, lease, loans, and advance payments. This is consistent to similar concept of transaction cost concept and tunneling in which major shareholders transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. The controlling shareholder use mechanism of negative RPTs as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains.

Second, numerous researchers have examined the role of CG mechanism (i.e., internal and external) with firm performance (A Agrawal & Knoeber, 2012; Azeez, 2015; Baysinger & Butler, 1985; J.-K. Kang & Shivdasani, 1995). Furthermore, various researchers have investigated RPTs in relation to firm performance in term of return on asset (ROA) (Aswadi Abdul Wahab, Haron, Lee Lok, & Yahya, 2011; Y.-L. Cheung, Jing, et al., 2009; Ryngaert & Thomas, 2012). Related Party Transactions have a significant impact on firm performance. This is consistent with a situation where an equilibrium condition exists whereby investors price protect against the potential effects of related party transactions (M. C. Jensen & Meckling, 1976). As firm performance is

calculated by Accounting based measure i.e. ROA and ROE, there is probability of concealment that affect the firm performance. Related Party Transactions themselves are noted as a mechanism for firm performance (T. Wong & Jian, 2003a). These results initially seem to be at likelihoods with findings from Wahab et al. (2011). They have found significant negative relationship between Related Party Transactions and firm performance. However, the current study has also measured firm performance in term of return on equity in addition to Tobin's Q which is market-based performance. Upon a detailed analysis of the firm performance with accounting base i.e. ROA and ROE and Market base i.e. Tobin's Q, it has found the significant relationship between RPTs and firm performance that has high significant economic impact. When translated into economic terms, the negative relationship with Related Party Transactions resulted in a mere -1.014% decrease to ROA (Wahab et al., 2011). Similarly, the current study also empirically tests the effect of the moderating role of RPTs on the relationship between CG mechanism (i.e. independent non-executive director independency, FD, and FO) and firm performance measured by ROA, ROE and Tobin's Q; this relationship prevails in family-owned firms in Pakistan where major shareholders expropriate resources through abusive RPTs (A Agrawal & Knoeber, 2012; Azeez, 2015; Baysinger & Butler, 1985; J.-K. Kang & Shivdasani, 1995).

Third, this study further contributes to the literature by minimizing instances in which major shareholders exploit the interest of minority shareholders in family-owned firms in Pakistan. Exploitation of interest occurs through the high concentration of FO (i.e., agency theory; Type II), and conflict of interest between major and minority shareholders (M. C. Jensen & Meckling, 1976) and their views (Gordon et al., 2004) on this conflict between major shareholder and minority shareholder. The study shows empirically that RPTs have negative effect on firm performance. The firm performance

decreases due this transfer. High ownership concentration and negative RPTs decrease the firm performance of Pakistani family-owned firm. In a family owned firms having high concentration of ownership, this would indicate exploitation of minority shareholder by major shareholder through tunneling RPTs. This study contributes by focusing good Governance mechanisms such as the board of directors including independent non-executive directors are nominated by the major shareholder that take decision for their own interest. It also contributes the importance of disclosure and attention of Security and Exchange of Pakistan (SECP) and Karachi Stock Exchange (KSE), to the significance of having low Independent non-executive director. The results show empirically that had negatively significant coefficients of RPTs inferred that investors low price or give a valuation discount to a firm merely due to the presence of tunneling RPTs. The primary cause for the valuation discount by the market is relative importance of the RPTs. This view is consistent with the view that RPTs negatively effect on the firm performance (Gordon et al. 2004a; Wahab et al. 2011). It is also conceivable that the value of the RPTs represents the economic loss suffered by the minority shareholder of family-owned firm (Ryngaert & Thomas 2007). Further, it has investigated the relationship between family directorship and firm performance that need establishing principles and characteristics of a strong governance system of Pakistani family-owned firm. The results showed in this study are empirical evidence that encouraging good corporate governance can restrain the negative effects of family directorship. This can provide the necessary balance, seeing that this study also provides empirical evidence of the negative effects of family directorship on firm performance of the family owned firm.

Fourth, the study develops an index of independent non-executive directors (IDI) that examines the effect of firm performance in family-owned firms. Most studies have attributed the independent non-executive director in terms of composition and financial

expertise in family-owned firms. However, this study added one more dimension to the non-executive independent non-executive director (i.e., tenure). Tenure is one of most important factors that affect the independency of independent non-executive director (INED). Family- owned firms with independent non-executive director having high tenure. They are not independent non-executive director. Controlling shareholder of Family-owned firm use that independent non-executive as rubber stamp for their most decision that exploit resources of minority shareholder. The final index consists of three attributes of non-executive independent non-executive directors, namely, composition, financial expertise, and tenure. The independent non-executive director plays a key role in mitigating the resource transfer by major shareholders in family-owned firms. The monitoring function of Independent non-executive directors (INED) brings independence and oversight to the firm (Fama 1980; Fama & Jensen 1983). M. J. Kohlbeck and Mayhew (2004a) observed that stronger board independence lowered the probability of RPTs. Board independence has been found to be effective in reducing the negative effects of RPTs in the context of transfer pricing (Lo, Wong, & Firth 2010). Independent non-executive directors (INED) was found to have a significant positive relationship with the firm performance that mitigate the transfer of resources through certain RPTs. In this case, independent non-executive directors (INED) improve the monitoring role of the board of directors (Haniffa & Hudaib, 2006). This augurs for better corporate governance as a variety of skills, experiences, knowledge and expertise can be had with a larger board (Anum Mohd Ghazali, 2010). Independent non-executive directors (INED) also may have increased capability to check management as the number of directors increases (Sulong & Noor 2008). This higher level of supervision may contribute to the positive effect of independent non-executive directors (INED) on firm performance. This is showing the critical role the board that plays in good corporate governance system and its relationship with RPTs. The role of independent non-executive directors (INED) includes critical

issues. The independency of INED must be especially examined based on the above three mentioned dimensions because most family-owned firms in Pakistan fall in the lowest level of IDI (Figure 5.1 and Appendix C). An independent non-executive director (INED) is mainly responsible of mitigating abusive RPTs. This study empirically explores the effect of IDI with other variables, namely, family directorship and Family Ownership on firm performance.

Fifth, the study has implication for prospective investors and other stakeholders because RPTs results in real valuation discounts and premiums to prospective investors and other stakeholders. The effect of RPTs is significant and affects all stakeholders. This study gives empirical evidence to the problem of major shareholder and minority shareholder conflict. High ownership concentration is a common feature of firms in this region, including Pakistan that increases the power of major shareholders to expropriate the minority shareholder. In Pakistani family owned firms (i.e. highly concentration of ownership) would maximize the power of controlling shareholder for exploitation of the minority shareholders. This conflict between major shareholder and minority shareholder arises due to high concentrated shareholding. The effect of this conflict is the controlling shareholder expropriating the resources through RPTs at expense of minority shareholder. Consistent with prior research like Juliarto, Tower, Van der Zahn, and Rusmin (2013) that tunneling is a serious problem in developing countries and there is a strong association between family ownership and tunnelling RPTs. The results of this study show that expropriation is a real threat for minority shareholders. On closer examination, this can be broken down into the negative impact of tunnelling RPTs on firm performance. This negative effect of RPTs serves to inform the investing public, company management and boards of directors on the potential implications of engaging in RPTs. These negative nature of RPTs represent condition to exist whereby investors price protect against the

potential costs or benefits of RPTs (M. C. Jensen & Meckling, 1976). This means that investors would assign a lower market value to a firm engaging in RPTs (M. Kohlbeck & Mayhew, 2010). In this study it has shown empirically that investors would assign a lower market valuation to a firm engaging in RPTs. The value relevance of RPTs and the relevant market valuation also serve as a guide for the management of any corporation intending to engage in RPTs. That is, the board of directors may utilize empirical evidence such as that presented in this study to justify or calculate the true cost of RPTs to incorporate potential upside or downside to firm valuation as a result of undertaking the said RPT.

Sixth, compared with previous research which have focused on data from various countries and diversified firm portfolio, this study focuses on one country with data from family-owned firms listed on the stock market. These firms are involved in the transfer of resources through RPTs and exploit the interest of minority shareholder. Hence, the current study contributes by focusing on the importance of disclosure for CG mechanisms, such as the level of independency of the director, FD, and FO in family-owned firms, to the regulatory authority, SECP. The SECP emphasizes the significance of disclosure in CG codes.

1.6 Organization of the study

This study consists of six chapters. Chapter 1 generally introduces the study and includes the background, problem statement, objective, research questions, and contribution of the study.

Chapter 2 presents the historic development of CG in Pakistan. This chapter explains the fundamental duties and rights of the board of directors, as well as important

related laws, ownership structures, mechanisms of governing bodies, and details of important participants of capital markets in Pakistan. Finally, this chapter presents a comprehensive view of the current situation of CG in the Pakistani capital and equity markets.

Chapter 3 reviews the literature and develops the hypotheses and conceptual framework. This section explains agency theory as the basic frame of reference to understand the roles of FO and board composition in firm performance. Additionally, this section provides a detailed literature review on the results of studies conducted worldwide and in Pakistan. We also present our hypotheses based on the literature review. We further provide a comprehensive overview of the theoretical aspects of CG relative to the performance of family-owned firms and define and explain the effect of CG mechanisms on the moderating role of RPTs. Finally, we present the conceptual framework.

Chapter 4 details the methodology of the study, such as information sources, data collection, validity reliability, and practicability issues of the research data, and generalization of the research results. We present the equations to develop the IDI. Furthermore, this section explains data processing and analysis using econometric techniques (i.e., Fixed effect method (FE) or Random Effect Method (RE) and Generalized Method of Moments (GMM), as well as the research design and Models (i.e., Models 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b based on conceptual framework and agency theory Type II, significant level test, and correlation equations among variables).

Chapter 5 presents the findings and discussions. This section describes empirical findings based on the descriptive statistics of the selected sample of family-owned firms

in which data were collected and arranged for analysis. This part also shows the results of all these analyses by defining and testing the hypothesis using econometric techniques (i.e., Random Effect Method (RE) and Fixed Effect Method (FE) and Generalized Method of Moments (GMM), as basic and important tools. Finally, we relate the hypotheses tested and results of the robustness tests.

Chapter 6 summarizes the observations in the research and concludes the study. This section further highlights policy recommendations, limitations and opportunities for future research on similar themes.

1.7 Conclusion

The first chapter initiated the study by illustrating the topic, background, problem statement, questions and objectives, and contributions of the study and their implications. The following chapter discusses the CG and corporate scenario, relevant rules and regulation of CG codes, and relevant cases of RPTs in Pakistan.

CHAPTER 2: CORPORATE GOVERNANCE IN PAKISTAN: FACT AND FIGURES

2.1 Introduction

This chapter comprises of ten Sections. Following this chapter introduction, Section 2.2 presents an overview of CG in Pakistan. Section 2.3 lays out the CG rules and regulation, and Section 2.4 details the corporate scenario in Pakistan. Section 2.5 describes the important players in the Pakistani stock market. Section 2.6 presents the family ownership and board composition, whereas Section 2.7 details the Pakistani corporate governance system. Section 2.8 provides an overview of related party transactions, and Section 2.9 presents the motivation of the study. Finally, Section 2.10 summarizes the chapter.

2.2 Overview of corporate governance in Pakistan

"*[T]he evolution of the Pakistani corporate entities has, historically, closely followed The English Companies Act, 1844. In 1855, the Joint Stock Companies Act was enacted in undivided India and this was followed by the Indian Companies Act, 1882 and later by the Indian Companies Consolidation Act, 1913. Upon independence, Pakistan inherited the Indian Companies Consolidation Act, 1913. In 1949, this Act was amended in certain respects, including its name, where after it was referred to as the Companies Act, 1913. Until 1984, when the Companies Ordinance, 1984 (the Companies Ordinance) was promulgated Pakistani companies were established and governed in accordance with the provisions of the Companies Act, 1913.*" (Manual of Corporate Governance)[5]

Pakistan is an agricultural country, which accounts for its low equity market. Beg (2005) and Gohar and Kracaer (2009) further explained that the underdeveloped equity market is due to the low market capitalization, foreign direct investment, and nationalization policies of industries in the 1970s. Pakistan's equity market is constrained and particularly controlled by limited family-owned companies. In mid-1990s, Pakistan

[5]The 'Manual of Corporate Governance' is issued by the Securities & Exchange Commission of Pakistan (SECP).

entered a new phase where common people received bank loans at low interest rates. This phase additionally deteriorated the equity culture in society. In the past couple of years, Pakistan enacted intense measures to demutualize stock exchanges and introduce the over-the-counter market. These steps expanded market volume. SECP issued a detailed report about an underlying draft for the demutualization of the three stock exchanges in Pakistan (SECP, 2008).

The development of a CG system in Pakistan can be traced to the acquisition by British companies in the English Companies Act 1844. This Act laid the foundation for the business culture prior to the independence of Pakistan. The Joint Stock Companies Act 1855 provided the innovator chances for companies to be listed prior to the partition of Pakistan. Prior to the initiation of the Indian Companies Consolidation Act 1913, Indian Companies Act 1882 was also in use before the independence of Pakistan. After gaining independence in 1947, Pakistan followed the Indian Companies Consolidation Act 1913. Consequently, the Indian Companies Consolidation Act 1913 was modification in some aspects, including its title to Companies Act 1913. Until 1984, companies were founded and functioned according to the Companies Act 1913. The government of Pakistan replaced Companies Act 1913 by introducing Companies Ordinance 1984. This ordinance includes numerous stipulations that remained unchanged from Companies Act 1913 and its predecessors. Hence, English company law highly influenced corporate law development in Pakistan. Establishing corporations was a great challenge for the business sector after gaining independence from the British as Pakistan was beset with threats and opportunities for corporate culture.

The "family-owned company" culture played an important role in Pakistan's economic growth. The Karachi Stock Exchange (KSE) established in 1949 was the first

stock exchange in Pakistan. Lahore Stock Exchange (LSE) was the second stock exchange and established under the government's Securities and Exchange Ordinance of 1969 in 1970. The third stock exchange was the Islamabad Stock Exchange (ISE) established in 1989. The introduction of new CG rules and regulation improved corporate markets in Pakistan. These rules and regulations are managed by the SECP. The pertinent regulation for CG practices in Pakistan included the Security and Exchange Ordinance 1969, the Companies Ordinance 1984, and the Security and Exchange Commission of Pakistan Act 1997. Numerous researchers have examined the effect of ownership structure and board composition on firm performance and have found significant results with samples from different areas worldwide.

The first draft of the CG codes and practices was written by the Institute of Chartered Accountants of Pakistan (ICAP) in 1998. SECP announced the CG codes in 2002. SECP and the State Bank of Pakistan (SBP) are the two main bodies responsible for controlling the rules and regulation of the corporate sector of the country. The former is the primary and an autonomous constitutional body accountable for the rules and regulations of the corporate sector, whereas the latter regulates the banking sector in Pakistan.

Researcher like S. Ahmed (2009) reported that family-owned firms became a hurdle for the success or failure to fully execute CG codes in the country. These family-owned firms possessed shareholding majority through their pyramidal structures and cross-shareholdings in all sectors of the economy (e.g., textile, automotive, tobacco and agriculture-related goods manufacturing sectors). Ownership concentration is an issue not only in developing countries such as Pakistan but also globally. Gersick (1997) showed that family-owned firms account for 40% of the Fortune 500 list. (O. Oecd, 2004)

indicated that family-owned businesses play a significant role in a country's economic development as they constitute 85% of all business in OECD countries. According to Felton and Fritz (2005), family-owned businesses have a low percentage of non-executive independent non-executive directors as most decisions are accomplished for their own interest, and they mainly use the board as a rubber stamp. This unethical issue among family-owned firms paved the way for the exploitation of the interest of minority shareholders (O. Oecd, 2004).

CG practices play a significant role in private and public limited companies where capital markets are well-developed with respect to rules and regulations as they comprise high capital from the general public. Nationalized business units in developing countries, such as Pakistan, are in the process of privatization. Firms are more concerned about foreign direct investment from investors as they understand its association with enhanced firm performance.

2.3 Rules and Regulation of corporate Governance in Pakistan

The overview of the CG regime in Pakistan showed that CG has multilayered rules. These rules fall into one of the following five categories according to A. A. Ibrahim (2006):

1. Broad Corporate Laws
2. These are the laws outlined to increase the performance of companies. Consider the following example. The Companies Profits (Workers' Contribution) Act of 1968 was founded to explain the rights of employees to the company's income. The Securities and Exchange Ordinance of 1969 was established to check capital and equity markets in the country. The Ordinance of Control and Prevention regarding monopolies and restrictive trade practices aimed to reduce monopolies in the country. The Welfare

Fund of Worker Ordinance of 1971 was established for the welfare of employees in the country. The Companies Ordinance (Gaz Pak) of 1984 is a major law for corporate affairs in the country. The SECP Act and Gaz Pak of 1997 are the foundation of SECP in Pakistan. The Registered Companies Ordinance of 2002 was established for the considerable acquisition of voting shares and takeovers;

3. Rules and regulations formulated under corporate laws;
4. Listing rules for listed companies;
5. Civil laws, including those that provide cures for claim and recovery, such as the Specific Relief Act of 1877, the Civil Procedure Code of 1908, and the Limitation Act of 1908;
6. Criminal laws for violations and scams, including the Pakistan Penal Code of 1860, the Criminal Procedure Code of 1898, and special prosecution of the National Accountability Ordinance 1999 for corporate fraud and misuse.

This study considers the exploitation of minority shareholders by the major shareholders of family-owned businesses apart from the corporate regulatory authorities and the prevailing CG codes. According to A. A. Ibrahim (2006), the majority of corporate business have a high concentration of family-owned firms, which is opposite to the Berle & Means model of separation of ownership and control. The legal structure of Pakistani businesses follows that of the Anglo-American model because of laws common to both countries. However, the ownership structure of organizations is opposite to that of the Anglo-American structure of dispersed ownership. Therefore, CG practices for dispersed ownership may not properly explain the occurrence of governance problems such as high ownership concentration of family-owned firms (A. A. Ibrahim, 2006).

According to Paligorova and Xu (2012), family-owned firms with a pyramidal ownership structure depended more on debt financing than do non-family owned businesses. They utilized this capital structure to exploit minority shareholders. The pyramidal ownership structure according to Da Silva, Goergen, and Renneboog (2004) that predominates developing countries such as Pakistan is as follows:

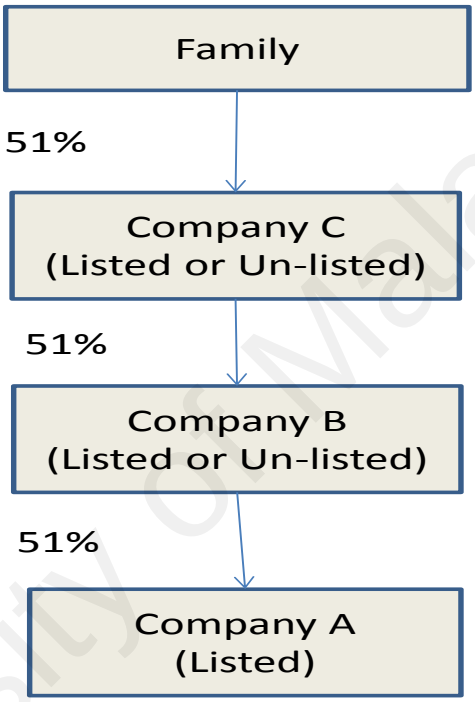

Figure 2-1: Pyramidal Ownership Structure in Pakistan

A conflict of interest between major and minority shareholders exist in listed Pakistani family-owned firms. Da Silva et al. (2004) attributed this conflict of interest to the high concentration of family-owned businesses. These firms expropriated company resources for their own benefit to obtain high percentages of FD and non-qualified family members on the board. This claim is further supported by Chaudary, Goergen, Syed, and Burki (2006) who attributed the conflict of interest between major and minority shareholders to weak CG, insufficient disclosure, and poor auditing practices. Meanwhile,

A. Cheema, Bari, and Saddique (2003) determined a positive correlation between the concentration and judgment of Pakistani family-owned firms with respect to personal interest. They also found cross-shareholding, interlocked directorships, and pyramidal structures in family-owned firms. Table 2.1 clearly illustrates the typical pyramidal ownership in Pakistani family-owned firms according to (A. Cheema et al., 2003). They showed a sample of 32 listed family-owned firms, which control for voting rights.

Table 2.1: Pyramid ownership and concentrated voting rights in Pakistan

Market	Percentage of Sample with controlling voting right
Pakistan (Textiles)	66.7 %
Pakistan (Non-Textiles)	78.3 %
Indonesia	66.9 %
Korea	42.6 %
Malaysia	39.3 %
Philippines	40.2 %
Thailand	12.7 %

The final significant members of Pakistani business sectors, such as airline, telecom, oil, gas, and power, are State-owned Enterprises (SOEs). A total of 150 SOEs presently function in the country, and annual reports of these SOEs are inaccessible to the general public. The examination of the issues of these companies is difficult. According to Kozhich and Hamid (2006), most SOEs do not follow the rules and regulation of SECP codes (200). Pakistan International Airlines is an SOE with 88% government shares. The government has taken important moves to privatize these SOEs to the general public through the privatization commission of Pakistan.

2.4 Corporate Scenario in Pakistan

2.4.1 Capital Market

A sequence of multiple organizational amendments has been implemented since 1991. Improvements in the Modaraba Companies and Modaraba Ordinance 1980, the

Security and Exchange Ordinance 1969, the Companies Ordinance 1984, and the SECP Act 1997 contributed to the overall important business progresses. SECP issued CG codes in March 2002 to facilitate and implement a powerful controlling system. According to this law, all listed firms in Pakistan are bound to follow the application of CG practices. Three stock exchanges currently exist in Pakistan, namely, the KSE, ISE, and LSE. The KSE, which contributes to one of best functioning stock exchanges in Asia, was among the best functioning stock exchanges in emerging markets in 2007.

2.4.2 Corporate Ownership Pattern

A highly concentrated corporate ownership structure is in place in Pakistan (Javid & Iqbal, 2008). Most firms are owned by one owner or a specific family that also manages numerous affiliated firms. Pyramidal ownership structure and cross-shareholding enable a firm's shareholders to operate ownership or controlling rights. The businesses of different companies contribute to the unique features of the corporations' ownership structure in Pakistan. Interlocking directorate allows the owner to possess voting or controlling rights in a company while holding a low portion of shares in another also exists in Pakistan.

The interest of minority shareholders is minimally if at all protected in Pakistan (IFC, 2007). As per the Companies Ordinance of Pakistan 1984, if any wrongdoing committed by other stockholders occurs in a company, only then will the stockholder with a 20% shareholding of that company can prosecute and ask for court assistance. Shareholders with a 10% shareholding can object to the SECP. Minority shareholders with shareholdings of less than 10% are unprotected in the Companies Ordinance 1984 and in CG codes. Therefore, the interest of minority shareholders is not legally protected.

2.4.3 Dividend Pattern

Pakistan has an irregular practice relating to dividends. Corporate dividend relies on profit after tax payment and financing for future investment projects of a company. Hence, more retention ratio exists. As firms prefer to retain income for business after dividends are given to shareholders, the amount that remains is only 23% after tax payment (Mehar, 2005). The major shareholding is owned by the board of directors or their family members. In addition, they enjoy the facilities provided by the company. Such significant expenditures relating to facilities contribute to the major causes of reduced profits that eventually prevent dividend payments and diminish minority shareholder's interest (Mehar, 2005).

2.4.4 Tax System

Unlike other developed countries, the taxation system in Pakistan is different as it has no capital gain tax on the profit yielded through sale of share. Furthermore, a total of 10% withholding tax on dividend income and other such taxes is imposed as a separate and independent income block of individual shareholders. Double taxation is also imposed on dividend income and other tax systems that influence individual investors to obtain capital gains rather than dividends. This taxation system is one of the factors causing the decline in the dividend payments of listed firms annually. Hu and Izumida (2009) showed that various factors, such ownership structure, regulations, and cultural and economic environment have certain effects which develop a specific kind of CG system in developing economies. They proved that the improvement in the CG system is related to the growth of capital markets.

2.5 Important Participants of Pakistani Stock Market

The economy of Pakistan is one of the rapidly emerging economies in Asia. Similarly, KSE is one of the best functioning markets worldwide before the global recession in 2008. According to recent reports, 638 companies are listed on KSE. The size of the economy compared with its expansion cannot be said as its authenticated figure, hence, the need for improvement and expansion remains.

Listed companies, investors, brokerage houses, and monitoring institutions are the important participants of the Pakistani stock market. This corporate market is in its emerging phase, and certain issues related to the operations of its participants remain. A number of local researchers such as A. A. Ibrahim (2006), Kozhich and Hamid (2006), Butt and Hasan (2009), Javid and Iqbal (2010), Khatab, Masood, Zaman, Saleem, and Saeed (2011) and F. Hashmi (2011) have examined the issues related to the operations of these important participants. Important participants are discussed as follows.

2.5.1 Listed Companies

Pakistan is a developing country dominated by family-owned firms and state-owned companies. Most research results have shown that mechanisms such as internal control and monitoring are deteriorating due to the high concentration of family-owned firms. Shares of these firms are particularly owned by a few major shareholders with familial connections, whereas government-owned companies are not allowed to be publicly traded in the stock market.

SECP issued a voluntary section of CG codes for the nomination of independent non-executive directors. Listed companies are provided with options for the selection of independent non-executive directors, whose responsibilities are unclear. The concept of

an independent non-executive director is new in an emerging economy such as Pakistan. According to Javid and Iqbal (2010), the code's limited provisions on the director's independence remain voluntary and provide no guidance on internal controls, risk management, and board compensation policies.

2.5.2 Investors

Under the recent legal system, the Pakistani stock market is undeveloped and less standardized. A highly-speculative activity exists in the stock market (Gohar & Karacaer, 2009). Meanwhile, Mohammad Nishat (2011) examined the causal relationship between the stock market and Pakistan's economy. The stock market was found to suffer from highly speculative activities, which negatively affect individual rather than institutional investors.

2.5.3 Brokerage Houses

Brokerage houses play a significant role in stock market function. The current setup of brokerage houses fail to meet the requirements, such as independence and fairness, for trading shares in the stock market. A. A. Ibrahim (2006) stated that the need to develop the monitoring role of the SECP remains to improve the performance of all market participants. Similarly, Siddiqi (2007) stated that the highly-speculative activities of brokers manipulate equilibrium outcomes. Hence, forecasting the actual equilibrium is difficult and increases competition among brokers.

2.5.4 Monitoring Institutions

The local legal structure differs from that of the Anglo-American Model. Monitoring and regulating entities check and regulate the corporate sector and capital market. Three main governing bodies are in place to clarify the operational administration

structure and address the corporate and capital market issues in Pakistan (Kozhich & Hamid, 2006). These governing bodies are the Ministry of Finance, the Security and Exchange Commission of Pakistan, and the State Bank of Pakistan. The Ministry of Finance has no direct influence over SECP regulation, although it chooses the SECP commissioners. The SBP monitors the banking and financial sectors, and it also controls banks and has the ultimate power to impose fines and reorganize non-compatible banks. The SECP monitors the corporate sector and capital markets, as well as commands the stock exchanges and has power over the listing requirements for listed companies.

The SECP is the authority regulating the corporate sector in Pakistan, and it has financial independence to carry out its "regulatory and statutory responsibilities." The commission was established in 1997 but became operational in 1999. The commission initially only regulates the corporate sector and capital markets. Furthermore, it currently supervises and regulates insurance companies, non-banking finance companies, and private pensions, as well as oversees various service providers to the corporate sector, such as chartered accountants and credit rating agencies. According to A. A. Ibrahim (2006) the "Comply or explain" period developed a weak spot in the monitoring role of SECP. It has two divisions, namely, company law division and fraud investigation unit (FUI), which regulate and investigate capital markets in Pakistan (SECP Manual, 2003).

2.5.4.1 The Company Law Division

The company law division has two further sub-divisions, namely, Corporatization and Compliance and Enforcement. The Corporatization and Compliance division is accountable for the enforcement of companies into Companies Ordinance 1984 by ensuring that the rules and regulations of companies and stock exchanges are in accordance with relevant laws. Primary functions include the registration and regulation

of the statutory functions of companies. It also monitors the compliance of the corporate sector by examining statutory returns. Meanwhile, the Enforcement division regulates stock exchanges and enforces SECP decisions related to the regulation of capital markets. Furthermore, it enforces policies made by the SECP and takes actions against erring company owners, directors, and auditors.

2.5.4.2 Fraud Investigation Unit

SECP established the FIU primarily to investigate financial frauds and corporate crimes. Financial crimes include, risk assessment, stock management, deterrence creation, and those committed while providing assurance for governance. A complaint is electronically lodged using an online complaint form or a physical copy of the form is sent to the SECP headquarters as FIU investigates the complaint.

In collaboration with IOSCO, SECP launched an investor alert portal, which provides timely alerts and warning to investors about companies unauthorized to provide financial services to other companies. This portal also verifies companies that use name similar to other registered companies, thereby saving investors from fraudulent companies and building their confidence in capital markets. The SECP issues various individual and public warnings and undertakes necessary actions to stop the unlawful trade of shares. These actions also protect secondary capital markets from decreasing to protect society.

2.6 Family Ownership Structure and Board Composition in Pakistan

A general definition or criterion for family-owned firms does not exist because various research approaches are supported by prior literature. For example, (Encarnation, 1989) defined family-owned firms as “the relationship among Indian family owned firms.

They have strong social ties of family, caste, religion, language, ethnicity and region reinforced financial and organizational linkages among affiliated firms." Anderson and Reeb (2003) defined family firms as those with a high level of concentration or presence of family on the board of directors. Maury (2006) categorized a firm as a family firm if the major shareholder holds at least 10% of the voting right in the total shareholding of the firm. Cascino, Pugliese, Mussolino, and Sansone (2010) classified family firms as those in which the major shareholder holds at least 50% of the voting rights or outstanding shares in the total shareholding of the firm or wherein managerial positions are controlled by at least one member of the family. Setia-Atmaja, Tanewski, and Skully (2009) classified a firm as family controlled if the controlling shareholder holds 20% or more shareholding and is involved in its top management. Family-owned firms play a significant role in deciding the future of any country's economy (Johansen & Schoar, 2006). According to Miller, Le Breton-Miller, Lester, and Cannella (2007), family-owned firms entail that a group of firms are independent by nature but under the control and regime of a single administration owned by a particular family. Khanna and Rivkin (2001) defined family-owned firms as "a set of firms which, though legally independent, are bound together by a constellation of formal and informal ties and are accustomed to taking coordinated action." Researchers like Leff (1978) and Khanna and Yafeh (2007) characterized family-owned firms as an entity that includes various different firms engaged in diverse operations with a common board that ensures their performance and is under the control of a single owner or family. The advantage of family-owned firms is that the conflict of interest is minimal (i.e., principal−agent theory). However, the rights of minority shareholders are exposed to deterioration by the family (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1999).

Family-owned firms play a significant role in the economy of developing countries to substitute for missing or incomplete markets and to maximize control. On the one hand, several researchers such as Bigelli and Mengoli (1999) and Khanna and Palepu (2000) have examined the effects of family-owned firms on the country's economy. On the other hand, researchers such as Morck, Shleifer, and Vishny (1988) and Claessens (2006) have argued whether the affiliation of family-owned firms specifically increases or decreases firm performance. These authors have posited that the affiliation of family-owned firms increases the value of firms based on the missing market argument. By contrast, researcher such as R. Porta et al. (1999) have also claimed that the value of a firm decreases based on the control argument. This case would be where major shareholders transfer resources within the group for their own benefit at the expense of minority shareholders.

Zaheer (2006) disclosed that few Pakistani families owned the majority of shares directly or indirectly through their associated companies. These family-owned firms are typically structured as cross-shareholdings and inter-locking directorships with complete dominance over the boards. They also make decisions for their own interest over the allocation and disbursement of the investments provided by external investors, such as financial institutions and minority shareholders. Weak disclosure practices and poorly regulated auditing systems provide opportunities for these family-owned firms to expropriate resources and encourages them to transfer resources for their personal benefit. The interests of minority shareholders and external investors are often exploited due to this resource transfer.

Another significant issue in the Pakistani capital market is the lack of penal provisions in the CG codes issued by SECP in case of non-compliance. According to

Kozhich and Hamid (2006) and Javid and Iqbal (2010), CG codes include a "comply or explain" period in which an external auditor simply checks the "statements of the compliance" but does not check the accuracy of information provided by a company. The local legal setup provides insufficient resources with which shareholders can enforce ownership rights. Such systems also provide major shareholders with opportunities to exploit the interest of minority shareholders.

In developing countries such as Pakistan, dominance is maintained by either closely held firms, which may be state-controlled, family-owned, or those held by financial institutions and wide corporations. A detailed list of 47 family-owned firms is attached in Appendix B by Azim, Mustapha, and Zainir (2018a). The main agency problem is that of the expropriation risk which controls or dominates shareholders at the expense of minority shareholders. Other such countries have less or extremely few agency problems or manager–shareholder conflicts. The agency problem in such markets arises through interlocking directorate, complex pyramid structures, cross-shareholdings, dual class voting shares, and voting packs which provide the ultimate owners power to retain control (i.e., voting rights despite holding a minor portion of ownership and cash-flow rights). Such complex ownership allows dominant shareholders to make decisions without bearing their full cost. A firm's value is then negatively impacted to a great extent by large family shareholders if executive positions are held by family members in the firm. Furthermore, the appointment of a family member as Chief Executive Officer (CEO) has a significant impact if he/she lacks talent, competency, and expertise to run the business. Such decisions create opportunity costs because of suboptimal appointment, and these costs are distributed across shareholders, however, the private benefits accrued are enjoyed only by the family (Pérez-González, 2001).

Shareholder identity issue has garnered considerable attention in CG literature. The implications suggest that the quantity of equity owned by and identity of shareholders matter in CG. The identity of shareholders may be that of a family member, worker, manager, foreign enterprise, financial institution, and a private person. Previous studies have been based on the functions of firms in developed markets, where ownership structure is more broadly dispersed than that found in developing markets with large shareholdings, such as those in Pakistan.

The weak legal environment in certain countries caused the original owners to maintain significant positions in their corporations, which resulted in ownership concentration. Firm performance and value are enhanced if the equity ownership by insiders can align their interests parallel to those of shareholders (Klapper & Love, 2002). Family firms are dominant in underdeveloped markets where legal enforcement is weak and financial markets are underdeveloped, thereby limiting access to external financing (Pistor, Keinan, Kleinheisterkamp, & West, 2003; R. L. Porta, Lakonishok, Shleifer, & Vishny, 1997).

The Association of Chartered Certified Accountants Pakistan, IFC, SECP, and Pakistan Institute of Corporate Governance conducted surveys on family-owned firms in 2007. They found that 89% of companies followed the mandatory corporate codes. Results showed that 81% of the companies published a statement of compliance with CG codes in their annual reports. Furthermore, 53% of the companies failed to develop the executive remuneration system. They further determined that 50% of the companies have annual reports without the independent non-executive director. Finally, the survey indicated that 54% of the companies have no conflict of interest and RPTs.

Pakistan became a member of the World Trade Organization in 1995. The Pakistani financial and consumer markets have increased opportunities for consolidation and merger with international firms. Local firms faced the great challenge of improving their CG mechanisms and high levels of competition in the world market. Therefore, the initiation of CG mechanisms for the majority of family-owned firms is important.

Figure 2.2 depicts typical family-owned firms, where A is a family-owned firm. Firm A has 40% and 30% shareholding in Firms B and C, respectively. Firms B and C have further shareholding in firm D. The total shareholding of Firms B and C in firm D is 60%. Therefore, the total shareholding of Family Firm A in Firm D is 60%. However, the cash flow rights of Firm A in Firm D are 20% ($0.2 \times 0.4 + 0.4 \times 0.3$). As the cash flow right of Family Firm A is higher compared with those of Firms B and C, the major shareholder in Firms B and C has more opportunities to transfer resources from Firm D. This expropriation of resources from Firm D is against the interest of the minority shareholders in Firm D. This concept, also known as expropriation of resources, is called tunneling and it is against the benefits of minority shareholders of firm D (R. Masulis, Pham, & Zein, 2008). This scenario also sets up the expectation that, on average, family-owned firms transfer resources, which indicate the existence of tunneling in Pakistani family-owned firms (Ikram & Naqvi, 2005).

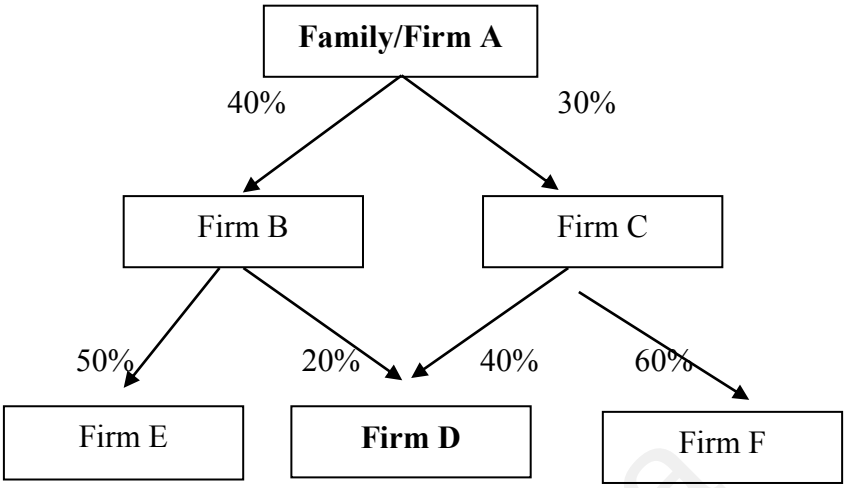

Figure 2-2: Pyramidal Structure family owned firms

The researcher like Gilson & Gordon, (2003) and Villalonga & Amit (2006) have argued that an agency problem in family-controlled firms arises due to conflict between the majority and minority shareholders. Thus, major shareholder exploits the interest of minority shareholder through related-party transactions (RPTs). Further, researcher like Cheung, Rau, & Stouraitis (2006) have shown empirically that certain types of RPTs have used by Major shareholder for exploitation of minority shareholders. They have argued that these RPTs might provide the detailed information through which major shareholders exploit the interest of minority shareholders and how this has impact on the firm value. Most previous research Fan & Wong, (2002) and Leuz, Nanda, and Wysocki (2003) have shown that ultimate owners have advantages of deviation of cash flow rights from the voting rights to prove the presence of expropriation activities.

However, some researchers like Anderson & Reeb (2003); LaPorta, Lopez-de-Silanes, Shleifer, & Vishny, (2002) and Leuz et al. (2003) have criticized that there is no difference between voting and cash flow rights and this might only create strong signal to exploit the interest of minority shareholder. They did not show actual acts of exploitation of the interest of minority shareholder. Therefore, this study provides a new

perspective of an alternative tool on related-party transactions to examine situations that involve expropriation activities.

Currently, 47 family-owned firms have more than 260 family-owned firms listed on KSE. The majority of these family-owned firms perform in multiple sectors, and similar to family-owned firms in other countries, they have no formal title. These firms are not state controlled. Table 2.2 presents the details of these 47 family owned firms.

Table 2.2: Detail of Family Owned firms Groups

No.	**Family Owned Firms**	No.	**Family Owned Firms**
1	The Nishat Group	25	The Hashoo Group
2	The Saigols	26	The Packages Group
3	The Atlas Group	27	The House of Habib
4	The Lakson Group	28	Nawa-E-Waqt Group
5	The Dawood Group	29	The Saif Group
6	Chenab Group	30	Alabas group
7	The Dewan Group	31	Fatima group
8	Ghani Group	32	The Crescent Group
9	Gul Ahmad/Al-Karam Group	33	The Monnoo Group
10	Nagina group	34	The Sapphire Group
11	Sharif Group	35	The Haroon Family
12	Arif Habib Group	36	The Bawany Group
13	THE Din Group	37	The Servis Group
14	Abid Group	38	The Tata Family
15	The Best Way Group	39	The Alam Group
16	Yuns Brother	40	The Guard Group
17	The Ejaz Group	41	The Tabani Family
18	The Dadabhoy Group	42	The Tapal Group
19	Sitara group	43	Jahangir Siddiqui& Co.
20	Chakwal Group	44	The Adil Group
21	Ummer Group	45	Sitara Group
22	Elahi Group	46	The Colony Group
23	Mahmood group	47	Kassim Dada
24	The Jang Group		
Table 2.2 shows the total of 47 family-owned firms having more than 260 family-owned firms listed on Karachi Stock Exchange (KSE)			

2.7 Pakistani Corporate Governance System

Historically, Pakistani companies are family-controlled and many generally remain to be so through pyramidal structures and cross-holdings (Javed & Iqbal, 2007). The SECP took major steps in shaping best company practices in relation to CG in 2002. SECP is a regulatory authority on companies in Pakistan, and it exercised its power under Clause 34(4) of the Securities and Exchange Ordinance. SECP developed CG codes in cooperation with the ICAP. The Code of CG developed by SECP focuses on three main parts, namely, management, accounts/financial setups, and audit. SECP specified rules for the appointment of board of directors as follows.

For management of a company, SECP stipulated that the board of directors of each listed company should comprise at least one independent non-executive director showing institutional equity interest of a banking company, Development Financial Institution, mutual fund, or insurance company according to Companies Ordinance 1984. Furthermore, the code stipulates that executive directors working as full time directors should not more than 75% of the elected directors including the CEO. Similarly, the SECP code indicates that directors of listed companies should declare such content to the effect that they are aware of their duties and powers under relevant law(s), the listed companies' Memorandum and Articles of Association, and the listing regulations of stock exchanges in Pakistan. The SECP also defined the rules to qualify as a director. First, the maximum number of directorate of a listed company is seven for a director serving as a director of listed companies. Similarly, SECP indicated the rules for eligibility as follows: a director must be a tax payer; one who is not convicted by a court of competent jurisdiction as a defaulter or one with any business relationship with stock brokerage.

However, SECP mentioned the responsibilities and functions of the board of directors as follows. The board of directors must carry out their powers and duties with reasonable independence and judgment of the best interests of listed companies. They must prepare a "Statement of Ethics and Business Practices" and vision/mission statement in their annual report. A system for good internal control must be established. They must approve the appointments, remunerations, and terms and conditions of employment of the CEO, Chief Financial Officer (CFO), company secretary, and other executive directors. A CFO who graduated from a recognized university and with at least five-years' experience must be appointed. They must meet at least once every quarter of the financial year. Furthermore, they must control the affairs of listed companies on behalf of shareholders.

Similarly, SECP specified the rules for the appointment of an independent non-executive director as follows. An independent non-executive director must be at least one or one-third of the total members as the one with skills, competence, knowledge, and experience. An independent non-executive director must not be an employee of the company, any of its subsidiaries, or holding company within the last three years. He must not be a CEO of subsidiaries, associated company or undertaking, or holding company in the last three years. Subsequently, he must not have a material business relationship with the company within the last three years either directly or indirectly as a partner, major shareholder, or director of a body related to the company. The independent non-executive director must not receive remuneration in the three years preceding his appointment as a director. He must also refrain from receiving additional remuneration, excluding retirement benefits from the company apart from the director's fee. He must decline from participating in the company's share option or performance-related pay scheme. The independent non-executive director must not be a close relative of the company's

promoters, directors, or major shareholders. He must not have cross-directorships or significant links with other directors through involvement in other companies or bodies. He must not serve on the board for more than three consecutive terms from the date of his first appointment provided that he is deemed an "independent non-executive director" only after a lapse of one term.

For the accounts/financial setups of the company, SECP stipulated the rules that the director's report must ensure that the financial statements prepared by the management of the listed company fairly present its state of affairs, operations, cash flows, and equity changes. Similarly, the report must follow the IAS in preparation of financial statement. Similarly, the director report maintains proper books of account and sound internal control system of the listed company.

For the company auditors, SECP indicated rules that listed companies publish and circulate quarterly unaudited financial statements among directors. They ensured that legal auditors review half-yearly financial statements. Similarly, they ascertain that the firm of external auditors or any partner in the firm of external auditors do not, at any time, hold, purchase, sell, or take any position in the shares of the listed company or any of its associated companies or undertakings. Similarly, for the listed company, in its proposal to be listed, shall, at the time of public offering, offer no less than Rs. 100 million or 20% of the share capital of the company. Similarly, the listed company must establish an audit committee that consists of no less than three members including the chairman.

2.8 Related Party Transactions in Pakistan

The term related party is defined, under Section 195 of Companies Ordinance 1984 as "it is relative in relation to director means the spouse of directors and their minor

children." The SECP constituted the revision of Companies Ordinance 1984 regarding related party transaction[6] and defined such "related party in relation to a company" as follows:

a. "Entities that are directly or indirectly controlled, or are controlled by the reporting company.
b. Associates as defined in the International Accounting Standard 28, Accounting for Investments in Associates.
c. Individual having directly or indirectly, an interest in the voting power of reporting company and their family members and such entities in which such individuals or key management personnel have substantial interest in the voting powers of reporting companies also includes the entities owned by director or major shareholder.
d. Key management personnel and their close families members; (e) entities in which one or more of the directors or members of the governing board are appointed by the reporting company or vice versa;
e. Where more than half of the raw materials and consumables required in the process of manufacture of an entity are supplied by the reporting company.
f. Where good or articles manufactured or processed by an entity are sold or transferred to the reporting company and prices and other conditions relating thereto are influenced by the entity or the company". (SECP 2003, notification, S.R.O 66-1)

The forms of persons included in the definition of related parties are almost similar across all authorities in line with international standards. According to Companies Ordinance 1984, a company must seek the approval of the commission to grant loans to any person, including the company directors, relatives, or partners with 25% of the total voting rights at the general meeting. A company must not provide any loan security to any person including directors, relatives, or others. The penalty for non-obligators under this section is 5,000 rupees. However, the term RPTs is not defined in the company law, code, and regulation, which can create confusion. Such rules and regulations do not exist for instances when the company engages in RPTs (Ikram & Naqvi, 2005).

Several expropriation cases where the major shareholder of family-owned firms transfers resources at the expense of minority shareholders are presented here. First, Taj Textile Enterprises was fined 4,000 rupees due to abusive RPTs of 246.856 million

[6]SEC notification, S.R.O 66(1) 2003 dated 22 January, 2003.

rupees. Second, the loans given to the directors of Technologies Limited, Netsol were considered RPTs. Third, fines of Rs. 20,000 for each Best Way Cement Limited director was imposed against advance to Rs. 209 million. Surprisingly, the penalty imposed against their actions relative to their professional responsibilities was extremely low.

Similarly, the IAS was implemented in Pakistani listed companies in 2004. Pakistani CG practices also state that all listed companies should follow the IAS in preparing financial statements. Listed companies should show all records of RPTs along with related evidence to the auditor according to the quasi legislation of the stock market. Statutory certified auditors should check and certify the compliance statement of listed companies with the best processes of RPTs. However, such auditing procedures are unmentioned in the CG codes (2002). Auditors do not mandatorily follow such guidelines. We present several cases of auditors who failed to comply with the rules and regulations prescribed in the IAS and to perform their responsibilities as professionals. Mahboob Sheikh & Co., Chartered Accountants was fined Rs. 25,000 for not complying with the IAS. Similarly, Gangat & Co., Chartered Accountants and Salman & Company, Chartered Accountants was fined Rs. 25,000 for certain irregularities in the preparation of financial statements. These irregularities were against their responsibilities under Companies Ordinance 1984 and International Standards on Auditing.

2.9 Why Pakistan

Pakistan was chosen for several justifications. First, family-owned firms are dominant in the stock market. These family-owned firms have high concentration of FO (Y. Ali et al., 2015b). They transfer resources at the expense of minority shareholders (W. Ullah, Ali, & Mehmood, 2017). This high concentration negatively influence the country's economy (Javid & Iqbal, 2010). Similarly, Asian countries have weak CG

mechanism and low investor protection, which are believed to be less effective compared with those of developed countries (Dyck & Zingales, 2004; La Porta, Lopez-de-Silanes, & Shleifer, 1998). The CG between Pakistan and UK has certain degrees of similarities and differences. On the one hand, in contrast to Berle and Means' model of separation of ownership and control, the structure of Pakistani family-owned firms shows a high concentration of ownership. In this manner, majority shareholders not only control but are also involved in the management of firms. Thus, it is argued that the type of concentrated ownership structure of Pakistani family-owned firms is different from that of the Anglo-American structure of dispersed ownership. On the other hand, similar to the Anglo-American, the Pakistani legal structure is based on common law. By ignoring this difference, Pakistan replicates the UK and South African CG reform initiatives (A. A. Ibrahim, 2006). Hence, the CG mechanisms formulated by the following markets with dispersed ownership structure may not properly remedy the governance issues of a market with concentrated ownership. Therefore, to fill this research gap, this study offers interesting findings in contrast to those of Anglo-American countries.

Second, Pakistan adopted the Anglo-American model to improve the CG standards in its corporate sector. This move may raise a critical question as to whether the Anglo-American model of CG is appropriate given the culture differences between Pakistan and these countries. Agency problem is expected to be different in developing countries, such as Pakistan, due to the nature of ownership structure in which minority (outsider) and majority (insider) shareholders have conflicting interests instead of managers and shareholders as is the case in the UK and US (Y. Bozec & Bozec, 2011). For instance, the dominance of family members on a board may diminish the influence of INED representations, which contradicts the spirit of good CGCG. Butt and Hasan (2009) provided evidence supporting the argument that agency problems vary according

to economic conditions, ownership structures, cultural underpinnings, and capital market development. Similarly, Tahir, Muhammad, and ul Haq (2012) provided empirical evidence on the non-existence of INED. Therefore, FO is expected to discourage firms from practicing good CG, which may negatively impact the firms' decisions, particularly in emerging markets. Therefore, this study constructs an index of INED from three dimensions, namely, composition, financial expertise, and tenure. This study provides insights into the independent-non executive director as an important party of CG standards as proposed by Anglo-American countries to improve the CG practices in emerging economies such as Pakistan.

Third, prior studies, such as those of Javid and Iqbal (2008) and Abbas (2013), have explored traditional CG mechanisms influencing the levels of compliance and disclosure with the Pakistani Code of Corporate Governance (PCCG, 2002). In addition to these traditional CG variables, this study investigates FD, which has been unexamined before in the CG literature. For example, this study investigates the impact of FD on the board based on the CG compliance level of Pakistani family-owned listed firms in context of related party transactions.

Fourth, a general gap in RPT research remains in Pakistan except for the study by H. Ullah and Shah (2015), which only focused on the relationship among CG variables. Previous studies have mainly examined large and economically significant countries in the Asia-Pacific region, such as Australia (Gallery, Gallery, & Supranowicz, 2008), China (Berkman, Cole, & Fu, 2009; Y.-L. Cheung, Jing, et al., 2009; Jian & Wong, 2010) and Hong Kong (Y.-L. Cheung, Qi, Rau, & Stouraitis, 2009; Y.-L. Cheung et al., 2006). These studies explored specific types of RPTs and their effects on wealth in their respective countries. In addition, no prior study has conducted a comprehensive and systematic

examination on the moderation role of corporate RP disclosure in accordance with RP disclosure standards in developing countries.

Fifth, the nature of and motivation for firms entering RPTs in the Pakistani context differ from those in other regions, particularly in developed countries. In developed economies, companies tend to have diffused ownership with a clear separation between ownership and control. However, companies in Asia have distinct ownership structures that tend to concentrate in a single group, family, or the state (R. W. Carney & Child, 2013; Claessens et al., 2000; Loon & De Ramos, 2009). Accordingly, senior management and board positions, including the chairman and chief executives, are often filled by family members (family-owned enterprises) or political appointees (state-controlled entities) (R. W. Carney & Child, 2013; Claessens et al., 2000). These ownership structures in Asia may lead to types of agency conflicts different from those in other regions. For instance, conflicts between majority and Minority shareholders may result in various types of RPTs (Loon & De Ramos, 2009; OECD, 2009).

Sixth, various researchers, such as Gordon et al. (2004), Y.-L. Cheung et al. (2006), A. C. H. Lei and Song (2008), Gallery et al. (2008), Yenpao Chen, Chen, and Chen (2009), Arshad, Darus, and Othman (2009), Lo and Wong (2011), and S. Utama, Utama, and Yuniasih (2016) have investigated the direct effect of RPTs on firm performance. Similarly, others, such as Aswadi Abdul Wahab et al. (2011), S. Utama, Utama, and Yuniasih (2010), Chien and Hsu (2010), and Hasnan, Daie, and Hussain (2016) have examined the moderating role of CG mechanism between RPTs and firm performance. In addition to the direct effect of RPTs on firm performance, this study contributes to examine the moderating role of RPTs between CG mechanism (i.e. IDI, FD and FO) and firm performance calculated by ROA, ROE and Tobin's Q.

2.10 Summary of Chapter

This chapter begins by providing a detailed view of CG in Pakistan. Then, it describes the rules and regulation of CG including the rules and regulation formulated under corporate law, listing rules, and civil and criminal laws. It further explains and describes the important participants of the stock market and corporate scenario, namely, capital market, ownership pattern in corporations, dividend pattern, and tax system. It highlights the role of family-owned firms including issues of ownership, board composition, and certain fraud due to RPTs. It also contributes to the empirical literature on CG. Finally, it presents the motivation of the study.

CHAPTER 3: LITERATURE REVIEW

3.1 Introduction

This chapter comprises of twelve sections. Following this introduction, Section 3.2 discusses agency theory (i.e., issues that arise when conflict occurs between major and minority shareholders). Section 3.3 contains the empirical literature on CG. Section 3.4 describes the expropriation of resources in family-owned firms. Section 3.5 presents related party transactions (RPTs). Section 3.6 presents Abnormal RPTs. Section 3.7 describes RPTs as sources of Tunneling or Propping. Section 3.8 presents the corporate governance and firm performance in Pakistan. Section 3.9 describes the limitation of the previous studies. Section 3.10 describes the hypotheses development. Section 3.11 shows conceptual framework and the finally, section 3.12 summarizes the chapter.

3.2 Agency Theory

Agency theory focuses on two important aspects: (i) agency issue and (ii) trade cost. Agency issues arise when owners and management have a conflicting interest. Thus, the owner (principal) and management (agent) look out for their own interests. Trade cost arises when agreement between the owners and management fail to consider future uncertain events. This scenario likely leads to opportunistic behaviors from the management (Shleifer & Vishny, 1997). Conflict of interest may also arise between major and minority shareholders, as it prevails mostly in East Asia and the West where large shareholders control the firms (Claessens et al., 2002). This study follows agency theory by M. C. Jensen and Meckling (1976). Two types of agency theory are identified among the controlling family firms, which suggest that family-owned firms can mitigate or reduce the agency problem.

3.2.1 Type I Agency problem

Controlling family firms face less severe Type I agency problems than non-family firms (Anderson & Reeb, 2003; Ben-Amar & André, 2006). The conflict of interest between principals and agents is a crucial constituent in agency theory. A principal appoints an agent to execute duties on his behalf. The agent is also granted the power to decide based on the principal's interest in the firm (M. C. Jensen & Meckling, 1976). If the principal and agent perform opportunistically, then the agent may not always perform in the best interest of the principal. Furthermore, an enormous number of principals (shareholders) are not engaged in the current decision making of a company. Thus, they appoint agents (managers) on their behalf. They also develop appropriate incentives for agents. They tolerate monitoring costs to reduce the rate of interest of agent (M. C. Jensen & Meckling, 1976). Furthermore, the principal bears the bonding costs of agent appointment, which guarantees that the agent's action will not affect the interest of the principal. Residual loss occurs when the decisions of the agent deviates from that of the principal. Agency costs are defined as the aggregate of monitoring and bonding costs and residual loss (M. C. Jensen & Meckling, 1976).

Agency theory relates to solving two possible issues in agency connections. The first issue arises when there is a conflict of the interest between agent and principal. Principals may also face difficulty in determining actual agent performance because the former cannot properly verify the behavior of the latter (Eisenhardt, 1989). The second issue, risk sharing, arises when principal and agent have different opinions on a risk (Eisenhardt, 1989), which negatively affects a firm. Walsh and Seward (1990) argued that "if a firm's managers entrench themselves with the sole objective of ensuring their power, prestige, and perquisites, the organization is likely to lose sight of its competitive environmental position and will fail." Therefore, unnaturally relating the goal of

management with shareholders is important. This relation can be attained by classifying the incentives of management such as shares or stock options. This action will increase the agent's loyalty to the principal and ultimately enhance firm value (Albrecht, Albrecht, & Albrecht, 2004).

Agency theory developed two lines from the economic perspective, namely, positivist and principal–agent (M. C. Jensen, 1983). The two lines yield a common valuation element, that is, the relationship between the principal and agent. They also share common notions about persons, companies, and information. However, they vary in their numerical calculation, dependent variable, and skill. Positivist researchers have concentrated on circumstances where the principal and agent have differing conflicts of interests and illustrate governance mechanisms that deteriorate agent behavior. Theoretically, the positivist line emphasized explaining governance mechanisms that resolve the agency problem (Eisenhardt, 1989). Positivist agency theory can be regarded as enhancing economics by suggesting a complicated structure of companies (M. C. Jensen, 1983). In this manner, organizational theorists have criticized positivist agency theory as modest (Hirsch, Michaels, & Friedman, 1987; Perrow, 1986). Similarly, micro-economists have criticized positivist agency theory as lacking rigor (Jensen, 1983). However, positivist agency theory has notably initiated significant research and popular interest (Eisenhardt, 1989).

Studies on principal–agent are more focused on general theory of principal–agent relationship, which can be related to other types of agency relationships, such as owner–worker, lawyer–client, and buyer–supplier (Harris & Raviv, 1978). The deduction and mathematical proof followed by this paradigm also included logical stipulations (Eisenhardt, 1989). Compared with the positivist stream, principal–agent theory is

abstract and mathematical. Therefore, accessibility of principal–agent theory is limited to organizational scholars. The most popular critics of the theory of Perrow (1986) and Hirsch et al. (1987) have focused the well-known positivist line of agency theory.

Moreover, the principal–agent stream has a wide concentration and high level of interest in theoretical perspective that can be tested. Meanwhile, positivists have concentrated only on special cases (i.e., relationship of the owner/CEO in large companies (Eisenhardt, 1989). Note that another issue exists besides the classic agency problem. This issue is based on the conflict of interest between minority shareholders and controlling block holders (Berkman et al., 2009).

Literature has highlighted the issue that occurs when large owners use their power to repress small ones (Miller & Sardais, 2011). According to normative agency theory, companies should increase incentive structures that support the interests of owners and managers (Fama & Jensen, 1983a). This increase can also enhance the monitoring and supervision of managers (Bryant & Davis, 2012). CG provides monitoring mechanisms that assist to reduce agency issues by segregating ownership and control in the system. We further argue that the interest of the owner lies on the return for their investment. They have no interest in the investment misappropriation by company management. This issue occurred only in companies with concentrated ownership because these owners exploit the interest of minority shareholders (Shleifer & Vishny, 1997).

3.2.2 Type II Agency problem

The major shareholders of family-owned firms may expropriate the resources of firms and exploit the interest of minority shareholders. Hence, family-owned firms encounter numerous critical Type II agency problems (Fama & Jensen, 1983b; Shleifer

& Vishny, 1997). Agency theory has played a significant role in CG investigations (Bryant & Davis, 2012). Agency theory is established on the relationship between the principals (owners of the firm) and agents (managers). From the agency perspective, agency problems arise in modern corporations due to the separation of ownership and control between owners and management (Fama & Jensen, 1983a). However, separating ownership and control also has benefits.

> "*These benefits are the reason for the persistence of this organizational form for decades. Individuals are not necessarily endowed with both managerial talent and financial capital. The ability to separate ownership and control allows the holder of either type of endowment to earn a return on it. In addition, the ability to raise capital from outside investors allows firms to take advantage of the benefits of size, despite managerial wealth constrains or managerial risk aversion*" (D. K. Denis & McConnell, 2003)

Previous researchers have recommended that CG mechanism is an operative instrument to monitor the opportunistic behaviors of management. The internal or external mechanisms of CG also decrease agency costs between owners and management (Shleifer & Vishny, 1986; Williamson, 1988). Similarly, other studies like Lo, Wong, and Firth (2010) have concentrated on CG techniques that affect the behaviors of the CEO and top managers. These studies have employed company ownership and board structures to explain the attitudes of management on organization restructuring and dividend decisions, as well as on the pricing of executive options.

Consequently, agency theory concentrates on CG instruments, particularly the board of director. The board of director minimizes the problems that emerged due to the relationship between the principal (i.e., shareholder) and agent (i.e., management) (Park & Shin, 2004). This relationship is regarded as the most outstanding governance

mechanism of the internal control system (M. C. Jensen, 1993). Hirsch et al. (1987) recommended that agency theory should be used with other theories as it exhibits a deficient yet valid worldview but ignores the complication of organizations. Several empirical studies have criticized agency theory. Kosnik (1987) and H. Singh and Harianto (1989) favored the hypothesis of agency theory along with complementary theories. Similarly, Eisenhardt (1988) combined institutional and agency theories, whereas Jean J Chen and Zhang (2014) showed that agency issues arise due to the RPTs in firms.

Prior studies have investigated and found evidence on the relationship between the RPTs and transfer of company resources by major shareholders (Djankov, La Porta, Lopez-de-Silanes, & Shleifer, 2008; S. Johnson, La Porta, de Silanes, et al., 2000). The transfer is facilitated by the high concentration of ownership in firms by major shareholders. The conflict of interest between major and external shareholders including minority shareholders should also be noted. Major shareholders mainly aim to maximize their profits. Thus, they exploit minority shareholders by hiding profits (Leuz et al., 2003). Similarly, the view that major shareholders use RPTs as instruments for hiding profits and exploiting resources at the expense of minority shareholder's wealth is empirically supported by research (Dahya, Dimitrov, & McConnell, 2008; Gao & Kling, 2008).

Companies should adopt a good CG mechanism that would enhance profits, develop good disclosure practices, and prohibit the exploitation of minority shareholder's wealth (D. K. Denis & McConnell, 2003; Gordon et al., 2004). Hence, the current study follows agency theory Type II based on an argument raised in Pakistani family-owned firms. These family-owned firms have highly concentrated ownership, whereby major shareholders expropriate the resources and exploit the interest of minority shareholders

through abusive RPTs. These RPTs are utilized by family-owned firms to exploit the wealth of minority shareholders, which signals an agency problem.

3.3 Empirical literature of Corporate Governance on firm performance

Model of Berle and Means (1932b), the concept of transaction cost developed by Coase (1937), and agency theory developed by M. C. Jensen and Meckling (1976), Fama and Jensen (1983a) and Fama and Jensen (1983b) have documented that agency problems are important components of the predetermined viewpoint of a firm between shareholders and managers. Shareholders and managers signed a contract that specifies the allocation of profits to shareholders and use of funds by managers. However, a contract cannot be completely written due to uncertain future contingencies. Therefore, financers and managers are required to assign residual rights to each other. Issues on the allocation of residual rights are discussed by ownership theory. Managers are normally left with increased control rights to allocate investors' funds. Furthermore, they can use it for their personal use and benefit. Meanwhile, Fama (1980), M. C. Jensen and Meckling (1976) and Ross (1973) found that managers' problems can be reduced solely by providing them with incentives. These incentives can be stock options, share ownership, or threat of dismissal when low profits are generated. Alchian (1950) and Stigler (1958) identified CG in a competitive environment, in which the decision of corporate strategies and policies depend on a single decision-making authority (i.e., Chief Executive Officer (CEO) and other stakeholders) that appears weak in this setup.

Shleifer and Vishny (1997) defined CG as a measure used by fund suppliers to ensure that they obtain returns for their investments. They showed that CG helps determine the agency perspective such that investors motivate their managers to provide their funds back. Various empirical researchers have analyzed the relationships between

the CG mechanisms and different financial parameters of firms worldwide. A number of studies have measured CG through various variables, such as ownership concentration, board efficiency, and ownership structure. Various studies have employed sub-committees to measure board size, effectiveness, and independence, CEO duality, and presence and formation of different boards. These CG characteristics (i.e., ownership structure) are discussed with empirical evidence.

3.3.1 Ownership structure

The relationship between CG and ownership structure has been the main issue in the literature on CG. Ownership structure helps determine firm profitability. Specifically, ownership structure is used as an incentive mechanism for decreasing the agency costs linked with ownership and management separation. Such mechanisms can be implemented to protect the legal and property rights of the firm. With CG development, many corporations are controlled by hired managers and owned by dispersed shareholders. Berle and Means (1932b) stated that incorporated firms with dispersed ownership and less portion of outstanding shares tend to underperform. They examined the association between ownership structure and economic performance (Gugler, 2001). The results are consistent with concept of transaction cost developed by Coase (1937). However, the majority of research that examined the effect of ownership on firm performance with intense contributions have been conducted in the 1980s and 1990s. For instance, Kesner (1987) found a positive correlation between financial risk and firm performance in highly concentrated ownership firms. Similarly, M. C. Jensen and Warner (1988) found a positive correlation between ownership structure and operating performance. C. W. Hill and Snell (1989) showed a positive relationship between companies with highly concentrated ownership structure and performance.

The empirical evidence in which ownership structure is the dominant governance mechanism followed the work of (Demsetz, 1983). The author posited that ownership structure is the desired endogenous outcome of the competitive selection in which various cost advantages and disadvantages are balanced to arrive at an equilibrium organization of the firm. Hence, a firm will adopt a beneficial ownership structure, which may vary across firms (Mak & Li, 2001).

Globally, various empirical researchers have analyzed the relationship between CG structure and firm performance. Demsetz and Lehn (1985), Holderness and Sheehan (1988) and Barclay and Holderness (1991) conducted studies in the context of the United States and found mixed results. Studies such as those by Demsetz and Lehn (1985) and Demsetz and Villalonga (2001) concluded that CG (i.e., ownership structure) facilitates the observation and, consequently, growth of firm performance. Anup Agrawal and Knoeber (1996) provided empirical evidence on the relationship among insider ownership, outsider director, debt policy, and firm performance. However, other studies have not found any relationship between ownership structure and firm performance.

Outside the United States, ownership structure and firm performance have been studied by Gorton and Schmid (1999) on an Austrian Cooperative bank; Zuobawei (2004) on China; Claessens and Djankov (1999) on transition economies, such as Czech and Slovak Republic, Alba, Claessens, and Djankov (1998) on Thailand, Lemmon and Lins (2003) on East Asia, La Porta et al. (1998) in 49 countries worldwide, Fronningen and van der Wijst (2009) on Germany and Sarkar and Sarkar (2000) and Khanna and Palepu (2000) on India. These studies have suggested that concentrated ownership enhances firm performance as measured either by accounting or market-based performance measurement.

Similarly, various researchers like Gunduz and Tatoglu (2003), Maury and Pajuste (2005) and Wahyuni and Prabowo (2012) have found a positive impact of FO concentration on firm performance. Similarly, empirical studies, such as those by Keister (1998), Perotti and Gelfer (1999) and Klapper and Love (2004) have shown the positive effect of family-owned firms on firm performance for emerging economies. They found that the efficiency and performance of family-owned firms are significantly enhanced than those of non-family-owned or standalone firms because of the former's unified hierarchical structure. In the Pakistani context, a number of researchers, such as Javid and Iqbal (2008) and Gohar and Karacaer (2009) have found a positive relationship between director and family concentration and firm performance.

However, certain empirical evidence, such as that by Bebczuk (2005), Gao and Zhang (2008), and Itturalde, Maseda, and Arosa (2011) have indicated that concentrated FO can negatively affect firm performance. This negative effect of FO concentration on firm performance is due to four reasons. First, Stulz (1988) and Barclay and Holderness (1989) showed that low and intermediate levels of control reduce takeover probability and entrench poor managers. This finding is further supported by Shleifer and Vishny (1986), Morck et al. (1988) and Anderson and Reeb (2003) in which managers or controlling shareholders may pursue actions that maximize their personal utility but lead to sub-optimal firm policies, such as consuming perquisites, paying themselves excessive salaries, or appointing family members to management positions over better-qualified external candidates. Second, Morck, Yeung, and Yu (2000) reported that family-owned firms displayed excessive risk aversion and forewent profitable expansion strategies or mergers due to the concentration of family wealth in the business and the concern for family legacy. Third, family owners used control-enhancing mechanisms by increasing

their incentives to extract private benefits (Lease et al., 1984). Finally, concentrated ownership may have no observable effect on firm performance due to the endogeneity between ownership structure and firm performance (Demsetz & Villalonga, 2001; Douma, George, & Kabir, 2006; Kuznetsov, Kapelyushnikov, & Dyomina, 2008). In the Pakistani context, various researchers have found a relationship between ownership concentration and firm performance (Butt & Hasan, 2009; Jadoon & Bajuri, 2015; S. A. Mirza & Javed, 2013; S. Singh, Tabassum, Darwish, & Batsakis, 2017; Wahla, 2012).

Meanwhile, other researchers, such as Fazlzadeh, Hendi, and Mahboubi (2011) and Raji (2012) have found positive and negative impacts of FO concentration on firm performance. Some studies have reported mixed results, in which ownership structure enhanced or worsened performance, or no observable effect on performance. Increased insider ownership or presence of a large block holder can enhance performance for three main reasons. M. C. Jensen and Meckling (1976) argued that greater equity ownership by insiders improved corporate performance because it better aligns the monetary incentives of the manager with those of other shareholders, thereby mitigating the standard principal–agent problem. In addition, Shleifer and Vishny (1986) showed that even when controlling block holders uninvolved in management, they can still monitor and control managers. Stein (1989) suggested that family-owned firms might make better investment decisions because families have more firm-specific knowledge, less myopia, and longer investment horizons compared with non-family owned firms.

CG literature has also examined whether specific ownership concentrations in the forms of director/sponsor and institutional ownership. Firm performance and foreign ownership studies are discussed in the next three sections.

3.3.2 Director ownership

Director ownership is a type of concentrated ownership that may have effect on the firm performance. This type of ownership may substantially vary through firms (McElheny, Zhou, & Frydman, 2001). This may also affect big and small firms irregularly with respect to value (Kole, 1995). Linck, Netter, and Yang (2008) have argued that the proportion of director's shareholding may be alternate form of controlling mechanism.

There are mixed empirical evidences on director shareholding and firm performance. For example, research by Kesner (1987) on 250 Fortune 500 companies found a significant positive relationship between the director's shareholding and firm performance in terms of profit margin and ROA. They did not find relationship in other performance measures. Similarly, Hudson, Jahera, and Lloyd (1992) found a positive relationship between amount of insider ownership and performance on 779 firms listed on New York Stock Exchange (NYSE) and American Stock Exchange (AMEX) as measured by earning price ratio (E/P). In a study on 118 United States firms, M. Singh and Davidson III (2003) found relationship between director's ownership and asset utilization. However, Barnhart and Rosenstein (1998) found a curvilinear relationship between director's shareholding and firm performance in the United States. They also found that composition of board and institutional ownership may be alternate for managerial ownership having high effect on firm performance. Wiwattanakantang (2001) determined that managerial shareholding is related with improved firm performance as measured by ROA in Thailand.

However, researchers found no consistent relationship between the director shareholding and firm performance (Bhagat & Black, 1999; Kole, 1995; McConnell & Servaes, 1990). Similarly, researchers determined nonlinear relationship between

manager's shareholding and firm performance, thereby implying that managerial ownership does not improve firm performance (Al Farooque, Van Zijl, Dunstan, & Karim, 2007; Claessens, Djankov, & Lang, 1998; Craswell, Taylor, & Saywell, 1997). Demsetz and Lehn (1985) found positive relationship between managerial shareholding and firm performance. It was further discussed that insider ownership have endogenous issues with firm performance, which indicates that insider ownership affects firm performance (Barnhart, Marr, & Rosenstein, 1994).

Likewise, Morck et al. (1988) found non-linear, inverse U-shaped relationship between managerial ownership and firm performance. They further found that the performance increases, showing a positive relationship, which then declines, showing negative relationship, and finally increases, which indicates a positive relationship. This is further supported by researchers who found a significant curvilinear relationship between managerial shareholding and firm performance (Lichtenberg & Pushner, 1994; McConnell & Servaes, 1990).

Similarly, Griffith (1999) examined CEO ownership and firm value of Fortune 500 companies. The study identified that firm performance (as measured by Tobin's Q) increases from 0% to 15% of CEO ownership, decreases as it increases to 50%, and starts to rise beyond 50%. Firm value is not observed to be a function of management ownership when CEO ownership is separated, indicating that CEO ownership has a dominating effect on firm value. Short and Keasey (1999) brought evidence of managerial shareholding in the United Kingdom and firm performance on the basis of ROE and Tobin's Q. Their study suggested that firm performance (as measured by ROE) is positively related to managerial ownership in the range of 0% to 15.58%, negatively related in the range of 15.58% to 41.84%, and positively related again beyond 41.84%.

However, firm performance measured by Tobin's Q is positively related in the range of 0% to 12.99%, negatively related in the range of 12.99% to 41.99%, and positively related again beyond 41.99%. A negative effect is only identified in the range of 25% to 50% ownership. Han and Suk (1998b), in the United States, found that excessive insider ownership decreases performance, which can be attributed to managerial entrenchments. Lins (2003) reported that firms with managerial control in the range of 5% to 20% are associated with decreased firm value when the management group is also the largest block holder. Managerial control in the range of 5% to 20% does not affect firm value given a non-managerial block holder. However, Rose (2005) studied Danish-listed firms and revealed that increased managerial ownership does not influence firm performance. In general, these studies that have been conducted in the developed market context implied that managerial entrenchments occur at a low level of ownership.

3.3.3 Institutional Ownership

Institutional ownership is another form of concentrated ownership that may influence firm performance. Xu and Wang (1999), in their study on China, argued for the importance of the largest institutional investors in CG when they identified an efficient state ownership and overly-dispersed ownership structure problems.

Mixed empirical evidence on institutional shareholding and firm performance also exists. Studies, such as those of Han and Suk (1998b) in the United States, have found that institutional shareholding is positively related to firm performance, indicating that institutional owners actively monitor management. McConnell and Servaes (1990) studied 2,266 (1,173 + 1,093) United States firms and found a significant positive relationship between Tobin's Q and fraction of shares owned by institutional investors. Köke and Renneboog (2002) examined 1,074 German and 502 United Kingdom firms

and identified that institutional ownership by financial institutions is associated with increased productivity growth for German firms, but found no evidence of productivity growth among United Kingdom firms. Lichtenberg and Pushner (1994), in a study on Japan, suggested that equity ownership by financial institutional effectively minimizes productivity laps. Kaplan and Minton (1994) reported that institutional shareholding, in the forms of banks, is an important monitor that can replace managers in poor-performance firms in Japan. Gorton and Schmid (1999) studied Austrian cooperative banks and failed to find any relationship between institutional shareholding and firm performance.

However, the study by Gorton and Schmid (2000) found that banks ownership significantly improved firm performance. various researchers have investigated whether blockholding, in the forms of banks and/or lending institutions, improves firm performance in Indian firms (Khanna & Palepu, 1999; Sarkar & Sarkar, 2000). Khanna and Palepu (1999) showed that domestic financial institutional investors are ineffective monitors with their low firm performance compared with the high performance of foreign institutional investors. However, a study by Sarkar and Sarkar (2000) showed that institutional investors have no influence on firm value. Finally various researchers have found both positive and negative relation between ownership and firm performance (Claessens & Djankov, 1999; Prendergast, Claessens, & Luce, 1998).

3.3.4 Foreign Ownership

Claessens and Djankov (1999) studied foreign ownership on private firms in the Czech Republic and identified that foreign ownership and non-bank investment funds are profitable with high labor productivity. Researchers have examined how foreign characteristics affect Indian profitability and found that foreign ownership of Indian firms

is correlated with firm's valuation as measured by market-to-book value ratio (MBVR) (Chhibber & Majumdar, 1999; Khanna & Palepu, 1999). Similarly, J.-S. Baek, Kang, and Park (2004) found that firms with a high concentration of unaffiliated foreign investors experienced less reduction in their share price during the Korean financial crisis in 1997.

3.3.5 Board of Directors

The board is the primary internal governance that may influence firm performance. A comparatively large number of studies on the board exist in economics, finance, management, and even law. These studies have mainly examined the corporate board based on the assumption that board attributes such as composition, structure, characteristics, and process directly influence firm performance. The findings are mixed or non-conclusive (Dalton, Daily, Johnson, & Ellstrand, 1999; Zahra & Pearce, 1989).

This study examines the main attributes of the board of director, namely, Independent nonexecutive director, which may influence firm performance. Therefore, relevant studies on board composition and structure are discussed as follows.

3.3.5.1 Board composition

Board composition refers to the ratio of non-executive (outside independent) and executive (including the CEO) directors on the board for monitoring management. Following the popularity of the outside-dominated board since 1960, whether outside independent non-executive directors add any value to the firm performance (Kesner, Victor, & Lamont, 1986; Oshry, Hermalin, & Weisbach, 2010; Petra, 2005). Several studies have attempted to identify whether board composition (outside independent non-executive directors) influence firm performance. Various researchers have found positive

affect of appointing outside independent non-executive directors into the board (Alhaji, Yusoff, & Fauziah, 2012; Brickley, Coles, & Terry, 1994; Kaplan & Reishus, 1990).

Similarly, researcher like Kesner et al. (1986) found that although independent non-executive directors are uninvolved in illegal acts, adding outside independent non-executive directors cannot lessen a firm's illegal acts. Fernández and Arrondo (2005) documented that firms with non-executive directors have less agency problems and have good alignment of shareholders and manager interest. Rosenstein and Wyatt (1990) showed that firm stock price increases when an additional outside director is appointed. D. J. Denis and Sarin (1999), in a study using time series analysis over a 10-year period, found that changes in ownership and board structure are correlated. Changes in ownership and board structure are strongly related to top executive turnover, prior stock price performance, and corporate control threat. Cotter, Shivdasani, and Zenner (1997) studied the role of independent outside directors during takeover attempts by tender offer. They found that independent outside directors enhance target shareholder gains from tender offers, and the majority of outside independent non-executive directors are more likely to use resistance strategies in order to enhance shareholder wealth.

Empirical evidence on outside independent non-executive directors and firm performance is mixed. Various researchers have reported that having more outside independent non-executive directors on the board improves firm financial performance which support agency theory (Daily & Dalton, 1992; Luan & Tang, 2007; Schellenger, Wood, & Tashakori, 1989; Jenny J Tian & Lau, 2001). Meanwhile, Zelenyuk and Zheka (2006) found that an independent board chairman negatively affects firm performance. Various researcher failed to observe a relationship between board composition (outside independent non-executive directors) and firm performance (Baysinger & Butler, 1985;

Chaganti, Mahajan, & Sharma, 1985; Cho & Kim, 2007; P. Rechner & Dalton, 1986). However, Barnhart et al. (1994) and Barnhart and Rosenstein (1998) found no conclusive evidence supporting the relationship of board composition and firm performance.

While, Dalton et al. (1999) viewed these results as "vexing," "contradictory," "mixed," and "inconsistent" due to the high degree of diversity of earlier studies on board composition and firm performance. Baysinger and Butler (1985) argued that these differences are due to various factors, such as corporate law, managerial talent, capital markets, and internal capital structure of the firm. Further, Zahra and Pearce (1989) pointed out several reasons for such inconsistencies, and they are summarized by Finkelstein and Hambrick (1996) as follows: (1) contextual factors, such as life cycle and corporate strategy, are not considered, (2) board member interaction in decision making is ineffectively considered, and (3) only one or two attributes is included in the uni-variate analysis. Finkelstein and Hambrick (1996) further indicated that despite such variances, the board may indirectly influence firm performance by the quality of monitoring.

3.3.5.2 Structural Independence of the Board

CG literature has examined whether board structure (structural independence of the board or CEO non-duality) may enhance performance. Similar to board composition, evidence on board leadership structure and firm performance is mixed and inconclusive. Various researchers have found that combined leadership structure (CEO duality) is associated with better firm performance than independent leadership structure (CEO non-duality), which supports stewardship theory (Chaghadari & shukor, 2011; Kajola, 2008; Pearce & Zahra, 1991).

By contrast, various researchers indicated no evidence between combined leader structure (CEO duality) and firm economic performance, thereby supporting agency theory (Berg & Smith, 1978; Braun & Sharma, 2007; Elsayed & Paton, 2009). Similarly, bankrupt firms are likely to have CEO duality and increased agency problems are observed when the CEO is also the board chairman (Daily & Dalton, 1994; Yermack, 1996).

Chaganti et al. (1985) and Daily and Dalton (1992) showed inconclusive evidence on CEO duality and firm performance. Elsayed (2007) studied Egyptian listed firms and revealed that CEO duality does not influence firm performance. However, when he included an interaction term between CEO duality and firm performance, the impact of CEO duality on corporate performance varied across industries. The study concluded that CEO duality is good for certain firms, whereas the opposite is true for other firms. Kholeif (2008) conducted a similar study on the 50 most active Egyptian listed firms. The study revealed that a company with a large board and low top management ownership corporate performance is negatively affected by CEO duality and positively influenced by institutional ownership.

3.3.5.3 Management and Executive compensation

CEO and executive compensation have received widespread attention, and a number of academic studies have attempted to determine whether executive compensation effectively reduces agency problem (Main, 1991). Studies on the relationship between pay and performance or evidence of pay–performance sensitivity are mixed and inconclusive. Researchers have found that a significantly strong relationship exists between managerial compensation and firm performance (Baptista, 2010; Brick, Palmon, & Wald, 2006; Hall & Liebman, 1998; Murphy, 1985). A. Shah

and Sunder (1999) documented that the "sensitivity of pay–performance" link increases with the fractions of equity owned by directors. Brickley, Bhagat, and Lease (1985) determined that introducing a long-range managerial compensation plan increases shareholder wealth. Conyon and Peck (1998), in a study on large publicly traded companies in the United Kingdom, found that top management pay and corporate performance are aligned in companies with outside-dominated boards and remuneration committees. Kaplan and Minton (1994) , in a study on Japanese and U.S. companies, concluded that top executive compensation in both counties are positively correlated with stock market performance and earning losses. By examining pay–performance sensitivity in 365 Canadian and 675 U.S. firms, X. Zhou (1999) documented that pay–performance sensitivity with direct and stock ownership is small in Canadian and United States firms, but that difference decreases as firm size increases. Crespí, García-Cestona, and Salas (2004) and D. K. Denis and McConnell (2003) showed that executive compensation rises following increases in industry-adjusted stock price performance. The study also concluded that the fortune of Japan executives is sensitive to low income but less sensitive to stock return than that of the United States. Kato and Long (2006) found that a CEO's cash compensation and bonus are related to firm performance. Frye (2004) documented that Tobin's Q and equity-based employee compensation are positively related. However, no relationship exists between equity-based compensation from retirement plan and firm performance. Researchers failed to identify any relationship between executive pay and firm performance or pay–performance sensitivity (Ding-xiang, 2010; Firth, Fung, & Rui, 2006; M. C. Jensen & Murphy, 1990; Kerr & Bettis, 1987; Kubo, 2005; Randøy & Nielsen, 2002).

Meanwhile, Core, Holthausen, and Larcker (1999a) and Brick et al. (2006) found that excess compensation is associated with the underperformance of firms. Gerhart and

Milkovich (1990) documented that a contingency pay is associated with financial performance, whereas base pay does not influence firm performance. M. C. Jensen and Murphy (1990) argued that the pay of a CEO is independent of performance, that is, no sensitivity exists between executive compensation and firm performance.

Empirical evidence on ownership structure and executive pay is also mixed. Boyd (1994) and Core et al. (1999a) suggested that managerial compensation is lower than that of other officers, with stock ownership by the directors, whereas Holderness and Sheehan (1988) indicated that the managerial compensation is higher than that of other officers in firms with stock ownership by the managers. Mangel and Singh (1993) found that institutional investor limit CEO unrelated compensation, but the presence of 5% equity ownership has no significant impact.

A number of studies have attempted to identify whether CEO pay is influenced by firm size. For instance, studies by Cichello (2005) on the United States, Merhebi, Pattenden, Swan, and Zhou (2006) on Australia, X. Zhou (2000) on Canada, and Fernandes (2008) on Portugal found the significant impact of firm size on CEO pay and firm performance. The relationship between board size and CEO compensation was examined by Randøy and Nielsen (2002), where they found a positive relationship between board size and compensation.

3.4 Tunneling or Expropriation of resources in Family Owned Firms

Controlling shareholders use internal capital market mechanisms to transfer resources and exploit minority shareholder interests. This process reflects the argument that family-owned firms exist to increase control. According to this view, controlling shareholders transfer funds from firms with low shareholding to those with high

shareholding through internal capital market mechanism. This phenomenon is called expropriation of resources or tunneling S. Johnson, Boone, et al. (2000). Tunneling occurs in most family-owned businesses with a pyramidal ownership structure. Right of shareholders differs relative to cash flow and voting rights. Pyramidal structures of family-owned firms permit major shareholders to transfer resources. If tunneling occurs, then it does at the expense of the minority shareholder's interests. Several research have empirically proven the existence of tunneling in family-owned firms (K. H. Bae et al., 2002; J. S. Baek, Kang, & Lee, 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone, et al., 2000; Lins, 2003). Control is exercised over the family owned firms through indirect ownership over the firms in the pyramid. Thus, control is maintained over the firm even with limited cash flow rights, thereby creating a separation between cash flow rights and control rights (La Porta and Sleifer, 1999).

Consequently, the controlling shareholder has strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders. Such process of transferring resources within business group is known as Tunneling (Bertrand et al., 2002). Therefore, tunneling can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. Transferring resources becomes costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and health of firms (K. H. Bae et al., 2002). The difference between cash flow rights and control rights give incentives to the owners to indulge in self dealined transactions

(Toolsema, 2004). This implies that resources may be transferred from the pyramidal structure to any higher level firm at the expense of the minority shareholders of the smaller firm in the group. Examples may be transfer pricing contracts and asset sales or even outright cash appropiration (Riyanto & Toolsema, 2008). This is reffered to as tunneling. Tunneling is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

The following studies favored tunneling. López de Silanes, Johnson, La Porta, and Shleifer (2000) first introduced the term tunneling and discussed its two forms, namely, self-dealing transactions, which include open theft, fraud, and other types of similar transactions. The second form of tunneling is also known as financial tunneling, which focused on two points. First, in the current years, developed countries with their legal reforms encouraged the flow of fund from foreign investors and rendered the promotion of stock market financing for new firms attractive. The establishment of Neuer Market in Germany and Nouveau Marche in France supported the policy protecting minority shareholders. Second, the legal system can fail in developing countries. This system is costly because of high chances of tunneling. They reform the legal system to reduce tunneling, which significantly promotes economic development.

While, W. Q. Peng, Wei, and Yang (2011) conducted research about tunneling and propping in China during the time period of 1998 to 2004. They argued that when firms have sound financial condition, controlling shareholder use connected transaction to expropriate form listed firms to benefit other member firms. On the other hand when firms have poor financial position, controlling shareholder use connected transaction to

support the listed firms and they enjoy private of control. They found that when listed firms issue new shares, it gives negative announcement of connected transaction to market and support the tunneling argument. On the hand, when firms face risks of delisting, it gives positive announcement of connected transaction to market and this support of propping. They found tunneling and propping occur in the same company but at different times. They suggested that tunneling and propping occur in the company but depend on the financial situation of the company. They further suggested that difference between control right and ownership have no effect on related party transaction.

Bertrand et al. (2002) observed tunneling in Indian family-owned firms and found that market prices partly integrate tunneling through related party transactions. These results initiated a series of questions. If family-owned firms transfer resources and exploit minority shareholders so much, how do they persevere? Why do minority shareholders buy into them in the first place? They concluded three broad possibilities in response to these questions: First, groups may grow through acquisitions. If this is the case and markets are efficient, then a takeover would generate a one-time drop in share price amounting to the extent of tunneling. Second, shareholders may not recognize the extent of tunneling that occurs in groups. For example, the lack of detailed ownership information may make it difficult for shareholders to determine, with great reliability, which group firms are high and which are low-cash-flow-right firms. Finally, groups may provide other benefits that offset the costs imposed by tunneling.

Since La Porta et al. (1999) acknowledged that in most countries, corporate ownership is within the hands of the controlling shareholders, several studies have investigated the issue of discrepancy between control rights and cash-flow rights of the controlling owners and its impact on the company performance. Utilizing publically

available information of listed firms for duration of a decade the related empirical result unanimously recommended that such a divergence is negatively linked with firm performance. In other words, the higher the ratio of cash-flow to control rights of the controlling shareholders, the lesser the conflict of interests among the controlling and minority shareholders. Therefore, they argued that a high ratio of cash-flow with respect to control rights of the majority shareholders can effectively improve the negative shock incurred from excessive loan guarantees for related parties.

S. Johnson, La Porta, Lopez-de-Silanes, and Shleifer (2000) found that group of connected firms are observed more frequently than stand-alone firms in most countries to engage in propping are. These groups typically control at least one company that is publicly traded or otherwise used to raise funds from outside investors, although with a number of other companies that are privately held without any outside investors. Some valuable assets are usually kept private. This type of business is particularly common in emerging markets in which the legal protection of minority shareholder rights and creditors is weaker.

La Porta et al. (2000) investigated the exploitation committed by major shareholders on the interests of minority shareholder in many countries. They explained different methods of expropriating resources. This contains insiders' outright stealing of earnings, selling their firm's assets at prices lower than those of the market, employing unqualified family members, and unfairly rewarding executives with company shares, free loans, and huge raises. They found that the majority owners often have cash flow rights that are much smaller than their control rights because of pyramidal structure.

K. H. Bae et al. (2002) found that the majority shareholders in Korean Chaebols transferred resources through mergers. They examined two competing views about family-owned firms in emerging markets: value-added and tunneling views. They used cumulative abnormal returns by following the standard event study methodology to assess the wealth effects of acquisitions on bidder prices. In addition, they showed that major shareholders obtain benefits from acquisitions, whereas minority shareholders lose, thereby supporting the tunneling hypothesis.

The two conflicting views regarding the related party transactions and its impact on the firm performance where studied by W.-Y. Lin, Liu, and Keng (2010). Using Taiwanese data of 10 years from 1996 to 2006, they found that firm performance is negatively associated with related party transactions, which result in expropriation of firm's minority shareholders. While firm performance is positively associated with related party transactions which are seen as means of creating value for the firm when ratio of cash-flow to control rights of the controlling shareholders, board structure and institutional ownership can lessen the negative impact of those related party transactions.

C.-W. J. Lee and Xiao (2004) examined the Chinese listed firms' dividend payout strategy. They provided evidence that state leading firms have high inclination to pay cash dividend, but low tendency to subscribe rights offering. Furthermore, state dominant firms often increase cash dividend soon after right offerings. Since state-held stocks in China are non-tradable, giving up subscription rights & using receipts from rights offering to pay cash dividend are comparable to selling a fraction of the non-tradable shares by the mainstream shareholders to the minority shareholders. Particularly, the computed prices are on usual three times higher than that of officially permitted private placement.

They consider such a dividend paying exercise as the evidence of tunneling. This conclusion was reached from the facts and figures obtained through publically available data over a period of one decade.

The study of Friedman, Johnson, and Mitton (2003) was based on the 10 years of publicly available data of the limited firms concluded that through related party transactions, propping and succeeding cash transfer to the related party is not necessarily meant to extract wealth from outside shareholders of the firm. The controlling shareholder has incentives to divert resources out of low-cash-flow-right-firms and move them to high-cash-flow-right-firms because he would be better off if more resources were in high-cash-flow-right-firms. In propping, the allocation of resources across affiliated firms depends on the controlling shareholder's relative ownership stakes in these firms, not on the relative merits of affiliates' future investment prospects. But Minority Shareholders of the lower-level firms in the pyramidal structure are willing to accept this because they expect that the controlling shareholders will save the lower-level firms by propping in cases of financial difficulties. According to this argument, propping serves as an insurance mechanism for minority shareholders of the lower-level firms. However, this does not necessarily add value to the group since it does not always lead to value-enhancing reallocations across affiliated firms.

Research carried out by Kali and Sarkar (2011) with reference to the Indian corporate sector used publicly available data of Indian businesses listed on Mumbai stock exchange over a period of decade. They have found that the effect of propping & directorial interlocks on corporation's value depends on the equity stakes of the major shareholders. Propping seemed to be the foundation of group associated benefits in firms

with below median cash flow rights of the majority shareholders, while director interlocks are the main source of the group effect for businesses where the controlling shareholders have higher than median cash flow rights.

J. S. Baek et al. (2006) found that tunneling occurs only for intra-group deals wherein private sales are purchased by a firm member or major shareholder. They studied whether tunneling activities benefit major shareholders at the expense of other shareholders and found that for intragroup deals, firms that performed favorably in the past tend to sell their securities at a discount. Chaebol firms also tended to sell their securities at lower (higher) prices when the relative ownership stakes of the controlling shareholders in the issuing (acquiring) firms allow them to reap benefits from selling discounted securities (premium). Compared with other types of issuers, Chaebol-affiliated issuers realized a high announcement return when selling private securities at a premium to other member firms in the same group, and controlling shareholders received positive net gains from equity ownership from issuers and acquirers. By contrast, Chaebol-affiliated issuers realized a low return when selling discounted securities to member firms, particularly when these firms performed well before the offerings. However, such significantly increase returns for Chaebol acquirers. These results support the tunneling view in which the substantial discretionary power of controlling shareholders in Chaebol firms allows them to expropriate private benefits at the expense of other shareholders, resulting in inefficient financing decisions. Their findings also identified a disadvantage of PSOs consistent with the use of tunneling mechanisms within business groups. Their findings, together with those of Bertrand et al. (2002) and K. H. Bae et al. (2002), suggested that owner managers in business groups have strong incentives to siphon resources out of member firms for their private benefits.

King and Segal (2008) examined the long-term effects of Cross-Listing, Investor Recognition, and Ownership Structure on Valuation on US exchange and used sample of 287 Canadian firms for 16 years: i.e. 1988 to 2005. They have found that the valuation of cross -listed Canadian firms on U.S exchanges increases with both the number and comparative holdings of U.S. institutional investors. They further found the separation of cash flow right from control rights directs to lower valuations due to the increased risk of expropriation of minority shareholders. This shows that Canadian firms with dual-class shares gain advantage relatively more from Cross-Listing in US exchanges.

In another research, W.-Y. Lin et al. (2010) studied the impact of loan guarantees from the associated companies on the performance of the firm. Using the data of publicly listed firms of Taiwan over a period of five years from 2001 to 2005, they found that that firm performance is negatively connected with excessive loan guarantees and the effect is particularly prominent in group-affiliated firms. The measures used included several corporate governance mechanisms, like ratio of cash flow to control rights of the controlling shareholders. Board association with the controlling shareholders and institutional ownership, which focused on the alleviation of the conflicts between controlling and minority shareholders are also examined on their power to curb the negative impact of excessive loan guarantees that decrease the firm performance. But apart from the view of possible expropriation, a positive perspective of loan guarantees also exists. The loan guarantees among associated firms help family businesses to finance through bank loans and corporate bonds and connect member firms to each other and trim down the member firms' risk of financial anguish and bankruptcy by creating an internal capital market among the corporations of the family businesses.

Recently, Atanasov, Black, Ciccotello, and Gyoshev (2010) examined the types of tunneling in detail (i.e., cash flow, asset, and equity). They found the probability and magnitude of impact on share prices and financial metrics considering two detailed case studies: Gazprom in Russia and Coca-Cola in the United States. They studied the mechanisms through which security law affects tunneling, which in turn influences firm valuation. The authors tested the model using legal shock in Bulgaria and suggested that controlling shareholders partly substitute for reduced-equity tunneling by engaging in increased cash flow tunneling.

Riyanto and Toolsema (2008) found that minority shareholders are biased and undervalue tunneling. They suggested that outsider investors from family-owned firms have low motivation as all things remain constant in new firms. This case makes obtaining funds that cover operation cost difficult. Good legal protection of minority shareholders and transaction costs reduce the tendency of major shareholders in family-owned firms to transfer resources. Thus, the expected future profitability of a pyramidal ownership structure diminishes for controlling family-owned firms. Similarly, Jiang et al. (2010) found that tunneling occurs when the controlling right of a block shareholder is higher than his ownership right. They determined that major shareholders exploit minority shareholders. High disclosure levels and regulations from a regulatory authority over controlling firms exist. They suggested that the shareholder that controls Chinese listed firms will gain limited benefits from the increase in the share price of firms. Thus, most controlling shareholders have a big gap between controlling and cash flow rights. This gap increases tunneling opportunity in family-owned firms.

However, Aharony et al. (2010) found that the non-repayment of net outstanding corporate debt by parent companies to their newly listed subsidiaries is one of the reasons

for tunneling. This debt is acquired during the post-initial public offer (IPO) period and earning management through abnormal related party sales in the pre-IPO period. They further found that the share performance of IPO firms in the post-IPO period is negatively correlated with the abnormal related party sales in the pre-IPO period. This case is positively associated with the non-repayment of the net outstanding related party corporate loan in the post-IPO period. The authors highlighted issues, such as efficiency of the Chinese market, required by an emerging economy to improve the protection of its minority shareholders. Non-Chinese researchers have applied a new methodology to detect the sources of tunneling.

Similarly, Bhaumik and Gregoriou (2010) found that various issues are related to tunneling and Family Ownership structure (i.e., why family business groups are found in different business environments; why they belong to big business groups; what is the impact of family business group on firm performance; what is the effect of differences between control and cash flow rights). They suggested that cross country comparison could help to draw conclusion about impact of corporate governance and tunneling. Alternatively, W. Q. Peng et al. (2011) showed that when listed firms release new shares, they signal a negative announcement of their associated transactions to the market and support the tunneling argument. By contrast, when announcing a delisting, firms signal a positive announcement of their connected transaction to the market, thereby supporting the propping argument. The authors found that tunneling and propping occur in the same company but not at same time Hamelin (2009) found that tunneling, which significantly affects the separation between control and ownership in French SMEs, does not occur.

The study on resource expropriation (tunneling) in Pakistan is limited with the exclusion of Ikram and Naqvi (2005) limited research. They found that the expropriation

of resources is prevalent in Pakistani business groups, which highlights that the reduced sensitivity of group firms to industry and group stocks might be derived elsewhere. However, the authors provided three alternative explanations to support their perspectives, which they recommended to warrant further research. One of the limitations of their study was that they could not precisely test whether the transfer of resources is initiated by the top firms or not. This point still needs to be tested. The question of which methods of resource transfer are used in Pakistani business groups also remains unanswered. Moreover, their study was conducted CG on a limited set of group firms listed on the Karachi Stock Exchange (KSE) and before the implementation of CG codes in Pakistan. Hence, the impact of disclosure requirement due to CG was not tested.

In reference to Figure 2.2 (Page No. 36 Chapter 2, Section 2.6), suppose a Rs. 1 profit variation or earning shocks affect the firm D (low cash flow right firm). Since family/firm A has more direct cash flow rights in firm B and C, these controlling shareholders will take all opportunities to transfer resources from D to B or C where they have more cash flow rights. This gives a prediction that on average, the family Owned firms will under respond to shocks to their own profits which shows existence of Tunneling exist in Pakistani family owned firms. Although the controlling shareholder will wish to transfer maximum part of resources from firm D, but only limited portion will be transferred due to various reasons. However, the quantity of resources transferred will depend upon the cash flow rights and director ownership of family A in firm D. The less cash flow rights in firm D will result in less value for family A to keep resources in firm D which in turn lead to more tunneling (transferring more resources from firm D). Recall figure 2.2 (Page No. 36 Chapter 2, Section 2.6), the tunneling of resources will reduce the profits of firm D (low ranking in business structure or low cash flow right firm) and its reported profits on financial statements would be less by the amount transferred

or tunneled to firm B or C (higher cash flow right firms). Suppose firm D's profits would increase by Rs. 1 due any factor caused variation in its earnings/sales. However, in reality the profits increase by just Rs. 0.75 which are reported on profits and loss statement. Where has the remaining Rs. 0.25 gone? This amount is actually tunneled out of this firm to firm B and C in which family A has more cash flow rights. Therefore, the extent of resource expropriation can be reduced after the CG code is enforced. In this context, this study supersedes the results of the previous study because we consider the impact of the CG code enforcement. Furthermore, we focus on a sample of family-owned firms listed on KSE, the biggest stock exchange in Pakistan.

3.5 Related Party Transactions (RPTs)

Previous researchers have employed various proxies to measure RPTs (Gallery et al., 2008; Ryngaert & Thomas, 2012). These proxies are developed to show significant RPTs. These measures utilized in the previous studies can be identified under two categories, namely, normal and abnormal RPTs (S. Chen, Wang, & Li, 2012). RPTs are common transactions that can occur on a regular basis between a firm and its subsidiary, parent or affiliated firm (M. J. Kohlbeck, Lee, Mayhew, & Salas, 2018b).

Most researchers like Jian and Wong (2010), S. Chen et al. (2012), Al-Dhamari, Al-Gamrh, Ismail, and Ismail (2018) and El-Helaly, Georgiou, and Lowe (2018b) did not isolate the normal component of RPTs from the abnormal component. Instead they tried to control for these factors. Gordon and Henry (2005) used two measures to measure RPTs, namely, the total number and amounts of disclosed transactions. Jean Jinghan Chen, Cheng, and Xiao (2011) measured RPTs as the aggregate amount of absolute value of operating RPTs between a listed subsidiary and its controlling shareholders scaled by

lagged total assets for a particular year. Nekhili and Cherif (2011) measures RPTs using the monetary value of related party payments and loans deflated by average total assets. Nekhili and Cherif (2011) used the natural logarithm of the total number of RPTs. Similarly, Y.-L. Cheung, Qi, et al. (2009) uses the price of the RPTs included in the sample of the study.

Researchers like M. J. Kohlbeck and Mayhew (2004c), Y.-H. Yeh, Shu, and Su (2012), Downs, Ooi, Wong, and Ong (2016) and Fried, Kamar, and Yafeh (2018) that have isolated normal RPTs from Abnormal RPTs for firm performance and firm size variables. Although these researchers control for normal components of RPTs in order to avoid measurement error by using a proxy that captures both normal and abnormal RPTs, it has been criticized for not isolating these components using OLS regressions following approach of Jian and Wong (2010). On the other hand, controlling for (not isolating) the normal components of RPTs could be capable of avoiding potential endogeneity issues. Endogeneity bias is any situation that causes the error term to be correlated to one or more independent variables which might result from omitting some of the RPTs determinants from the analysis (Nikolaev & Lent, 2005). According to Jean Jinghan Chen et al. (2011) controlling for factors that might explain the variability of RPTs is favoured as this increases the possibility of avoiding potential endogeneity problems caused by complete isolation of independent variables that can contribute to the explanation of the dependent variable RPTs, and hence would increase the explanatory power of the regression model.

A further group of studies have used indicator variables that take the value of 1 to indicate that the firm has conducted RPTs to measure RPTs. Some of these studies used

indicator variables by assigning to it the value of one to indicate the presence or the disclosure of RPTs (Balsam&Gifford, 2007; Berkman et al., 2009; El-Helaly, Georgiou, & Lowe, 2018a; Ge et al., 2010; M. Kohlbeck & Mayhew, 2010). Other studies have used dummy indicators differently. For example Ryngaert and Thomas (2012) used a dummy variable that is equal to one if the total value of disclosed RPTs is more than 1% of the firms' total assets. In other studies, researchers have used transactions as a unit of analysis instead of firms or firm-years (Al-Dhamari et al., 2018; El-Helaly et al., 2018a; Habib, Muhammadi, & Jiang, 2017b; A. C. Lei & Song, 2011). Researcher like W. Q. Peng et al. (2011) used indicator variables to distinguish transactions conducted with related parties from other transactions. Ryngaert and Thomas (2012) also argued that using dummy variables is preferable because assigning dollar values to RPTs involves nontrivial measurement error. Assigning dollar values is deceptive as it does not account for firm characteristics and thus might be misleading with regards to how material are the amounts of RPTs undertaken (Elhelaly, 2014; Gordon, Henry, Louwers, & Reed, 2007).

Similarly, researcher like S. Munir (2010) examined the effect of RPTs on the earnings quality of Malaysian firms with substantial Family Ownership. They empirically found that RPTs could alleviate problems of earnings management given a large Family Ownership in firms. Their finding suggests that the earnings quality of a firm worsen if those with large Family Ownership engage in real expropriation activities. Examples of these certain types of RPTs are asset acquisitions, asset sales, equity sales, and transactions that result from trading relationships and any transaction that involves cash payment made to controlling owners. In similar way, Ge et al. (2010) examined the value relevance of disclosed RPTs in Chinese corporations. They focused on two types of RPTs: sales of goods and assets. Their results show that the reported earnings of firms selling goods or assets to related parties exhibit a lower valuation coefficient than that of Chinese

firms without such transactions. They provided evidence that the existence and magnitude of these transactions matter to investors. While, Chien and Hsu (2010) investigated the relationship between RPTs and firm performance. They also examined the moderation effect of CG and found a negative relationship between RPTs and firm performance and a positive relationship between CG and firm performance. These findings support the view that CG mechanisms can benefit the company. A positive relationship also exists between interaction terms and firm performance. These findings support the efficient transactions hypothesis that RPTs with Big-N CPA firms help the company's interest. Finally, a positive relationship exists between interaction terms and firm performance.

However, Ryngaert and Thomas (2012) found that RPTs differ. On the one hand, ex-ante RPTs are innocuous at worst in terms of their association with operating profitability and significantly positively associated with Tobin's Q when all else are equal. On the other hand, they found that ex-post RPTs are significantly negatively associated with operating profitability. Furthermore, their results indicate that average abnormal stock returns at the first public disclosure of ex-post RPTs are economically and statistically significant. They also found that ex-post RPTs are significantly positively related to the likelihood that a firm subsequently enters financial distress or deregisters its securities (i.e., "goes dark"). Finally, they determined that the overall volume of disclosed RPTs is generally not significantly associated with shareholder wealth as measured by operating profitability or Tobin's Q.

Similarly, researcher like Y.-H. Yeh et al. (2012) found that cash flow rights, which show the incentive-alignment motive of controlling owners, are significantly negatively correlated with related sales and lending and guarantees. They also found that the change in capital expenditure is negatively correlated with residual RPT-borrowing.

Finally, their finding indicates that the interaction between CG and changes in EPS is positively correlated with raw related sales when change in EPS is negatively correlated with raw related sales. In Similar way, Amzaleg and Barak (2011a) investigated 218 RPTs with similar market responses (CAR) to fiscal and financial deals. However, on average, a low (negative) market reaction occurs when an RPT is a managerial compensation scheme for a controlling shareholder. They found some support to the hypothesis that RPTs in large companies are, on average, less damaging (more value enhancing), presumably as a result of public attention and media coverage. Su, Fung, Huang, and Shen (2014) reported that firms that pay less in cash dividends are associated with increased related-party transactions, which represent the wealth expropriation from general stockholders. Furthermore, they found that politically-connected firms pay higher cash dividends than non-politically connected firms. Their study also showed that the ownership structures of these Chinese firms play a critical role in dividend policies, which are negatively associated between related-party transactions and political connections.

Finally, researcher like Aharony et al. (2010) used other measures corresponding change in related party sales and purchases to investigate the relationship between RPTs and earnings management around IPOs. Similarly, Jiang et al. (2010) used the amounts under the item "other receivables" deflated by total assets to capture the amount of loans to related parties or inter-corporate loans as they refer to it. Related Party Transactions are considered to be affected by external factors like industry, firm size or debt (Al-Dhamari, Al-Gamrh, Ismail, & Ismail, 2017; Beer & Loeprick, 2015; Haji-Abdullah & Wan-Hussin, 2015; M. Kang, Lee, Lee, & Park, 2014; M. Kohlbeck & Mayhew, 2017; M.-G. Lee, Kang, Lee, & Park, 2016; Mgammal, Bardai, & Ku Ismail, 2018; Rasheed & Mallikarjunappa, 2018; Shin, Hyun, Oh, & Yang, 2018). Likewise, Pozzoli and Venuti (2014) empirically found no correlation between RPTs and company financial

performance and that evidence of a cause–effect relation does not exist. While, Yoong, Alfan, and Devi (2015) examined the relationship between RPTs and firm value and the moderating effect of ownership concentration. The authors found a significant positive moderating effect of controlling shareholders' ownership on the relationship between RPTs and firm value. Their results further show that the relationship between RPTs and firm value reduction has no significant evidence and that non-family firms have a positive moderating effect. They empirically illustrated that expropriation of resources via RPTs is higher in family firms compared with non-family firms. They provided evidence that the minority shareholder's interest is expropriated through RPTs among Malaysian firms.

3.6 Abnormal RPTs

Abnormal RPTs is different from normal RPTs that measure try to capture those transactions that are not explained by other factors that affect the occurrence of RPTs (Habib, Muhammadi, & Jiang, 2017a; Hasnan & Hussain, 2015; K. S. Kim, 2018a). While, the other studies try to control those factors that are expected to be associated with the level of RPTs (Sea Jin Chang & Hong, 2000; El-Helaly et al., 2018b; Habib et al., 2017a; Jian & Wong, 2010; M. Kohlbeck & Mayhew, 2017; Lubell, Mewhirter, Berardo, & Scholz, 2017). This section considers the various proxies used to measure RPTs under each category. Similar to accounting accruals, the level of RPTs can be categorized into a normal and abnormal for the firms (Bennouri, Nekhili, & Touron, 2015; Jian & Wong, 2010; K. S. Kim, 2018b). Using Fixed regressions the normal components of RPTs that are related with classification of industry or characteristics of the firm such as size, leverage and growth can be approximated and excluded from the analysis (Rahmat, Ahmed, & Lobo, 2013). In this case the residual term from running the regression equation (1) is the measure for RPTs. This measure was first used by Jian and Wong (2010). This measure isolates the effect of normal components of Related Party

Transactions that might be associated with industry, size, leverage, and growth (Lo & Wong, 2011). Therefore, it can be argued that the resulting measure can be a more valid proxy to capture Related Party Transactions that are not related to the main factors that could affect the volume of RPTs. Researchers like Y.-H. Yeh et al. (2012), R. M. Wong, Kim, and Lo (2015) and Suffian, Sanusi, Ghafar, and Wahab (2018) have also used this approach. Their model uses the following formulation.

$$RPT_{it} = \beta_0 + \beta_1 (size)_{it} + \beta_2 (\text{sale Growth})_{it} + \beta_3 (\text{Lev})_{it} + \beta_4 (MB)_{it} + \varepsilon_{it}$$

Where:

RPTs is the dollar value of RPTs, *Size* = natural logarithm of totals assets, *Sales Growth* is the percentage of sales growth rate, *Leverage* is Total debt divided by total assets and *MB* is market value divided by book value of total equity

However, the current study differs from the above-mentioned studies, which have mostly focused on non-family firms and have examined the effect of Related Party Transactions on firm performance. This study focuses on family-owned firms in Pakistan and the lack of INEDs (S. Z. Ali Shah, S. A. Butt, & A. Hassan, 2009; Azim, 2015; Azim et al., 2018a; Azim, Mustapha, & Zainir, 2018b).This study posits that these independent non-executive directors have a significant role in minimizing the transfer of resources through the major shareholder in family-owned firms. Family concentration is high in Pakistani family-owned firms, and major shareholders use this scenario to exploit the interest of minority shareholders (F. U. Khan & Nouman, 2017; M. H. Shah, Zuoping, Abdullah, & Shah, 2018b; Sheikh, Shah, & Akbar, 2018; Tahir & Sabir, 2015; Tahir, Sabir, & Shah, 2016). This study is unlike other studies in terms of the independency of the director (M. A. Khan & Tariq, 2017; Rafique, Malik, Waheed, & Khan, 2017; Sheikh et al., 2018). It outlined an IDI of family-owned firms (Azim et al., 2018a). Using this index, it further examined the effect of the independency of the non-executive director on

firm performance. This study further investigates the effect of family directorship and concentration of family ownership on firm performance. Finally, this study examines the moderating role of RPTs on the relationship among CG mechanisms (i.e., independence of the director, family directorship and concentration, and firm performance).

3.7 Related party transactions as Source of Tunneling or Propping

This study considers the two alternative views of Related Party transactions, which are the conflict of interest view and efficient transactions hypothesis. These two alternative views suggest that there are variations in the in different types of RP transactions undertaken by the company (M. J. Kohlbeck & Mayhew, 2004a). In examining whether the RP transactions has a positive or negative impact on the company, the actual nature of the transactions should be looked on performance of the company (M. Kohlbeck & Mayhew, 2017). Further, Gordon et al. (2004) have examined the various types of RP transactions in the United States. They merely classified the transactions examined, offered descriptive statistics and suggested possible implications of the various types of transactions. While, agreements related to employment and indemnification agreements were left out in the study as these were deemed to be clearly compensation for executives. Gordon et al. (2004) also established a measure of the complexity of a company's RP transactions in term of the number of parties and the number of types of transactions. Increased complexity in RP transactions would be a sign of potential conflicts of interest and bypass of monitoring mechanisms in the firm. In similar way, Gordon and Henry (2005) continue from their earlier work to investigate the effect of corporate governance on RP transactions, as well as the effect of RP transactions on firm value. They find evidence generally of conflict of interest, and a restraining effect of strong corporate governance on RP transactions. In particular, the identity of the related party involved in the transactions impacted the effect on firm value.

Similarly, M. J. Kohlbeck and Mayhew (2004a) have applied a categorization system to RP transactions. They defined it in two categories of transactions i.e. simple and complex. Simple transactions are typically very clear in purpose and involve few financial statement items. Complex transactions involve multiple parties and impact the financial statements in more subtle ways. They found stronger board independence that lowered the probability of RP transactions. Moreover, they suggested that both the conflict of interest perspective and efficient transactions hypothesis could be supported depending on the type of RP transaction. There was evidence that complex RP transaction would lead to better future investor returns, consistent with the efficient transactions hypothesis. At the same time, simple RP transactions were negatively associated with future returns, in line with the conflict of interest view.

Similarly, Y.-L. Cheung et al. (2006) examined the various types of RP transactions which could result in expropriation. The study on Hong Kong based listed companies presents an early look at direct evidence of RP transactions being used in conflict of interest situations. From nine different RP transactions types, the authors classify the transactions into three broad categories. The categories are RP transactions likely to result in expropriation (asset acquisition, asset sales, equity sales, trading relationships, cash payments), RP transactions likely to benefit the listed firm (cash receipts and subsidiary relationships), and RP transactions driven by strategic purposes (takeovers and joint-ventures) (Y.-L. Cheung et al., 2006; W. Q. Peng et al., 2011; S. Utama et al., 2016; Y. Xie & Lee, 2018; Yoong et al., 2015). Like many East Asian stock markets, the authors note that Hong Kong firms have high ownership concentration (Zhilan Chen, Cheung, Stouraitis, & Wong, 2005; Fan & Wong, 2002; Khurshid, Awais,

Khurshid, Hasnain, & NAEEM, 2017; Shen, Au, & Yi, 2018; W. Wei, Tang, & Yang, 2018). The RP transaction in a conflict of interest situation is therefore primarily a principal-principal conflict. This involves the expropriation of minority shareholders by the controlling or majority shareholder. The phenomenon is known as tunneling, and the first category used by Y.-L. Cheung et al. (2006) in their study may be classified as such.

However, Propping on the other hand would refer to transactions between the firm and related parties that are likely to benefit the firm (Friedman et al., 2003). The study by Y.-L. Cheung et al. (2006) performed direct examination of the mechanisms of RP transactions and found that tunneling RP transactions resulted in lower firm valuation. Higher levels of ownership concentration magnified the negative effect. Propping RP transaction had a positive effect on returns on valuation, although not at a significant level (M. J. Kohlbeck et al., 2018b). These results build on previous studies to affirm the view of tunneling and propping as two alternative views of RP transactions. Gordon et al. (2007) examined a sample of RP transactions in the United States that were subject to enforcement action by the Securities Exchange Commission (SEC). It was found that lending to related parties, payments to officers of the firm, and sales of goods and services, were the three most common types of RP transactions subject to action by the SEC for fraud. The authors note that fraud could have occurred without the RP transaction, and concluded that RP transactions were not essential in fraud. However the study also concluded that differentiating between RP transactions is necessary in light of the broader governance structure of the firm.

Similarly, Y.-L. Cheung, Qi, et al. (2009) performed a comparison of assets disposals and acquisitions involving related parties in Hong Kong. Their results clearly

indicated that firms receive disadvantageous terms when dealing with related parties for either asset disposal or acquisition. Assets bought from related parties were at prices higher than comparable arm's length transactions, whereas assets sold to related parties were at lower prices than similar arm's length deals. M. Kohlbeck and Mayhew (2010) continue from their previous work in 2004 to examine the association of different types of RP transactions with firm valuation. They found that both simple RP transactions as well as loan transactions with director, officers or shareholders drive a negative association with firm valuation. They also found that complex RP transaction with a firm's investments or joint-ventures did not appear to be negatively valued.

In similar way, C. Liew, Samad, Munir, and Alfan (2011) investigate the impact of RP transactions on firm valuation in Malaysia, as well as the strength of the effect if a firm is a family firm. The study uses only the RP transactions categorized as likely to result in expropriation (conflict of interest view) as defined by (Y.-L. Cheung et al., 2006). The findings affirm the view that RP transaction likely to result in expropriation are negatively associated with lower firm valuation (C. Liew et al., 2011), which is consistent with the conflict of interest perspective. The idea that local banks were a tool for expropriation was also explored. M. P. Williams and Taylor (2014) investigate propping by controlling shareholders in China. The paper affirmed the view that propping can be beneficial for minority shareholders, albeit for the near future only. Similarly, Hwang, Chiou, and Wang (2013) take this idea further and posit that controlling shareholders are willing to prop up a firm to avoid costly short-term penalties (e.g. loss of listing status, inability to refinance), only to engage in tunneling subsequently once the risk of short-term penalties has passed.

In the case of propping, the internal capital markets are the ones that are used to save firms from failure (Gonenc & Hermes, 2008). With propping, money is transferred from profitable firms to those who are facing financial difficulties. Moreover, majority owners may also bring their private resources to firms to keep them from bankruptcy (Friedman et al., 2003). In both instances, big shots consider the short-term costs of funding firms to be less than the potential cash flows these firms are anticipated to generate. The model in the use of offering cash rights share issues may specify that controlling shareholders prop up finances in firms. Gonenc and Hermes (2008) studied Turkish listed firms by obtaining the data covering a twelve-year period (1991-2003) reached a conclusion that propping is evident among the business groups during the period of negative growth in the country. They found that the use of offering cash rights shares issues show that major shareholders prop up funds in Business Groups. But the phenomenon of propping is fine for moderate negative periods (Q. Liu & Lu, 2007). If the severity of economic slump increases then the probability that short-term costs outweighing expected future profits will be higher (G. S. Bae, Cheon, & Kang, 2008). If negative shock's severity increases then the action of propping will be reversed, turning into tunneling as majority shareholders will be enticed to pump out all the available resources from the dying firm (Bai, Liu, & Song, 2004). The act of propping contributes to the visible increase of performance of the formerly distressed firms (Guo & Ma, 2009). The excess returns the businesses are earning are reflected in the price existing or new large shareholders are willing to pay to gain control. This price depends on the extent of competition amongst large shareholders and the anticipated future returns they believe they can obtain from controlling the troubled firm (Chauhan, Dey, & Jha, 2016). Summary of tunneling and propping are given in Table 3.1.

Table 3.1: Summary of Tunneling and Propping Definitions

Study	Tunnelling	Propping
Gordon et al. (2004a)	No clear attempt to differentiate categories into conflict of interest vs efficient transaction • Number of RP transactions (complexity) • Type of RP transaction • Amount of RP transactions • Party to transaction (Executive, Non-executive, Principal Owner, Subsidiary, Other	
Gordon et al. (2004b)	Board members, principal owners • Number of RP transactions scaled by board members (pervasiveness) • Type of RP transaction • Amount of RP transactions (importance to party)	Subsidiaries, others • Number of RP transactions scaled by board members (pervasiveness) • Type of RP transaction • Amount of RP transactions (importance to party)
Kohlbeck & Mayhew (2004)	Indicator variable if RP transaction is with Director, Officer or Major Shareholder Simple •Loans, Guarantees, Borrowings, Consulting, Legal services, Leases etc • Few related parties • Involve few financial statement items Complex •Related and unrelated business, overheads, stock transactions • Multiple related parties • Numerous conditions • Involve multiple financial statement items	Indicator variable if RP transaction is with Investment or Joint Venture or Affiliate Simple • Loans, Guarantees, Borrowings, Consulting, Legal services, Leases etc • Few related parties • Involve few financial statement items Complex • Related and unrelated business, overheads, stock transactions • Multiple related parties • Numerous conditions • Involve multiple financial statement items
Cheung et al. (2006)	Dollar amount of Transactions that are a priori likely to result in expropriation of the listed firm's minority shareholders • Assets acquisitions • Assets sales • Equity sales • Trading relationships • Cash payments	Dollar amount of Transactions likely to benefit the listed firm's minority shareholders • Cash receipts • Subsidiary relationships Dollar amount of Transactions that could have strategic rationales and perhaps are not expropriation • Takeovers

3.8 Corporate governance in Pakistan and firm performance

Various studies in Pakistan have examined the impact of CG mechanism on different aspects of financial performance. These studies are categorized into three broad categories. First, previous research examined the relationship between individual CG

mechanisms and dividend policy among listed firms (Afza & Mirza, 2011; Afzal & Sehrish, 2011; H. Ahmed & Javid, 2008; Mehar, 2005). For example, Afzal and Sehrish (2011) found positive significant associations among board size, individual ownership, firm size, and dividend paid using a sample of 42 firms from 2005 to 2009.

Second, a group of researchers have examined the relationship between CG mechanisms and cost of equity (COE) (I. Ali, Rehman, Yilmaz, Khan, & Afzal, 2010; S. Z. Ali Shah et al., 2009; Butt & Hasan, 2009). Butt and Hasan (2009) investigated the impact of board size and composition and CEO duality on leverage and reported mixed results. Similarly, S. Z. Ali Shah et al. (2009)examined the relationship between limited individual CGCG mechanism and COE on a limited sample of 119 firms from 2003 to 2007. They found a negative relationship between CG, such as board size and managerial ownership, and COE and a positive relationship between board independency and audit committee and COE.

Third, a group of researchers have studied the effect of CG on firm performance (Azam, Usmani, & Abassi, 2011; Javid & Iqbal, 2008; Mir & Nishat, 2004; Mohammed Nishat, Shaheen, & Hijazi, 2004; Tariq & Abbas, 2013; Q. Yasser, H. Entebang, & S. Mansor, 2015). Javid and Iqbal (2008) scrutinized the effect of CG on firm performance by constructing an index with three dimensions, namely, board composition, ownership, and transparency, using a sample of 50 firms from 2003 to 2007. They found that ownership concentration has a significantly negative relationship with quality of CG, whereas it has a significantly positive relationship with firm performance. They concluded that ownership concentration in Pakistan arises only because the weak legal environment affects firm performance. However, they argued that good CG practices are necessary to improve economy. Similarly, Tariq and Abbas (2013) investigated the effect

of code compliance with financial performance using a weighted index of 119 firms from (2003 to 2010). They found that highly compliant firms have a significantly negative relationship with performance.

3.9 Limitation of Previous studies

Earlier studies on CG and RPTs have a certain number of limitations. First, most studies on CG are limited to developed markets, such as the United States, United Kingdom, Germany, and Japan, except for a few that have not adequately covered these emerging markets. Studies by Boubakri, Cosset, and Guedhami (2005) on 25 emerging markets, J.-S. Baek et al. (2004)on South Korea, Lemmon and Lins (2003) on East Asia, Claessens, Djankov, and Pohl (1997) on the Czech Republic, Gugler (2001) on 61 countries, Khanna and Palepu (1999), Feinberg and Majumdar (2001) and Sarkar and Sarkar (2000) on India, Gorton and Schmid (1999) on Austria, Alba et al. (1998) and Wiwattanakantang (2001) on Thailand Xu and Wang (1999), Jenny J Tian and Lau (2001), G. Chen, Firth, Gao, and Rui (2006) on China, Al Farooque, van Zijl, Dunstan, and Waresul Karim (2010) on Bangladesh, Fernández and Arrondo (2005) on Portugal, Zeitun and Tian (2014) on Jordan and Kapopoulos and Lazaretou (2007) on Greece are intensive though inadequate. They have covered only effect of CG on firm performance with limited effect of RPTs.

Second, numerous studies used either a single performance or considered only accounting information measures, such as ROA or return on investment (Boyd, 1994; Brick et al., 2006; Gerhart & Milkovich, 1990; Gorton & Schmid, 1999; Kato & Kubo, 2006; Lins, Strickland, & Zenner, 2005; P. L. Rechner & Dalton, 1991). Similarly, various researchers have used ROE (Berg & Smith, 1978; Dalton & Kesner, 1987; Donaldson & Davis, 1991; Fosberg, 1989; Lins et al., 2005; Luan & Tang, 2007).

Furthermore, researcher like Demsetz and Lehn (1985), Claessens and Djankov (1997), and Boubakri et al. (2005) utilized return on sales. Meanwhile, Hudson et al. (1992) and Grace, Ireland, and Dunstan (1995) used earning per shares. P. Rechner and Dalton (1986), Barth and Clinch (1996) and Han and Suk (1998a) employed earning closing stock price, whereas Shome and Singh (1995) and Xu and Wang (1999) used market to book value ratio (MBVR).Traditional financial measures may not ensure performance in today's newly structured organization (C. W. Chow, Shields, & Wu, 1999), and accounting profit is subject to manipulation (Capon, Fitzsimons, & Prince, 1996). Accounting profit is sometimes reported within management guidelines (Chakravarthy, 1986; Deegan, 2006). Moreover, as accounting practices may vary within legal and cultural contexts, sufficient provisions for reporting transactions in their legal form may ignore the substance of these transactions. So, Traditional financial measures i.e. ROA is not enough to show actual performance of firm. So, this study overcome this problem by measuring performance of the company calculated though market value measured by Tobin's Q.

Third, a number of previous studies have used single-year data which may not be acceptable in drawing conclusive evidence (Baysinger & Butler, 1985; Cho & Kim, 2007; Craswell et al., 1997; McConnell & Servaes, 1990). These studies have covered only single year data and that have limited effect on firm performance. So, single year data may have biases on judgment as claimed by researcher like Fosberg (1989) that a single year cannot be basis for judgment. Similarly, P. Rechner and Dalton (1986) dependent and independent variables were not taken from the same period. Moreover, Molz (1988) and Zeitun and Gang Tian (2007) conducted their study on a small sample. Fourth, numerous researchers have used uni-variate analysis, such as correlation analysis (Chaganti et al., 1985; Nahar Abdullah, 2004; P. L. Rechner & Dalton, 1991).

Fifth, earlier studies have not provided conclusive evidence on CG and firm performance. Diverse results are present in these studies, which warrant further study. This diversity may be attributed to differences in theoretical perspective, selected methodology, and sample size. Further studies on whether or not particular governance mechanisms enhance firm performance is imperative because of the lack of consensus (De Andres, Azofra, & Lopez, 2005; Gompers, Ishii, & Metrick, 2003; Megginson, Nash, & Randenborgh, 1994; Shleifer & Vishny, 1997). Sixth, the earlier studies typically considered single governance instruments and ignored the combination or set of governance instruments to resolve agency problems and enhance firm performance (Brunello, Graziano, & Parigi, 2001; Di Pietra, Grambovas, Raonic, & Riccaboni, 2008; Doucouliagos, Haman, & Askary, 2007).

Seventh, the current study differs in many ways from previous studies conducted in Pakistani context. Previous studies have focused on the relationship of CG mechanisms with firm performance for a limited period with limited sample size. To cite a few, researchers such as (Butt & Hasan, 2009), Afza and Mirza (2011) and Tariq and Abbas (2013) studied less firms than the current research. The present study employs a balanced panel from 2003 to 2013, whereas previous studies have utilized unbalanced data for a short period. Finally, some studies have been conducted only in banking sectors (Bharathi, 2010; Mohamed, 2016; Raza, Farhan, & Akram, 2011; Shoaib, 2010; Zameer, Rasool, Iqbal, & Arshad, 2013) . Therefore, this study is more comprehensive than prior studies with respect to sample size and period covered. Second, none of the studies have focused on major shareholders' tendency to exploit resources at the expense of minority shareholders, except for Ikram and Naqvi (2005) and Gulzar and Wang (2010). Although Ikram and Naqvi (2005) addressed issues of expropriation of resources of major

shareholders, they did not provide the mechanism with which these resources were sequestered. Similarly, Gulzar and Wang (2010) raised the issue of independent non-executive directors in the board of family-owned firms. However, they failed to provide empirical evidence for such phenomenon.

The current study focuses on providing empirical evidence on how major shareholders exploit the interest of minority shareholders and on the independency of independent non-executive directors on firm performance. Interestingly, most family-owned firms lack an independent non-executive director, who plays a significant role minimizing the transfer of resources through the major shareholder in family-owned firms. This study further focuses on family directorship and concentration on firm performance. Finally, it explores the moderating role of RPTs on the relationship between CG mechanisms (i.e., independent of the director, and family directorship and family ownership) and firm performance.

Earlier studies have presented limitations which imply that they have failed to provide conclusive evidence and to reach a consensus on a specific theory. This study attempts to overcome these limitations and differs from the existing literature in number of ways. First, it provides evidence of the effectiveness of CG in a developing country. Second, it also considers multiple performance measures, namely, accounting (ROA and ROE) and market-based (Tobin's Q) by considering panel data for over 11 years along with advantages discussed section 4.5.1 in Chapter 4. Third, it conducts further test on RPTs, of which conclusive evidence has been drawn.

3.10 Development of hypotheses

Various researchers have studied the effect of internal capital market on the conduct and value of a firm (Claessens, 2006; Khanna & Palepu, 2000; Khanna & Rivkin, 2001; La Porta et al., 2000). Their outcomes demonstrate that the subsistence of internal capital markets increases firm value under certain situations. However, internal capital markets exploit the interest of minority shareholders through some RPTs. Such exploitation is supported by conflict of interest (Gordon et al., 2004) and agency theory (M. C. Jensen & Meckling, 1976). According to scholars, controlling shareholders use some RPTs to transfer resources from firms with low ownership to those with high ownership. Expropriation of resources also occurs in family-owned firms with pyramidal ownership, wherein cash flow and control rights are segregated (La Porta et al., 2000). The interest of minority shareholders is exploited with this transfer through some RPTs as controlling shareholders take their investments.

Numerous scholars have verified that the role of an independent non-executive director mitigates the transfer of resources in family-owned firms (Anup Agrawal & Chadha, 2005; Fama & Jensen, 1983a; Felo, Krishnamurthy, & Solieri, 2003; Forker, 1992; McMullen & Raghunandan, 1996; Pincus, Rusbarsky, & Wong, 1989; Raghunandan, Rama, & Read, 2001). Given the complicated nature of RPTs, this study considers financial expertise attributes while developing an index of Independent non-executive director (INEDs) in the context of Pakistani family-owned firms. However, the SECP 2012 codes[7] require the appointment of only one obligatory INED for companies. The codes also express preference for one third of the corporate board to include INEDs, which is a minimal figure. Therefore, this study posits that INEDs with financial expertise are more likely to constrain disadvantageous RPTs. Moreover, this research proposes that

[7] Clause (i) (b) of the SECP codes 2012

a higher proportion of INEDs with financial expertise may have a positive impact in mitigating potentially abusive RPTs in Pakistani owned-firms. This work empirically investigates the effect of internal CG mechanism (i.e., independent non-executive director index (IDI), Family Directorship (FD), and concentration of family ownership (FO) on the performance of family-owned firms with the moderation role of RPTs.

3.10.1 Related party transactions and firm performance

Abusive RPTs are among the possible methods utilized by insider shareholders to exploit outsider shareholders (Gordon et al., 2004; Ryngaert & Thomas, 2012). These RPTs are specifically associated with various cases of financial scams and deteriorated earnings values (Ge et al., 2010). Such RPTs provide managers, directors, and related parties with opportunities to expropriate funds at the expense of minority shareholders (Djankov et al., 2008; S. Johnson, La Porta, de Silanes, et al., 2000). Note that not all RPTs are employed for resource expropriation (Ryngaert & Thomas, 2012). Certain types of RPTs might help control families gain the wealth of firms and expropriate from minority shareholders (Y.-L. Cheung et al., 2006; T. Wong & Jian, 2003b). This idea supported by the tunneling concept of S. Johnson, La Porta, de Silanes, et al. (2000) and agency theory of M. C. Jensen and Meckling (1976) mostly implies that a major shareholder may engage in transactions with their firms to acquire resources and profits and exploit minority shareholders.

Studies by Gordon et al. (2004), Y.-L. Cheung et al. (2006), Young, Peng, Ahlstrom, Bruton, and Jiang (2008), A. C. H. Lei and Song (2008), Y.-L. Cheung, Jing, et al. (2009), Berkman et al. (2009), Yenpao Chen et al. (2009), M. Kohlbeck and Mayhew (2010), Ge et al. (2010), Jian and Wong (2010), Chalevas (2011) and A. C. Lei and Song (2011) categorized RPTs differently. All of them have confirmed the substantial

association between RPTs and overstated returns, the decreased wealth of minority shareholders, and the diminished firm value.

Likewise, previous researchers, such as Arshad et al. (2009), Lo and Wong (2011), Cynthia Afriani Utama (2012) and Cynthia A Utama and Utama (2014) have found a positive relationship among RPTs and company performance, company size, professional affiliations, and CG index.

Conversely, Gordon et al. (2004), Y.-L. Cheung et al. (2006), A. C. H. Lei and Song (2008), Gallery et al. (2008), Yenpao Chen et al. (2009), Y.-L. Cheung, Jing, et al. (2009), Aharony et al. (2010), S. Munir (2010), Ge et al. (2010), S. a. Munir and Gul (2010), M. Kohlbeck and Mayhew (2010), Aswadi Abdul Wahab et al. (2011), Y.-H. Yeh et al. (2012) and Ryngaert and Thomas (2012) revealed a negative association between RPTs and firm performance.

However, some studies have obtained mixed results. Chien and Hsu (2010) found a negative relationship between RPTs and firm performance and a positive relationship between CG and firm performance. Yoong et al. (2015) examined the relationship between RPTs and firm value with the moderating effect of ownership concentration. They found that RPTs reduce firm value. Moreover, they also showed that the moderating role of ownership is positive with regard to the association between RPTs and firm value. They further verified that no significant evidence exists connecting RPTs and decreased firm value and the positive moderating effect for non-family firms. The authors empirically demonstrated that resource expropriation via RPTs is high in family firms compared with non-family firms.

Similarly, Pozzoli and Venuti (2014) examined the relationship between RPTs and firm performance. They uncovered no empirical correlation between RPTs and firm performance and found no evidence of a cause-effect relation.

Thus, this research contends that RPT significantly affects firm performance and proposes the following hypothesis.

H1: RPTs negatively affect the performance of family-owned Pakistani firms.

3.10.2 Independent Non-Executive Director Index (Composition, Financial expertise and Tenure) and firm performance

The concept of "board independence" has become a priority of many CG reforms. The appointment of INEDs, who are independent from management, is seen as a powerful tool to restrict resource diversion by controlling shareholders. Increasing the independence of corporate directors is one of the main foci of CG reforms. Among the attributes of INEDs, their composition, financial expertise, and tenure may influence their independence and supervisory roles.

3.10.2.1 Financial Expertise of Independent Non-Executive Directors

Many studies like Beasley (1996) and Marrakchi Chtourou, Bedard, and Courteau (2001) have suggested that financial expertise among INEDs is associated with effective board monitoring. As audit committee members, INEDs must be equipped with an accounting background. An accounting-specific expertise is suggested to be crucial for audit committee members given their numerous responsibilities requiring relatively high degrees of accounting sophistication (DeFond, Hann, & Hu, 2005). Empirical research have indicated that the market reacts positively to the appointment of accounting financial experts to the audit committee, which suggests that INEDs with accounting knowledge

improve the said committee's ability to ensure high quality financial information (DeFond et al., 2005).

Prior studies have revealed that the presence of INEDs with financial expertise may enhance the quality of financial reporting process. For example, such expertise on boards reduces the likelihood of fraud and earnings restatements, promotes the effective mitigation of earnings management, and minimizes the likelihood of being associated with the occurrence of internal control problems (Anup Agrawal & Chadha, 2005; Carcello, Hollingsworth, Klein, & Neal, 2006; Krishnan, 2005). Firms with financial reporting problems are unlikely to include financial experts on their audit committees (McMullen, Raghunandan, & Rama, 1996). Other studies have investigated whether the board's financial expertise exerts a positive influence on a firm's financial reporting quality. One research found that the fraction of audit committee members with expertise in accounting or financial management is positively related to financial reporting quality (Felo et al., 2003).

3.10.2.2 Tenure of Independent Non-Executive Directors

The U.S. Senate report on Enron (U.S. Senate, 2002) revealed that board tenure is another shortcoming of CG practices. Some of Enron's directors served on the board for at least 10 years. More recent trends show that a growing number of companies adopted tenure-related guidelines for INEDs. For example, Hong Kong, Malaysia, Singapore, South Africa, and the United Kingdom recommend a maximum tenure of nine years for INEDs. In Malaysia and the United Kingdom, directors with more than nine year of tenure are deemed non-independent unless the company can explain otherwise.

Vafeas (2003) confirmed that senior directors tend to make decisions that favor management. Moreover, the author discovered that CEOs tend to receive high levels of compensation when compensation committees consist of senior directors (Vafeas, 2003). This perspective is also supported by Rickling (2014) who revealed that audit committee director tenure is positively associated with the likelihood of a firm repeatedly holding meetings or beating analysts' forecasts. Thus, Rickling (2014) supported the proposal to limit the tenure of directors. Similarly, C. J. Chen and Jaggi (2000), E. C. Cheng and Courtenay (2006), R. D. Morris and Gray (2007) and R. Morris, Susilowati, and Gray (2012) found a positive association between the ratio of independent non-executive directors and corporate disclosures.

By contrast, G. Liu and Sun (2010) demonstrated a negative relationship between the proportion of long-tenured directors and earnings management, thereby supporting the expertise hypothesis. Given the two conflicting arguments on long-tenured directors, this study proposes that the INEDs' tenure may influence potentially abusive RPTs. Researchers including Eng and Mak (2003), Barako, Hancock, and Izan (2006) and Nelson, Gallery, and Percy (2010) found a negative relationship between the ratio of outside directors and a firms' voluntary disclosures.

Other researchers have uncovered mixed results. Gallery et al. (2008) revealed a negative relationship between board independence and related party payment, showing the monitoring role of independent non-executive directors in checking payments to related parties. Lo and Wong (2011) demonstrated that firms with a considerable percentage of independent non-executive directors voluntarily disclosed the method of transfer pricing of their RPTs. They found that firms with a high ratio of independent non-executive directors revealed mandatory information on RPTs disciplined by stock market

regulatory bodies in contrast to those with a low ratio of independent non-executive directors. Thus, they proposed that independent boards promote the enhanced monitoring of firm disclosures.

In the context of Pakistan, Abdullah et al. (2011) ascertained that concentrated ownership companies with independent non-executive directors have a positive influence on firm performance. Similarly, A Khan and Awan (2012) uncovered that incorporating independent non-executive directors on the board positively affects firm performance. This outcome is also supported by Javaid and Saboor (2015) who found that independent non-executive directors positively influence firm performance.

Based on above discussion, this study proposes that an independent non-executive director positively affects firm performance. Therefore, the following hypothesis is proposed:

H2: The independent non-executive director index has a positive effect on the performance of Pakistani family-owned firms.

3.10.3 Family directorship (FD) and firm performance

According to agency theory by Jensen and Meckling (1976), agency issues occur when family members are appointed as directors. This major issue increases the likelihood of misappropriation by a controlling shareholder. Furthermore, FD can affect the interests of minority shareholders as family-owned firms are protected from the probability of a hostile take-over (Gomez-Mejia, Larraza-Kintana, & Makri, 2003). Limited studies have focused on the performance of FD in developing countries, such as Pakistan, where a board is more influential in family-owned firms and most listed companies are family owned. Nicholls and Ahmed (1995) found high tendencies for the

appointment of a director in family-owned firms. La Porta et al. (1999) noted that national institutions fail to protect the rights of investors due to family-owned firms. Claessens et al. (2000) verified that family-owned firms involve different levels of controlling and cash flow rights through their pyramidal ownership.

However, in exploring the relationship between ownership structure and firm performance, Barontini and Caprio (2006) determined that a director appointed from family-owned firms is positively related to firm value and operating performance. Similarly, Sea Jin Chang (2003), Joh (2003) and M. Carney and Gedajlovic (2002) empirically confirmed that the directorship of family-owned firms is significantly related to enhanced performance.

By contrast, Morck et al. (1988) found a negative association between the effects of directorship of family-owned firms and firm performance. Outside directors may lose their jobs if they object to self-serving top management decisions. However, Filatotchev, Lien, and Piesse (2005) indicated that a directorship of family-owned firms is unrelated to firm performance.

In the context of Pakistan, Javid and Iqbal (2008) found that concentrated ownership companies with family directorship have a negative influence on firm performance. Similarly, Yasser, Mamun, and Rodrigs (2017) found that incorporating family directorship on the board negatively affects firm performance. This outcome is also supported by Yasser, Mamun, and Seamer (2017) who found that family directorship negatively influences firm performance.

Based on the above discussion, this study contends that FD exerts a significant monitoring role on the relationship between RPTs and firm performance. This argument leads to following hypothesis on FD and firm performance.

H3: FD has a negative effect on firm performance in family-owned Pakistani firms.

3.10.4 Family ownership (FO) and firm performance

Jensen and Meckling (1976) concluded that managerial ownership is negatively associated with agency cost and positively associated with firm performance. This finding also supports the conflict-of-interest hypothesis (Gordon et al., 2004). Shleifer and Vishny (1986) proposed the hypothesis that a high concentration ownership indicates better monitoring and performance especially when ownership is concentrated in institutional rather than on individual investors. Therefore, institutional ownership could enhance firm performance. Furthermore, McConaughy, Walker, Henderson, and Mishra (1998) and Anderson and Reeb (2003) suggested that family-owned firms improve firm value.

Furthermore, Demsetz and Lehn (1985) found that family-owned firms appoint persons, who are closely linked to firm value, would carefully monitor management efficiently and would decrease the problems associated with firms. Maury (2006) found that family-owned firms improve firm profitability, whereas a legal environment protects the interest of minority shareholders. Ben-Amar and André (2006) reported that a family-owned firm often exerts control over voting rights with a small ratio of cash flow rights. Klein, Shapiro, and Young (2005) demonstrated that the relation of performance to ownership also varies due to the difference in family concentration across countries. Villalonga and Amit (2006) posited that highly concentrated family-owned firms with

family members as CEOs generate value for firms when management is under family control.

Previous studies have provided mixed results regarding the relationship between FO concentration and firm performance. Demsetz and Lehn (1985) provided evidence that FO-concentrated firms reduce managerial cost. In addition, Fame and Jensen (1985) confirmed that managerial costs do not decrease with the concentration of family-owned firms.

Various researchers, including C. W. Hill and Snell (1988), C. W. Hill and Snell (1989), Anup Agrawal and Mandelker (1990), Xu and Wang (1997) and Wu and Cui (2002) have found a positive and significant relation between FO concentration and accounting profits and firm performance.

However, scholars such as Leech and Leahy (1991), Mudambi and Nicosia (1998), Lehmann and Weigand (2000) and Z Chen and Cheung (2000) have reported a negative significant effect of ownership concentration on firm value. Conversely, Prowse (1992) found no relationship between family concentration and profitability. However, Some studies have sought a nonlinear relationship between ownership concentration and firm performance. Thomsen and Pedersen (2000) found that as family concentration increases, firm performance initially improves then eventually declines. Their findings show that the value of concentrated ownership is offset by the negative effects of high family concentration. R. Porta et al. (1999) indicated that the primary problem of resource expropriation is controlling shareholders have control rights significantly higher than their cash-flow rights. Claessens et al. (2002), Joh (2003) and J.-S. Baek et al. (2004) revealed that firm value increases with the cash flow rights of controlling shareholders

but declines when the control rights of said shareholders exceed their cash-flow rights. Lins (2003) found that low firm values are related when control right is higher than cash flow right. However, this control is insufficient to offset the benefits of concentrated ownership.

Moreover, Sánchez-Ballesta and García-Meca (2007) determined that the relationship of cash flow and control rights is moderately strong, thereby supporting the argument that ownership is positively associated with firm performance in countries with low investor protection.

In the context of Pakistan, Javid and Iqbal (2008) ascertained the positive effect of ownership concentration on firm performance and the negative associations between family concentration and CG practices, as well as disclosures and transparency. This finding is supported by Y. Ali et al. (2015b) who verified the positive effect of ownership concentration on firm value, Whereas, Abdullah et al. (2011) confirmed that firms with concentrated ownership structures are negatively related with firm performance. Such finding is also supported by Irshad, Hashmi, Kausar, and Nazir (2015).

Accordingly, this study contends that family concentration has a significant monitoring role on relationship between RPTs and firm performance. Hence, the following hypothesis is proposed.

H4: High FO concentrations negatively affect the performance of family-owned Pakistani firms.

3.10.5 Moderation role of related party transactions (RPT) on the association between corporate governance and firm performance

As mentioned, an RPT with a director has a negative significant effect on firm performance (Y.-L. Cheung et al., 2006; Gallery et al., 2008; Gordon et al., 2004; A. C. H. Lei & Song, 2008). Such RPTs have an inverse relation with firm performance. However, other RPTs have a positive significant effect on firm performance, as verified by Arshad et al. (2009), Lo and Wong (2011) and Cynthia Afriani Utama (2012). These RPTs are directly related to firm performance. However, studies by Chien and Hsu (2010) and Yoong et al. (2015) showed mixed results with respect to RPTs with the moderating effect of CG mechanism on firm performance.

Similarly, Aswadi Abdul Wahab et al. (2011) investigated the moderating effect of CG on the relationship between RPTs and firm performance. They used both internal and external corporate mechanisms. Internal CG includes CEO duality, board independency, board size, and executive compensation, whereas, external CG involves institutional investor ownership and auditor size. S. Utama et al. (2010) anticipated an interaction of RPTs with the CG index developed by the Indonesian Institute for Corporate Directorship. In their research, RPTs functioned as a dummy variable which takes the value of one if RPTs are present, and zero otherwise. J. Wang and Yuan (2012) examined the moderation of RPTs sales with the earnings of Chinese firms. Chien and Hsu (2010) analyzed the moderating effect of CG (i.e., external audit and independent board) on the relationship of six types of RPTs and firm performance. Finally, Hasnan et al. (2016) examined the moderating effect of CG variables on the relationship between RPTs and earning quality of firms. They used the interaction variable of CG (i.e., CEO duality, board independence, board size, and audit quality) with RPTs.

Based on the above discussion, we propose that RPTs have a moderating effect on the relationship between CG i.e., independent non-executive director, FD, and family concentration. Hence, we posit the following three moderating hypotheses on the relationship between CG (i.e., independent non-executive director, FD, and family concentration) and firm performance.

H 5.1: RPTs moderate the relationship between independent non-executive director index and firm performance among family-owned Pakistani firms.

H 5.2: RPTs moderate the relationship between FDs and firm performance among family-owned Pakistani firms.

H 5.3: RPTs moderate the relationship between concentrations of ownership and firm performance among family-owned Pakistani firms.

3.11 Conceptual Framework

In developing countries such as Pakistan, most businesses are controlled by family-owned firms; a conflict exists between the interests of major and minority shareholders. The major shareholder exploits the interest of minority shareholder and transfers the resources of firm at the expense of minority shareholder through RPTs. This condition becomes increasingly significant for developing countries such as Pakistan where the privatization of nationalized business units is underway. Companies are interested in attracting foreign investors to purchase their shares. They recognize that it is related to improved performance. Various researchers have categorized RPTs into distinct categories. However, this study has identified the RPTs between controlling shareholder companies and subsidiaries and classified them into 12 different types of RPTs in Pakistani family-owned firms, which are further sub-categorized. Detailed categorization is shown in Appendix A. In addition, two types of RPTs, namely, benefit-based and expense-based transactions, have been ignored or remain undiscovered. This study further contributes by identifying these types of RPTs. Meanwhile, 10 other types

of RPTs have been categorized (i.e., other types of RPTs) and discussed by various researchers along with their implications. First category of RPTs of this study is Benefit-based RPTs, includes bonus, convertible, and right issue shares. RPTs benefit-based transactions have positive effect on the family-owned firm performance. Similarly, second category of RPTs of this study is RPTs expense-based, includes organizational expenditure, insurance, royalty payments, and other expenses. RPTs expense-based transactions have negative effect on firm performance. Similarly, third category of RPTs of this study is RPTs other based, include ordinary shares, dividends, donations, interests, investments, purchase of assets, sale of assets, employee benefits, lease, loans, and advance payments. RPTs other-based transactions have negative effect on firm performance. Thus, this current study adopts Type II agency theory with regard to family-owned Pakistani firms with highly concentrated ownership wherein the major shareholder expropriates the resources and exploits the interest of minority shareholders through abusive RPTs. Such RPTs used by family-owned firms is indicative of an agency problem. Morck and Yeung (2003) and Young et al. (2008) also verified that these RPTs facilitated the exploitation of the minority shareholder's wealth. In addition, this study takes into account the effect of Family directorship and concentration on firm performance. The following justifications explain why expropriation involves the following variables and how it affects firm value as well as the moderating effects on the relationship between these variables and firm performance. In addition, the underlying Type II agency theory is discussed in Chapter 3, Section 3.2.2.

According to previous discussions, RPTs can be used by controlling shareholders to transfer resources out of firms. Hence, these transactions are one of the channels of resource transfer; ultimately, they can reduce firm performance. As RPTs can be used for resource expropriation, the conflict-of-interest hypothesis is relevant in this study as RPTs

tend to negatively affect firm performance. Such hypothesis represents part of agency theory given that RPTs can be abused by major shareholders and thus exploit the interest of minority shareholders. Another attribute of agency theory involved in this study is its assumptions. Agency theory assumes that independent non-executive directors can perform their tasks in providing checks and balances for board decision making in an effective manner without being influenced by controlling shareholders. This concept constitutes one of the basic assumptions of agency theory (Fama & Jensen, 1983b).

However, major shareholders control resources through their main voting power in firms. Consequently, the controlling shareholder may exploit the interests of minority shareholders through their controlling right at the expense of the latter by influencing the autonomy of independent non-executive directors to transfer resources (Becht, Bolton, & Röell, 2003; Beffi, 2017; Huyghebaert & Wang, 2012; Martin, Gómez-Mejía, Berrone, & Makri, 2017; Pizzo, 2013; Spear, Cornforth, & Aiken, 2007). There is highly concentration of family ownership in Pakistani family owned firms. Similarly, such situations, family owned firm have their own family member of board. Such situation further deteriorates the Agency Problem Type II. This problem most likely to occur in developing countries with investor protection, especially for minority shareholders. Therefore, longer tenure of independent non-executive directors will likely reduce firm performance in the context of developing countries such as Pakistan.

Given the above reasons, Figure 4.1 exhibits the conceptual framework for this study.

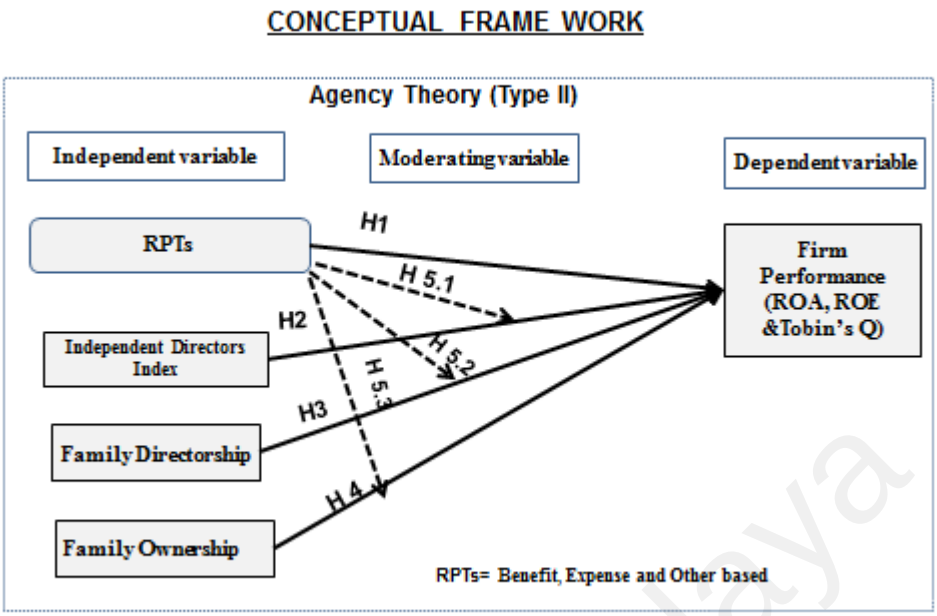

Figure 3-1: Conceptual Framework

3.12 Summary of chapter

This chapter provides a comprehensive review and summary of the earlier studies on CG given that a reasonable body of research on CG exists. First, the relevance of agency theory in is discussed in the literature review. Second, previous research results are analyzed with empirical evidence on various corporate mechanisms, such as ownership structure, board practices, and managerial compensations. Third, tunneling or resource expropriation in family-owned firms and RPTs are presented. Fourth, related party along with abnormal RPTs are discussed. Fifth a critique of earlier studies is included and concluding remarks are made. From this review, this study concluded that prior studies exhibited several limitations and failed to reach a consensus on a theory. Finally, the development of the hypotheses and conceptual framework is discussed. According to Jean J Chen and Zhang (2014), in considering agency theory, RPTs may suggest the presence of an agency problem. Prior studies have proven the association

between RPTs and the expropriation of the firms' resources by controlling shareholders (Djankov et al., 2008; S. Johnson, La Porta, de Silanes, et al., 2000). This finding can be attributed to a conflict of interest existing between controlling and external shareholders when concentrated ownership predominates. Controlling shareholders attempt to maximize the benefits they enjoy by managing earnings to conceal these benefits from outsiders (Leuz et al., 2003). Empirical evidence also indicates that the controlling shareholder can utilize RPTs as a tool for EM to conceal their private control benefits from other shareholders (Dahya et al., 2008; Gao & Kling, 2008). CG should mitigate EM, improve reporting quality, and impede opportunistic behavior (D. K. Denis & McConnell, 2003; Gordon & Henry, 2005). CG practices are important for private and public limited companies in countries where the capital markets are mature with respect to rules and regulation. These rules and regulations become crucial especially for companies listed on stock exchanges because they involve large investments from the public in their savings.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 Introduction

This chapter examines the different issues pertaining to research design and methodology. Section 4.2 reviews the research methodology on quantitative data. Section 4.3 discusses the sample selection. Section 4.4 presents the model specifications. Section 4.5 provides the definition and construction of variables. Section 4.6 describes the analysis techniques. This research utilizes the fixed effect method and the Generalized Method of moments (GMM), and other tests such the endogeneity, multicollinearity, normality, and the robustness tests. Section 4.7 concludes the chapter.

4.2 Research methodology- quantitative data

The study employs a quantitative approach on secondary published data of family-owned firms listed on KSE (Dawn, 2017; Nazir & Afza, 2018; PICG, 2018). Data are collected from documents, surveys, annual reports, analyst reports, and various studies on family-owned Pakistani firms. Quantitative data has many advantages. First, data is readily available given that numerous databases are already extant (Ahsan, Wang, & Qureshi, 2016). Second, the use of such data is economical and time saving (H. Mirza & Azfa, 2010). Third, pre-defined standards of validity and reliability are included, and rechecks are unnecessary when using quantitative data (M. Bashir, Afzal, & Azeem, 2008). Fourth, findings can easily be generalized to the population when data is collected from a sample (K. Ali, Kiani, & Ahmed, 2018). Fifth, secondary data can provide a foundation for increased specificity in primary research when comparing the results of primary data (Salvato & Melin, 2008). Finally, it can also be useful in solving research problems (Romero & Ventura, 2013). However, some limitations occur with secondary data (Lefever, Dal, & Matthiasdottir, 2007). Such data may be outdated and inaccurate (Cummins & Macintyre, 2009).

Moreover, researchers may encounter problems if the collected data does not cover the sample of the studied population (Little & Rubin, 2014).

4.3 The selection of sample

The sample used in analyzing the CG compliance level Pakistani CG index (PCGI) and its impact on Cost of Capital (COC) is made up of Karachi Stock Exchange (KSE) listed firms. A total of 579 firms were listed on KSE on December 31, 2016. Table 4.1 describes the sample for this study. The sample size for the current study consists of 150 family-owned firms operating in ten different sectors listed on the KSE (Javid & Iqbal, 2008; Tahir & Sabir, 2014). These family-owned firms are included in the research on high market capitalization. The year 2003 was omitted as the grace period for implementing of CG. Table 4.1 also shows the industrial composition of firms listed on the KSE. The listed family-owned firms are grouped into eleven major sectors. The composition is made up of automobile and engineering, cement, chemical, electricity, financial, food, oil and gas, pharmaceutical, textile and general industrial. The quantitative approach is employed for secondary data (Hyder & Lussier, 2016). The sample period of 2004 to 2014 occurred after the implementation of CG codes in 2002 (Asad Khan, Tanveer, & Malik, 2017). Panel A of Table 4.1 shows that the Pakistani market is dominated by chemical, cement, financial, food and textile industries as these industries represents 76% of the entire KSE listed firms while the remaining five industries presents only 24% of KSE listed firms. In this study, the financial industry is not included in the final sample for three main reasons. First, financial firms have a different capital structure than those of non-financial firms which may have impact on firm value (S. Ali Shah, S. Butt, & A. Hassan, 2009). Second, financial firms have been suggested to be heavily regulated. In the case of Pakistan, financial

firms are required to comply with more regulations than their industrial counterparts. This is expected to have different impact on financial firm values from those of non-financial firms. Third, financial firms are excluded in line with previous studies in order to make the results comparable with prior studies (e.g., (Haniffa & Hudaib, 2006; Mangena & Chamisa, 2008; Tariq & Abbas, 2013). Panel B of Table 4.1 shows the industrial composition of all remaining 442 firms (76.33% of entire KSE population) that were available for possible inclusion in the sample.

Table 4.1: Sample of selection procedure

Panel A: Industries of all listed Firms on the KSE as on 31 December 2016	Firms in Industry	Percentage of firms (%)
Automobile and engineering	26	4.49
Cement	36	6.22
Chemical	35	6.04
Electricity and Electronics	24	4.15
Financial	137	23.66
Food and Beverages	56	9.67
Household	33	5.70
Misc.	30	5.18
Oil and gas	14	2.42
Pharmaceutical	9	1.55
Textile	179	30.92
Total population	579	100.00
Less: Financial Industry	137	23.66
Total KSE listed non-financial firms	442	76.34
Panel B: Industries of Firms to be sampled	No of firms	Percentage of firms (%)
Automobile and engineering	26	5.88
Cement	36	8.14
Chemical	35	7.92
Electricity and Electronics	24	5.43
Food and Beverages	56	12.67
Household	33	7.47
Misc.	30	6.79
Oil and gas	14	3.17
Pharmaceutical	9	2.04
Textile	179	40.50
Firms available for sample	442	100%
Minus: Missing Data firms	292	66.06
Total sample with full data	150	33.94%
Panel C: Industries of Final sampled firms	No. of Firms in final sample	Percentage of firms (%)
Automobile and engineering	16	10.67
Cement	20	13.33
Chemical	17	11.33
Electricity and Electronics	9	6.00
Food and Beverages	15	10.00
Household	6	4.00
Misc.	16	10.67
Oil and gas	16	10.67
Pharmaceutical	9	6.00
Textile	26	17.33
	150	100.00%

4.4 Model specifications

This study involves three empirical Models. First empirical Models includes both without interaction variables and with interaction variables in Model 1a and Model 1b. Similarly, second empirical Models includes both without interaction variables and with interaction variables in Model 2a, Model 2b. similarly, third empirical Models includes both without interaction variables and with interaction variables in Model 3a and Model 3b. All three empirical models are based on the Agency theory Type II and the conceptual framework discussed in Chapter 3 under section 3.2 and section 3.11 respectively.

4.4.1 Model 1a and Model 1b: ROA and Corporate Governance

Model 1a and Model 1b are employed to examine the relationship between the response variable (accounting-based measure i.e. ROA) and explanatory variables (CG variables i.e. IDI, FD, FO, and RPTs). These Models i.e. Model 1a and Model 1b are based on past studies that have advocated the inclusion of control variables (i.e. firm Size, profit margin, leverage, age of firm, industry type and year dummies (Y.-L. Cheung, Jing, et al., 2009; Y.-L. Cheung et al., 2006; Dahya et al., 2008; Gao & Kling, 2008; M. W. Peng & Jiang, 2010; Pozzoli & Venuti, 2014). The Firm performance can be expressed in functional form as follows:

$$\Re = f(\varepsilon, \kappa, \chi) \qquad (4.1)$$

Where ($\Re$) is Firm performance calculated by ROA, (ε) is CG including IDI, FD and FO , (κ) is RPTs, χ is control variables including Profit margin, Firm size, Financial leverage, Age of firm, Industry and Year.

Furthermore, Model 1a and Model 1b are shown without and with an interaction/ moderation variable (RPTs) respectively.

Model 1a: Firm performance without an interaction variable

The equation (4.1) can be represented in matrix form as follows:

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$$\frac{\partial \gamma}{\partial \times} = \acute{\emptyset}\,(X) \qquad (4.2)$$

From equation 4.1

The final value of the firm performance by ROA can be calculated as

$$= \left(\frac{\delta y}{\delta x1} \frac{\delta y}{\delta x1} ------ \frac{\delta y}{\delta xk} \right) \qquad (4.3)$$

Model 1b: Firm performance with an interaction variable

The equation (4.1) can also be represented in matrix form as follows:

$$\left(\frac{\delta y}{\delta x1} \frac{\delta y}{\delta x1} ------ \frac{\delta y}{\delta xk} \right) \qquad (4.4)$$

The final value of the firm performance by ROA can also be calculated as

$$= \left(\frac{\delta y}{\delta x1} \frac{\delta y}{\delta x1} ------ \frac{\delta y}{\delta xk} \right) \text{ y} \qquad (4.5)$$

4.4.2 Model 2a and Model 2b: ROE and Corporate Governance

Model 2a and Model 2b are employed to examine the relationship between the response variable (accounting-based measure i.e. ROE) and explanatory variables (CG variables i.e. IDI, FD, FO, and RPTs). These Models i.e. Model 2a and Model 2b are based on past studies that have advocated the inclusion of control variables (i.e. firm Size, profit margin, leverage, age of firm,

industry type and year dummies (Y.-L. Cheung, Jing, et al., 2009; Y.-L. Cheung et al., 2006; Dahya et al., 2008; Gao & Kling, 2008; M. W. Peng & Jiang, 2010; Pozzoli & Venuti, 2014). The Firm performance can be expressed in functional form as follows:

$$\Re = f(\varepsilon, \kappa, \chi) \qquad (4.6)$$

Where ($\Re$) is Firm performance calculated by ROE, (ε) is CG including IDI, FD and FO , (κ) is RPTs, χ is control variables including Profit margin, Firm size, Financial leverage, Age of firm, Industry and Year.

Furthermore, Model 2a and Model 2b are shown without and with an interaction/ moderation variable (RPTs) respectively.

Model 2a: Firm performance without an interaction variable i.e. RPTs

The equation (4.6) can be represented in matrix form as follows:

$$\frac{\partial \gamma}{\partial \times} = \acute{\emptyset}\,(X) \qquad (4.7)$$

From equation 4.6

The final value of the firm performance by ROE can be calculated as

$$= \left(\frac{\delta y}{\delta x1} \frac{\delta y}{\delta x1} ------ \frac{\delta y}{\delta xk} \right) \qquad (4.8)$$

Model 2b: Firm performance with an interaction variable i.e. RPTs

The equation (4.6) can also be represented in matrix form as follows:

$$\left(\frac{\delta y}{\delta x1} \frac{\delta y}{\delta x1} ------ \frac{\delta y}{\delta xk} \right) \qquad (4.9)$$

The final value of the firm performance by ROE can also be calculated as

$$= \left(\frac{\delta y}{\delta x1} \frac{\delta y}{\delta x1} ------ \frac{\delta y}{\delta xk} \right) \text{ y} \qquad (4.10)$$

4.4.3 Model 3a and Model 3b: Tobin's Q and Corporate Governance

Model 3a and Model 3b are employed to examine the relationship between the response variable (Market-based measure i.e. Tobin's Q) and explanatory variables (CG variables i.e. IDI, FD, FO, and RPTs). These Models i.e. Model 3a and Model 3b are based on past studies that have advocated the inclusion of control variables (i.e. firm Size, profit margin, leverage, age of firm, industry type and year dummies (Y.-L. Cheung, Jing, et al., 2009; Y.-L. Cheung et al., 2006; Dahya et al., 2008; Gao & Kling, 2008; M. W. Peng & Jiang, 2010; Pozzoli & Venuti, 2014). The Firm performance can be expressed in functional form as follows:

$$\Re = f(\varepsilon, \kappa, \chi) \qquad (4.11)$$

Where ($\Re$) is Firm performance calculated by Tobin's Q, (ε) is CG including IDI, FD and FO , (κ) is RPTs, χ is control variables including Profit margin, Firm size, Financial leverage, Age of firm, Industry and Year.

Furthermore, Model 3a and Model 3b are shown without and with an interaction/ moderation variable (RPTs) respectively.

Model 3a: Firm performance without an interaction variable

The equation (4.11) can be represented in matrix form as follows:

$$\frac{\partial \gamma}{\partial \times} = \acute{\emptyset} (X) \qquad (41.2)$$

From equation 4.11

The final value of the firm performance by Tobin's Q can be calculated as

$$=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}-------\frac{\delta y}{\delta xk}\right) \qquad (4.13)$$

Model 3b: Firm performance with an interaction variable

The equation (4.11) can also be represented in matrix form as follows:

$$\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}-------\frac{\delta y}{\delta xk}\right) \qquad (4.14)$$

The final value of the firm performance by Tobin's Q can also be calculated as

$$=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}-------\frac{\delta y}{\delta xk}\right) \text{ y} \qquad (4.15)$$

4.5 Definition and construction of the variable

The following are the definitions and measurement of the variables used in this study. Definitions and measurement of all the variables are also shown in Page No. 146, Table 4.2.

4.5.1 Dependent variable

This study examines the association between CG mechanisms (i.e. independent non-executive director index, family directorship and family ownership) and firm performance. This research further investigates the moderating effects of RPTs between relationship between CG mechanisms (i.e. independent non-executive director index, family directorship and family ownership) and firm performance. It also investigates the moderating effects of RPTs Benefit, RPTs Expense, RPTs Other and abnormal RPTs between relationship between CG mechanisms (i.e. independent non-executive director index, family directorship and family ownership) and firm performance. Consequently, this study employs financial accounting information. To obtain the

empirical findings on firm performance, such information are further divided into two types, namely, market-based and accounting measures.

4.5.1.1 Measurement of firm performance based on market value (Tobin's Q)

Extant studies have considered accounting measures as means of assessing firm performance. They minimally considered the market measurement of firm performance. Consistent with (Chakravarthy, 1986; Oswald & Jahera, 1991) other scholars have claimed that accounting measurement is inadequate for estimating the effectiveness of firm performance. Hence, this study contributes by utilizing market-based performance measurement to determine firm performance in addition to accounting performance i.e., ROA and ROE.

Such measurement technique is employed as is not influenced by firm-specific reporting, idiosyncrasies, and potential managerial manipulation. Most investors prefer to invest in the shares of reputed firms. They believe that profitability and growth opportunities of these firms affect share price. This notion ultimately increases the value of shares in the stock market (Antunovich, Laster, & Mitnick, 2000). This research applies Tobin's Q to measure market-based firm performance. Tobin's Q has been utilized significantly among academicians, researchers, and specialists who regard it as one of the developed techniques for calculating market-based performance. James Tobin is considered as the pioneer of Tobin's Q. He examined the causal association between investment and Q value. He demonstrated the Q variable as the ratio of market value measurement to replacement cost (Brainard & Tobin, 1968; Tobin, 1969, 1978). Researchers have claimed that investment opportunities for firms exist if the additional Q value exceeds unity. Subsequently, additional investment values improve its cost (Lindenberg & Ross, 1981). The

Tobin's Q employed in this study has been adopted by (Chung & Pruitt, 1994; Haniffa & Hudaib, 2006; Mishra, Randøy, & Jenssen, 2001; Perfect & Wiles, 1994; Villalonga & Amit, 2006). This research also utilized the Q value to measure firm performance based on market value employed by previous studies (Anderson & Reeb, 2003; Faccio et al., 2001; McConaughy et al., 1998; McConnell & Servaes, 1990; Morck et al., 1988; Setia-Atmaja et al., 2009; Yermack, 1996).

Moreover, various researchers have applied a similar Q value of measurement to investigate the relationship between shareholder concentration and firm performance (Cronqvist & Nilsson, 2003; Khanna & Palepu, 2000). The value of Tobin's Q is calculated by "the ratio of (Total Market Value of Equity + Total Book Value of Liabilities)/ (Total Book Value of Equity + Total Book Value of Liabilities)". A larger value of Tobin's Q indicates better company performance. Such value ultimately suggests that the CG mechanisms of the company are efficient (Anderson & Reeb, 2003).

4.5.1.2 Firm performance Measurement Based on Accounting Value (ROA and ROE)

Financial accounting can be described as a field of accounting that reports financial information to interested parties such as investors, lenders, management, suppliers, customers, and other stakeholders of financial information. Financial accounting information is a reporting mechanism that demonstrates financial data regarding the financial position of the company during a specific period. According to Sloan (2001), the management of a company is responsible for preparing its financial statements. External auditors then verify such statements. They produce audit reports verifying that all annual reports are prepared in accordance with the applicable statutory and accounting standards. Sloan (2001) also claimed that financial data provides critical

information for CG, which reduces agency issues. Three categories of accounting information are extant from the viewpoint of management: operational analysis, resource management, and profitability.

However, this study will not use all these measurements of firm value. The selection of the measurement of firm performance is determined by the ease of computation and suitability to scholars and experts (H. Ibrahim & Samad, 2011b). Therefore, this study utilizes two measurement instruments on accounting data to calculate firm value. The first measurement is ROA, which concerns the management of the company responsible for evaluating short- and long-term firm value. The second measurement is ROE, which involves the investor's perception on the return on their investment. Both instruments are used in this research because they use company profit. These instruments are crucial to the management and owners of organizations (H. Ibrahim & Samad, 2011a). The ROA is calculated as the ratio of net income to total assets (Anderson & Reeb, 2003; Holderness & Sheehan, 1988), whereas, ROE is the ratio of net income to total stockholder equity (Holderness & Sheehan, 1988; P. L. Rechner & Dalton, 1991).

4.5.2 Independent variables

This study has the following four independent variables. Independent variables include independent non-executive director index (IDI), family directorship (FD), family ownership (FO) and related party transactions (RPTs).

4.5.2.1 Composition of Independent non-executive director (IDC)

The mathematical formula for obtaining the composition of independent non-executive director is

$$\Delta\left(\frac{IDC_{ac} - IDC_{min}}{IDC_{max} - IDC_{min}}\right) \geq 0 \qquad (4.16)$$

Where (IDC_{ac})is the actual number of compositions of independent non-executive director among sample family owned firms in a particular year, (IDC_{max}) is the maximum value of composition of independent non-executive director among sample family owned firms and for sample period and (IDC_{min}) is the minimum value of composition of independent non-executive director among sample family owned firms and for sample period.

4.5.2.2 Financial expertise of Independent non-executive director (IDFE)

The wider literature on job performance indicates time spent in an organization improves a person's proficiency in conducting their job (Ng & Feldman, 2010; Wagner III, Ferris, Fandt, & Wayne, 1987). Over the time spent in an organization, a person becomes more knowledgeable about the organization as a whole and this provides them with greater confidence and competence in carrying out their job tasks (Bird, 1996; Pfeffer, 1985). Similarly, within the corporate governance literature, it is generally recognized that time spent on a board increases a director's firm knowledge, improving their capacity to comprehend firm-specific issues and contribute to issues at hand (Lorsch, 1989; Muller-Kahle & Lewellyn, 2011).

Due to the nature of their role, independent non-executive directors are less informed than executive directors (Bhagat & Black, 1999; Roberts, McNulty, & Stiles, 2005). Knowledge asymmetry for a director is particularly high when they first join a board. In particular, newcomers to a board are more dependent on the accuracy and completeness of the information they receive

in order to monitor effectively. With limited information, newcomers to a board are further limited in their information gathering by the infrequency of board meetings (Finkelstein & Mooney, 2003). During their tenure, directors gain greater firm knowledge by preparing for meetings, interacting with management and other directors, taking on new committee assignments and acquiring 'soft' information (Beasley, 1996; Castro, La Concha, Dominguez, Gravel, & Periñan, 2009; Kor & Sundaramurthy, 2009; Kosnik, 1990). It follows therefore that longerserving directors have a greater capacity to monitor management more vigilantly than their newer colleagues (Dou, Sahgal, & Zhang, 2015; Keehwan Kim & Yang, 2014; Vafeas, 2003).

There is strong empirical support for the assumption that tenure increases monitoring due to accumulated knowledge. In particular, studies have found longer tenured directors better placed to assess CEO performance and thereby more effective at managing CEO compensation (Boyd, Haynes, & Zona, 2011; Dou et al., 2015; Kyonghee Kim, Mauldin, & Patro, 2014). Using a similar logic, (Dou et al., 2015) found firms with long-tenured directors may be better at performing the monitoring task of hiring and firing CEOs. They assert firms with a higher proportion of experienced directors (15 or more years of service) are more likely to dismiss a poor-performing CEO. Meanwhile, Jie Jenny Tian, Haleblian, and Rajagopalan (2011) found a positive relationship between tenure and market reaction to CEO selection. They argue boards with longer-tenured directors are better able to interpret the firm's strategic needs, meaning they are better equipped to select a new CEO.

Both the audit committee literature and the broader corporate governance literature provide support for the hypothesis that knowledge accumulated over a director's tenure increases monitoring of financial statements. Researchers have found board audit committees with long-tenured directors have higher financial reporting quality. These studies suggest tenure enhances a director's capacity to understand firm related accounting issues, increasing their ability to monitor financial reports, reducing the likelihood of aggressive earnings management (Bedard, Chtourou, & Courteau, 2004; Dhaliwal, Naiker, & Navissi, 2010; Kyonghee Kim et al., 2014; J. S. Yang & Krishnan, 2005). Similarly, A. M. Y. Chan, Liu, and Sun (2013) found audit fees to be negatively associated with the proportion of long-tenured directors on the audit committee. They argue longer-tenured board members on the audit committee are better equipped to monitor financial statements, leading to lower audit effort and hence lower audit fees.

Prior research examining the effects of tenure on knowledge typically focus on firm-specific knowledge with less regard to the value of a director's prior experiences gained through other directorships. An exception is Dou et al. (2015), who examined whether for newer directors their prior experiences gained from sitting on other boards translated into greater monitoring capacity in lieu of focal firm knowledge. However, they failed to find support for this hypothesis, suggesting experience gained through prior directorships is not a substitute for firm-specific experience with regard to monitoring effectiveness. On the other hand, Dhaliwal et al. (2010) examined accounting expertise, finding audit committee monitoring is highest when composed of low-tenured accounting experts. They suggest accounting experts come to a board with sufficient

expertise to perform their role on an audit committee; however, there is no explanation of the reduction in effectiveness during later years.

Finally, while most corporate governance research supports a view that time on a board increases a director's relevant knowledge, with positive consequences for monitoring, a recent argument proposes information asymmetry can enhance monitoring behaviours. Specifically, Brennan, Kirwan, and Redmond (2016) suggest a lack of information requires independent non-executive directors to question, probe and challenge management in order to bridge this information gap. They propose that if an independent non-executive director had full access to information there "would be no important questions to ask at board meetings they could not answer themselves". This implies less experienced directors may, in fact, be just as effective in their monitoring activities as their longer-serving colleagues.

Financial expertise is measured by first coding the independent non-executive director with respect to financial education (i.e., degree and financial experience). Dummy variable is used to get value of financial education including degree and financial expertise of independent non-executive director. For this purpose, different codes are assigned to get value of financial education including degree and financial expertise of independent non-executive director. Code 1 is used when the independent non-executive director has no financial education and experience. Code 2 is employed for financial education only. Code 3 is utilized for financial experience only. Finally, Code 4 is applied when independent non-executive directors have both financial education and experience. After the coding of the financial education and experience of the independent non-

executive director, the financial expertise of independent non-executive directors is calculated using the following mathematical formula.

$$\Delta\left(\frac{IDFE_{ac} - IDFE_{min}}{IDFE_{max} - IDFE_{min}}\right) \geq 0 \qquad (4.17)$$

Where ($IDFE_{ac}$)is the actual number of financial expertise of independent non-executive director among sample family owned firms in a particular year, ($IDFE_{max}$) is the maximum value of financial expertise of independent non-executive director among sample family owned firms and for sample period and ($IDFE_{min}$) is the minimum value of financial of independent non-executive director among sample family owned firms and for sample period.

4.5.2.3 Tenure of Independent non-executive director (IDT)

Independence as a categorization rarely changes over the time a director serves on a board; however, some have posited that independence, as an attribute, is not fixed but reduces over a director's tenure (Dalton, Hitt, Certo, & Dalton, 2007). According to Sutton (2004) "anybody who has been on the board for more than five years has become an insider", countering the argument that long-serving directors possess valuable knowledge by suggesting corporate knowledge is less relevant when there is rapid change.

The cause of reduced independence is generally cited as being a result of close ties formed with management (J. Byrd, Cooperman, & Wolfe, 2010; Vafeas, 2003; Veltrop, Molleman, Hooghiemstra, & van Ees, 2018), as long-serving directors become more concerned with maintaining these ties than meeting their monitoring responsibilities (Davis, 1993; Fink, 2005). As

a result, longer-tenured directors are considered less likely to challenge management and more likely to provide support to managerial proposals, even if they compromise shareholders' interests (Boeker & Goodstein, 1991; Kesner, 1988; Wade, O'Reilly III, & Chandratat, 1990). This viewpoint seems to be shared by investors, who perceive longer-tenured directors as less effective monitors (J. A. Brown, Anderson, Salas, & Ward, 2017; Hillman, Shropshire, Certo, Dalton, & Dalton, 2011).

While the suggestion that tenure reduces independence is widely adopted in the literature and forms the basis of the ongoing policy debate, empirical findings are inconclusive (S. G. Johnson, Schnatterly, & Hill, 2013). Some support for the hypothesis tenure reduces independence has been found in examining the consequences of tenure on CEO compensation. These studies show long-tenured directors more likely to ratify higher levels of CEO pay (J. Byrd et al., 2010; Vafeas, 2003). Following this line of argument, other studies have found a positive relationship between tenure and high levels of CEO compensation when long-tenured directors sit on the remuneration committee (Hoitash, 2011; Vafeas, 2003).

Other studies have examined the effect of tenure on monitoring using measures of financial quality as proxies. While there is some empirical evidence that tenure reduces a director's monitoring of financial statements (Kyonghee Kim et al., 2014; Sharma & Iselin, 2012), more empirical studies have failed to find support for this assertion (e.g. (Bedard et al., 2004; Dhaliwal et al., 2010; J. S. Yang & Krishnan, 2005). On the contrary, these studies highlight the positive

effects of increased tenure and suggest the benefits of gained knowledge offset any decline in independence.

Arguments opposing the assumption that tenure reduces independence are evident within the literature. Under an agency rationale, poor monitoring may lead to labor market penalties (Fama, 1980; Fama & Jensen, 1983b). Thus, directors who are concerned about their reputation are motivated to maintain a high level of control over management in order to gain future board positions (Ertimur, Ferri, & Maber, 2012; E. Kang & Kroll, 2013; Yermack, 2004). These studies argue directors are intrinsically motivated to monitor management, regardless of their time on a board, in order to protect their reputation in the market.

A second opposing view to the central assumption that tenure reduces independence is based on the balance of power on a board. Boards require power to control and monitor management (Pettigrew & McNulty, 1995) and, although the board is legally the most powerful entity in the firm, the timing of a director's appointment to a board can impact the power relationship between a director and the CEO (M. Jensen & Zajac, 2004; Westphal & Zajac, 2013). When a director first joins a board they are dependent on management for information about the firm (Elms, 2017). Directors appointed during a CEO's appointment may also feel beholden to a CEO for their position (L. Bebchuk & Fried, 2004; Hermalin & Weisbach, 1998). Consequently, the literature describes board newcomers as more likely to acquiesce to management and less likely to challenge management, withholding opinions or questions until they are more familiar with management's performance and the firm's internal operations (Beasley, 1996; Dunn, 2004). In

contrast, longer-standing directors who have gained deep corporate knowledge are less dependent on management for information and thereby less susceptible to a CEO's influence, leaving them free to question management and express their opinions (Beasley, Carcello, Hermanson, & Neal, 2009; Donoher, Reed, & Storrud-Barnes, 2007; Finkelstein, Hambrick, & Cannella, 2009; C. W. Hill & Phan, 1991; Kosnik, 1990).

The argument that long-tenured directors are in fact better able to resist management influence has been empirically supported. For example, Kosnik (1990) found boards with long-tenured directors better able to resist greenmail (considered a form of managerial opportunism during a takeover). Beasley (1996) found the likelihood of financial reporting fraud to decrease as the average tenure of directors increases, and Muller-Kahle and Schiehll (2013) found boards with higher tenure were less likely to engage in subprime lending during the US housing price bubble.

In a related stream of literature, some studies have found longer-serving CEOs have greater influence over the board, evident through higher levels of CEO compensation (e.g. (L. A. Bebchuk, Grinstein, & Peyer, 2010; Core, Holthausen, & Larcker, 1999b; Harford & Li, 2007). It follows that longer-serving directors, appointed as a CEO, have greater power and are less susceptible to management pressures (Boeker, 1992; Daily & Dalton, 1995; Dalton & Dalton, 2011; Wade et al., 1990). This alternative perspective suggests the relative tenure of a director compared to that of the CEO may be more important when determining the effects of board tenure on monitoring effectiveness. However, while this view is adopted in some management literature (for example, (Donoher et al., 2007; C. W. Hill & Phan, 1991) it is less common in the economic and accounting

literature, where a director's length of tenure is most often associated with reducing independence, regardless of the CEO's tenure.

Therefore, the independent non-executive director tenure (IDT) in this study is measured by first coding the independent non-executive director with respect to tenure period for which the said independent non-executive director is appointed until its completion (Fahlenbrach, Low, & Stulz, 2017). Dummy variable is used to get value of tenure of independent non-executive director. For this purpose, different codes are assigned to get value of tenure of independent non-executive director. Researcher like K. L. Lee and Pica (2010) and Sonza and Kloeckner (2014) have used shown tenure for independent non-executive director for less of three year in board. While, study like Stuart (2017) has shown tenure of independent non-executive director within range of 15 years or more with in board. Therefore, this study has used Code 1 when independent non-executive directors have tenure of more than five years. Code 2 is applied when the independent non-executive directors have tenure between three years to five years. Code 3 is utilized when independent non-executive directors have tenure of less than three years. Code 4 is employed when independent non-executive directors have tenure of three years (K. L. Lee & Pica, 2010) . After coding the IDTs, the of tenure of independent non-executive director is calculated through the following mathematical formula.

$$\Delta\left(\frac{IDT_{ac} - IDT_{min}}{IDT_{max} - IDT_{min}}\right) \geq 0 \qquad (4.18)$$

Where (IDT_{ac})is the actual value of tenure of independent non-executive director among sample family owned firms in a particular year, (IDT_{max}) is the maximum value of tenure of independent non-executive director among sample family owned firms and for sample period and

(IDT_{min}) is the minimum value of tenure of independent non-executive director among sample family owned firms and for sample period.

4.5.2.4 Independent non-executive director Index (IDI) of family owned firms

This study finally developed an independent non-executive director index (IDI) for family owned firms which includes three dimensions for the measurement of the autonomy of independent non-executive director of family-owned firms. Controlling shareholder in family owned-firm expropriate resources for their interest and exploit the interest of minority shareholder through RPTs (Amzaleg & Barak, 2011b; Azim et al., 2018b; Yuezhao Chen, 2010; Y. Wang, 2010). Independent non-executive director has greater role in mitigating three transfer of resources. Most of researchers like H. Zhou, Owusu-Ansah, and Maggina (2018), Samara and Berbegal-Mirabent (2018), Shin et al. (2018), Fahlenbrach et al. (2017), Nor and Ismail (2017) have used two sub dimension of independency of independent non-executive director i.e. composition of independent non-executive directors (IDC), the financial expertise of independent non-executive directors (IDFC). This study has further used third sub dimension of independent non-executive director i.e. tenure. Therefore, this study has developed index of independent non-executive director showing three sub dimensions i.e. the composition of independent non-executive directors (IDC), the financial expertise of independent non-executive directors (IDFC), and the tenure of the independent non-executive directors (IDT).

Principal Component Analysis (PCA) has used to assign different relative weights to the indices of the three dimensions of Independent non-executive director index (IDI) i.e. composition

of independent non-executive director (IDC), Financial expertise of independent non-executive director (IDFE) and Tenure of independent non-executive director for normalization of data rather than using raw data or actual data. The PCA is a technique of abstracting data from its original position into the reduced form to show as much of the information from the observed data (D. S. Lee, Park, & Vanrolleghem, 2005; Rao, 1964). Three main steps are involved in PCA. First, the covariance matrix is calculated. Second, eigenvalue decomposition is performed on the same covariance matrix. The following equation is using to capture the variance from the data.

$$PC = \alpha_1(x_{11}) + \alpha_2(x_{12}) + \ldots\ldots\ldots\ldots\ldots\ldots + \alpha_{np}(x_p) \qquad (4.19)$$

Where, the symbol α_{np} (principal component) is the regression coefficient of the component variable. Third, the most significant component among all components is selected. By obtaining the percentage value of the contribution of components, the eigenvalue is divided by the sum of all eigenvalues.

The formula for the percentage contribution of a component is as follows:

$$\frac{\lambda_i}{\sum_{j=1}^{M} \lambda_j} \qquad (4.20)$$

There are two main advantages of the PCA technique. Firstly, it overcomes the issue of outlier of data. The problem with using actual data, there are extreme values meaning that small values and large values. Suppose in actual value is 0.02. It is more difficult to this numeric value. If we convert this same numeric value into percentage which is 2%. Now this 2% will give idea about percentage of 2%. It is much easier for reader to understand the interpretation of result.

Further it takes average value of small value i.e. 0 and large value i.e. 90. The average value is 45 in this case. This average value is more inclined to large value. To resolve this issue of outlier in the actual data, the PCA technique has been adopted. This the same techniques of PCA for normalization of data has been used by various researchers in developing human development index under the United Nations Development Program (UNDP) but in different context (Filmer & Pritchett, 2001; Harttgen & Klasen, 2012; Sahn & Stifel, 2003; Sahn & Stifel, 2000). Similarity, same technique has also been established by Javid and Iqbal (2010) for development of the Corporate Governance index development and Alam Khan and Yusof (2017) for development of the Terrorist Economic Impact Evaluation Model (TEIE Model) but in different context. Secondly, it measures the underlying latent information on variables in a block. The relative weights assigned on the basis of PCA explain the relative intensities among the three dimensions of Independent non-executive director during a particular period of time.

Figure 4.1 shows that overall IDI_t is computed as a weighted sum of three sub-dimensions, the composition of independent non-executive directors (IDC), the financial expertise of Independent non-executive director (IDFC), and the tenure of the independent non-executive directors (IDT). The first step in the calculations involve constructing all sub-indices separately by assigning a specific weight to each dimension using the Principal Component Analysis (Filmer & Pritchett, 2001; Harttgen & Klasen, 2012; Sahn & Stifel, 2003; Sahn & Stifel, 2000), Javid and Iqbal (2010) of the CG index development and Alam Khan and Yusof (2017) of the Terrorist Economic Impact Evaluation Model (TEIE Model) development. To calculate the sub-dimensions, the max-min approach of the United Nations Development Program is adopted.

The final step of the methodology of IDI_t index involves adding the weighted indices of the three dimensions of an independent non-executive director and calculating the independent non-executive director score for a particular year. The formula is

$$IDI_t = \Phi\varepsilon + \Omega\kappa + \alpha\Psi + \hat{\lambda}\mu \qquad (4.21)$$

Where $(\Phi\varepsilon)$, $(\Omega\kappa)$, $(\alpha\Psi)$, and $(\hat{\lambda}\mu)$ are the composition of independent non-executive director weight rates in a family owned firms in a specific period of time, financial expertise of non-executive independent non-executive director weight rate, and tenure of non-executive independent non-executive director weight rate respectively. The IDI_t, computed via the Equation (4.21), does not permit for substitutability among the three dimensions and penalizes independent non-executive directors with unequal achievements across these dimensions. Alternatively, IDI_t favors independent non-executive directors with balanced distributions across those dimensions. This study considered this property in constructing the index. The following discussion details the construction of the sub-dimensions of the IDI_t.

$$0 \le IDI_t \le 1 \qquad (4.22)$$

The IDI_t values in equation (4.22) range between 0 and 1 (0 represents the least autonomy of the independent non-executive director, whereas 1 denotes the greatest independence) following the development of Terrorist Economic Impact Evaluation Model (TEIE Model) by Alam Khan and Yusof (2017). The flowchart of IDI_t is shown in Figure 4.1 below.

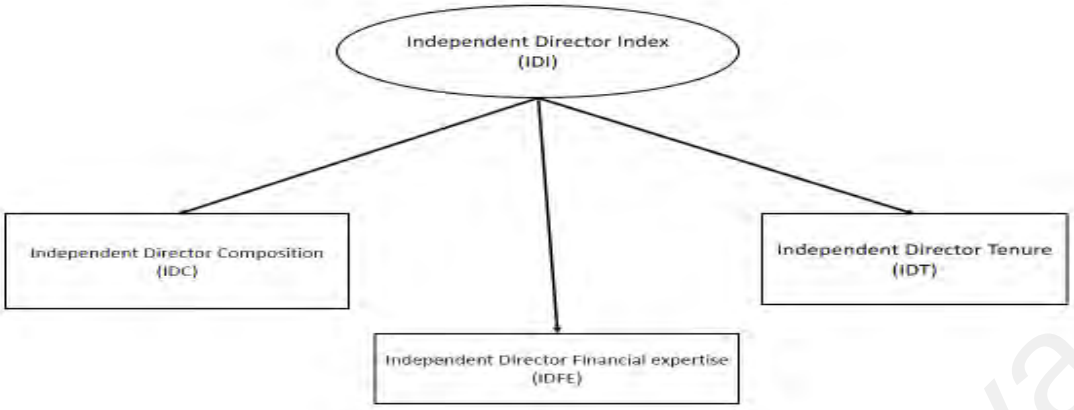

Figure 4-1: Flow Chart of Independent non-executive director Index

4.5.2.5 Family Directorship (FD)

This variable is also a proponent of corporate ownership and the manner in which it affects firm performance. Historically, family-owned firms were successful in cases with a close ownership structure. As increasing investors are sought out, the dynamics of these firms change drastically, and their related implications altered accordingly. The role of the company's directors is essential when it comes to businesses in Pakistan and elsewhere. This variable defines the effect of a director's interest in an organization and whether or not it affects the performance indicators of that organization. Xiaonian and Wang (1997) found that profitability and ownership structures are strongly correlated.

4.5.2.6 Family ownership (FO)

The data on FO is obtained from the shareholding section disclosed in the annual report. FO is calculated in terms of the percentage of total equity owned by each controlling shareholder

(Demsetz & Lehn, 1985; Gulzar & Wang, 2010; Maury, 2006; Wruck, 1989). A controlling shareholder of a firm is an individual or entity with a minimum of 20% voting rights of the firm. Such shareholder has the greatest percentage of voting right relative to other shareholders (Chakrabarty, 2009; de Vries, 1993; La Porta et al., 2000).

Ongore (2011) defined family concentration as a family's ownership pattern, (whether widely or narrowly dispersed) and is measured as the percentage of total shares owned by the top 10 shareholders. The higher this level of concentration, the lower a firm's performance is hypothesized to be, which suggests an overall negative relationship between family concentration and firm performance. This finding is attributed to the lack of tendency of a handful of owners with controlling interest in a company to transfer compensations and assets to private benefits. As soon as a company starts to break down into components that millions of people own, control and ownership become divergent. This dissociation between ownership and control enables the firm's management to implement decisions that are profitable for the company as a whole, instead of those that serve the purpose of the majority shareholders. In these cases, profitability and performance indicators are clearly better with less family concentration. This converts a minimum of 20% of the cash-flow rights and the utmost percentage of rights of cash flow within the firm (Thillainathan, 1999). This 20% of voting rights is considered adequate for controlling the firm (Faccio et al., 2001; R. Porta et al., 1999).

In the context of Pakistan annual reports, the substantial shareholding (i.e., the highest shareholding in the firm held by a family shareholder) is calculated by the summation of the direct and indirect family shareholding of that family shareholder (Afgan, Gugler, & Kunst, 2016b).

These direct and indirect family shareholding include shareholding via nominees or nominee companies as well as holding companies (Javid & Iqbal, 2010). Notes in the annual reports identify a substantial shareholder through the direct family shareholding and how this substantial family shareholder is related to his or her indirect shareholding (Ashraf & Ghani, 2005).

4.5.3 Moderating variable: RPTs

The number of RPTs, which are likely to result in transfer, are calculated from the section on the RPTs in the annual report of firms (Y.-L. Cheung et al., 2006). Various researchers have identified RPTs in family-owned firms (Y.-L. Cheung, Jing, et al., 2009; Y.-L. Cheung et al., 2006; Gordon et al., 2004; Jian & Wong, 2010; M. Kohlbeck & Mayhew, 2010; A. C. H. Lei & Song, 2008; Ryngaert & Thomas, 2012; Srinivasan, 2013; M. P. Williams & Taylor, 2014). As discussed, this research identifies all RPTs between controlling shareholder companies and subsidiaries in 12 different types of RPTs in family-owned Pakistani firms, which are further sub-categorized. Details of this categorization are shown in Appendix A. The two types of RPTs (i.e., benefit-based and expense-based transactions) are ignored while the rest of the 10 RPTs types are addressed by numerous scholars along with their implications. The said RPTs types comprise a category called other types of RPTs. Therefore, this study contributes in identifying the two types of RPTs i.e. RPTs Benefit based and RPTs Expense based. This study categorized all the RPTs into three types which are as follow.

1. Related party transactions benefit based (RPTs Benefit). It includes bonus shares, convertible shares and right issue shares.
2. Related party transactions expense based (RPTs Expense). It includes organizational expense, insurance expense, royalty expense and other expenses.

3. All the other related party transaction are categorized as other RPTs (RPTs Other). It includes ordinary share, dividend, donation, interest, investment, purchases of assets, sale of asset, employee benefit, lease and loan and advance.

4.5.4 Control variables

This study has the following five control variables.

4.5.4.1 Firm size (FS)

Demsetz and Lehn (1985) claimed that firm size is one of the general factors affecting firm performance. Firm size is related to firm assets. The bigger the firm size, the larger the assets of the firm and the higher the market value of the portion of ownership of the shareholder. Hence, firm size can increase firm value. However, minority shareholders are likely less involved in the management of the firm with increasing firm size. Consequently, firm size can decrease firm value. Therefore, firm size is a significant control variable included in this study. The expected sign of firm size can be positive or negative given its association with firm value. In this study, firm size is calculated by taking the natural logarithm of the total assets of the firm (Anderson & Reeb, 2003). The natural logarithm helps reduce the number of outliers in the distribution.

4.5.4.2 Profitability (PM)

Kajola (2008) used the variable net profit margin (PM) to represent the performance variable concerned with a firm's operations. This ratio is especially important because it links core business operations with the generated profit. At the end of a fiscal year, the net PM ratio indicates how well a firm transformed its business activities into retained earnings. The net PM is ideally calculated by dividing the net profit of the firm by its sales revenue for the year. Therefore, this

ratio describes the profit sales relationship, a notion vital for measuring firm performance. For this research, the net PM is calculated for the entire sample and included in the set of dependent variables.

4.5.4.3 Leverage (Lev)

Leverage is any ratio that used to calculate the financial leverage of a company to get an idea of the company's methods of financing or to measure its ability to meet financial obligations (Burki, 2018; Muritala, 2018) . There are several different ways to calculate the ratio. In this study, Leverage is the ratio of long-term debt to total assets.

Leverage= Book value of total liabilities/ book value of total assets

This study has utilized book value measure of leverage as it does not reflect recent changes in the market's valuation of the firm. According to Lang, Ofek, and Stulz (1996) a market value measure of leverage would give too much importance to recent changes in equity values and if a regression is based on market leverage, the market's expectation of growth as reflected in the firm's stock price, producing a negative relation between leverage and growth. Hence, to rule out this factor, this study uses book value to measure leverage. Debt is an important mechanism to force managers to generate cash flows to pay interest and the principal, thereby mitigating agency conflicts created by free cash flows (Shleifer & Vishny, 1997; Yaari, Nikiforov, Kahya, & Shachmurove, 2016). Previous research usually has shown leverage to be negatively related to firm value. High leverage is a big burden for the company and will not produce optimal capital structure (Ahmed Sheikh & Wang, 2011); however, as stated by Francis, LaFond, Olsson, and

Schipper (2005), leverage can also improve company performance by increasing earnings per share (EPS).

4.5.4.4 Firm age (Age)

When determining a firm's age, this study has manually collected the founding year of those companies through their proxy statement (Acharya & Xu, 2017). Some firms have specifically defined founding year, but some do not. If there is no specific founding date, this study choose the earliest year of their earliest formation as their founding date (Kieschnick & Moussawi, 2018).

4.5.4.5 Industry dummies and year dummies

It is widely recognized that CG practices may differ industry wise and with time. For instance, industries are significantly different from each other in different ways including, the line of business, capital structure, complexity of operations, ownership structures, and corporate governance practices (Lim, Matolcsy, & Chow, 2007). In this regard, Deutsche (2002) argued that CG standards differ across the industries. Similarly, Henry (2008) argued that CG practices changes across the firm over time. For instance, Padgett and Shabbir (2005) reported a positive association of time with CG code by examining 350 listed firms of UK. Thus, to capture this potential unobserved heterogeneity and following the prior studies (Akbar, Poletti-Hughes, El-Faitouri, & Shah, 2016; Black, Love, & Rachinsky, 2006; Henry, 2008; Ntim, Opong, & Danbolt, 2012), this thesis employs dummy variables for ten different industries and for eleven years.

Table 4.2: Definitions and measurement of all variable

Independent Variables		Measurement
Independent non-executive directors index (IDI)	1. Composition	The percentage of independent non-executive director in Board
	2. Financial expertise	Dummy Variables are used to get value financial expertise. Code 1 is used when independent non-executive directors have no financial education and financial experience. Code 2 is used for financial education. Code 3 is used only for financial experience. Code 4 is used when independent non-executive directors have both financial education and financial experience Guner et al. (2008).
	3. Tenure	DV are used to get value of independent non-executive director tenure. Code 1 is used when independent non-executive director have tenure more than 5 years. Code 2 is used when independent non-executive director have tenure of 3 years to 5 years. Code 3 is used when independent non-executive director have tenure of less than 3 years. Code 4 is used when independent non-executive director have tenure of 3 years
Family directorship	**FD**	The percentage of family directorship in Board
Family Ownership	**FO**	It is measured in terms of percentage of total equity held by each controlling shareholder
Related Party Transactions	**RPTs**	The number of RPTs, which are likely to result in transfer, are calculated from the section of RPTs reveal in the annual report of firms, Cheung et al., (2006)
Dependent Variable		**Measurement**
Firm performance	**Tobin's Q**	a ratio of market capitalization minus the book value of equity plus total assets, all divided by total assets. (Van Horne, 1998;Brown & Caylor, 2004; Durnev & Kim ,2005;Klapper & Love,2004;Ryngaert & Thomas,2012)
Return on Equity	**ROE**	It is used a financial ratio for measuring the performance of the firm and ability to generate profits from the Shareholder's equity. ROE = Net Income/ Shareholder's equity Masood Fooladi(2011)
Return on Assets	**ROA**	It is a financial ratio that is used for measuring the capability of the firm's assets to generate profits. ROA= Net Income/ Total Assets Masood Fooladi (2011).
Control Variables		**Measurement**
firm Size	**FS**	The log of company's total assets at the end of fiscal year. Al- Shammari et al., (2008); Aharony et al.,(2010) and Kohlbeck & Mayhew, (2010)
Profit Margin	**PM**	The return on assets at the end of year, which is the ratio of net income before tax to average total assets. Hussin and Othman (2012)
Leverage	**LEV**	Leverage is any ratio that used to calculate the financial leverage of a company to get an idea of the company's methods of financing or to measure its ability to meet financial obligations. There are several different ways to calculate the ratio. Leverage is the ratio of long-term debt to total assets. Leverage = Book value of total liabilities/ book value of total assets
Age of firm	**Age of firm**	When determining a firm's age, this study has manually collected the founding year of those companies through their proxy statement.
Industry Dummies	**Industry Dummies**	In this study a dummy variable is employed for each of the ten industry.
Year Dummies	**Year Dummies**	In this study a dummy variable year is employed for each of the eleven year.

4.6 Analysis techniques

This study examines the relationship among CG mechanisms, i.e., IDI (specifically the composition, tenure, and IDFC), family directors, and family of ownership, and firm performance.

The research also examines the moderating effect of RPTs that tend to result in expropriation within these relationships. Information were gathered from published annual reports of 150 family-owned firms from 2004 to 2014 after the execution of the SECP codes in 2002.

Exploratory and confirmatory or empirical analyses are important techniques for data analysis (Diggle & Kenward, 1994). In this research, exploratory analysis includes the methods employed to investigate and view patterns in the annual data of family-owned firms from 2004 to 2014. Conversely, confirmatory or empirical analysis involves the methods employed to obtain the evidence against the hypotheses.

The study conducts content analysis to categorize different types of RPTs, which are likely to result in resource expropriation of firms. Details of the categorization of RPTs are shown in Appendix A. This categorization of RPTs is used in the robustness section in Chapter 5. After cleaning and screening the data, we calculated the averages for each firm based on panel data. Subsequently, the average was determined for all family-owned firms.

Uni-variate and panel regression techniques are employed to analyze and obtain results. The underlying assumptions of the uni-variate analysis must be reviewed prior to statistical testing. After such review, this study estimates both static and dynamic versions of the models using two different estimation methods: Fixed Effect Method (FE) or Random Effect Method (RE) and Generalised Method of Moment (GMM). Dynamic versions of the model are important as they accommodate various conditions that can affect the estimates (Asparouhov, Hamaker, & Muthén,

2018). The GMM approach also seeks to introduce consistency in the presence of heteroskedasticity (E. S. Lin & Chou, 2018).

This study includes all variables in its Fixed Effect or Random effect and Generalised Method of Moment (GMM) regression models to test all predicted hypotheses. All explanatory variables are grouped into the following broad categories (namely, independent non-executive director index, family directorship, family ownership, related party transactions and interaction variables i.e. RPTs Benefit, RPTs Expense and RPTs Other for convenience when results are analyzed and presented in our empirical chapters. This study estimates three models using both the Fixed Effect or Random effect and the Generalised Method of Moment (GMM) estimation methods. Prior to applying the regression techniques, the following sub sections, which describe the major assumptions for Fixed Effect or random Effect and Generalised Method of Moment (GMM) estimations. Furthermore, some previous researchers have showed that the relationship between related party transactions and firm performance in Pakistani family-owned firms be negative or inverted U-shaped (H. Ullah & Shah, 2015). However, Fixed Effects or Random effect estimators used in these studies could suffer from problems arising from endogeneity, serial correlation and heteroscedasticity. In this study, the use of an updated dataset and the Generalised Method of Moment (GMM) estimator could improve the validity of the empirical results.

4.6.1 Fixed effect (FE)

Consider equation (4.23), which represents the various Models i.e. Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b proposed in Section 4.4:

$$Y_{it} = \beta_0 + \theta(Y)_{it} - 1 + \beta_1 (X)_{it} + \varphi (D)_{it} + \varepsilon_{it} \qquad (4.23)$$

Where Xit and Dit represent endogenous and exogenous variables i.e. RPTs Benefit, RPTs Expense, and RPTs Other respectively, ei denotes error term, which includes ηi (firm-level unobserved heterogeneity which is time-invariant within a firm (at least in a short period) but is variant across different firms) and εit (idiosyncratic disturbance). As the correlation between ηi and Xit could be a source of endogeneity, the Fixed Effects estimator addresses the problem by eliminating the effect of ηi. The most common approach is Within Group, which transforms the original equation into a mean-deviation form.

The first step in Within Group is to calculate the average of the panel observations for each individual over time,

$$\acute{Y}_{it} = \beta_0 + \theta\left(\acute{Y}\right)_{it} - 1 + \beta_1 \left(\dot{X}\right)_{it} + \varphi \left(\check{D}\right)_{it} + \bar{u}i + \varepsilon_{it} \qquad (4.24)$$

Since α is the constant, $\alpha = \bar{\alpha}$. In addition, the firm-level unobserved heterogeneity ηi is assumed to be unchanged over time (that is why it is called fixed effect), so ηi should be equal to $\bar{\eta i}$. Thus, subtracting Equation (4.24) from Equation (4.23), we have:

$$\text{Yit} - \text{Y}\,\bar{it} = \left(\text{Yit} - 1 - \acute{\text{Y}}\,\text{it} - 1\right) + \left(\text{Xit} - \text{X}\,\bar{it}\right) + \left(\text{Dit} - \check{\text{D}}\,\text{it}\right) + \left(\varepsilon\text{it} - \bar{\text{i}}\varepsilon\text{it}\right) \qquad (4.25)$$

As time-invariant factors that correlate with independent variables have been wiped out, the error term ($\varepsilon it - \bar{\varepsilon i}\,t$) in Equation (3) now satisfies the assumption (iv). Therefore, the equation (3) can be estimated by the Fixed Effect, which is consistent and converging to the true values as $N \to \infty$ (G. Hill).

Because of the dynamic nature of the relationship between corporate governance and firm performance, it is crucial to include the lagged dependent variable (i.e. $Yit{-}1$) as regressors.

However, the inclusion could result in the dynamic endogeneity problem, which could not be eliminated using Fixed Effects. Specifically, in the time-demeaning equation (3), the error term $(\varepsilon it - \varepsilon \bar{i}\, t)$ = $(\varepsilon it - T{-}1 \Sigma t{=}1)$ contains $\varepsilon it{-}1$ which in turns correlates positively with the term $Yit{-}1$ in $(Yit{-}1 - \bar{Y} i)$. Consequently, at least one regressor still correlates with the error term, even if fixed effects have been driven out. Therefore, the dynamic endogeneity leads to the dynamic panel bias in the Fixed Effects (Nickell, 1981; Rodman, 2009).

4.6.2 Random Effect Models (RE)

Fixed effects estimation is guaranteed to be consistent but not efficient. In contrast, random effects models can be more efficient but they may not be consistent. Random effects models are a weighted average of the within and between regressions previously discussed (Rabe-Hesketh & Skrondal, 2008). This methodology exploits differences between individuals to gain greater efficiency than the fixed-effects method can. In order to do this, the random effects model assumes that the error term is uncorrelated with the regressors (Nichols, 2007). A Hausman test of overidentifying restrictions is used to test to ensure that a random effects model is applicable by comparing the asymptotic variance of the fixed and random effects estimators (Hayashi, 2000). If the Hausman specification test fails, then the fixed effects estimation should be used because the random effects estimation could give biased results.

4.6.3 The Hausman Specification Test: Fixed Effects or Random Effects?

While using panel data has many advantages, in order to study an empirical phenomenon, one needs to decide if to use a fixed effects model or a random effects model. Whether to use one or the other depends on the correlation between the unit effects and the independent variables (Bole

& Rebec, 2013). The standard test to distinguish which model to use is the specification test developed by (Hausman, 1978).

Hausman (1978) specification test essentially suggests to compare β_{GLS} and β_{within} which are both consistent with the null hypothesis when H0: E (μ_{it} | X_{it}) = 0 is true, but with β_{GLS} being inconsistent when H0 is false (Baltagi, 2005). The absence of correlation between the independent variable(s) and the unit effects means that estimates of β should be similar for both fixed effects and random effects models. Hausman test statistic H (given in the equation below) is therefore a comparison between the two (Clark & Linzer, 2015).

$$H = (\beta RE - \beta FE)'[Var(\beta FE) - Var(\beta RE)] - 1 (\beta RE - \beta FE) \qquad (4.26)$$

If the two variables are significantly different, H0 is rejected, implying that the fixed effects model should be used, and vice versa.

4.6.4 Generalized Method of Moments (GMM)

Researchers like Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond (1998) have developed GMM estimators applied to panel data in following situations: First, such estimators are applied when the data involve a short period and a large number of observations (Roodman, 2006a, 2006b; David Roodman, 2009b); Second, when a linear relationship exists; Third, in cases involving an estimation where the dependent variable is dynamic, meaning that its current value depends on its values in previous time periods; Fourth, when independent variables are not strictly exogenous; Finally, when the panel data displays heteroskedasticity and autocorrelation within individuals but not across them (David Roodman, 2009b). The GMM

method is an instrumental variables approach. The instruments include all variables used in the estimation (and previously employed in the Fixed Effect or Random Effect regression). One of the main advantages of this method is its usage to avoid autocorrelation and heteroskedasticity problems, which often plague the standard Fixed Effect or Random Effect method and in turn affects estimation efficiency (Baum, Schaffer, & Stillman, 2003). The heteroskedasticity issue refers to the circumstance wherein the conditional variance of variable X is not constant with that of variable Y. The classical linear regression model assumes that each variable has the same variance or constant (i.e., homoscedastic). Another notable advantage of the GMM method is its provision of a unified framework when analyzing results of other common estimation method such as the Random Effect Method and Fixed Effect Method and the instrumental variables (IV) approach (Kennedy, 2008). The GMM estimator can be identified by including the exact number of instruments as the number of independent variables.

Stata Version 14 software employed in the data analysis includes the Stata Panel data techniques, i.e., Arellano–Bond test for zero autocorrelation in first- difference. This study used Arellano-Bond test for zero autocorrelation in first-difference, which significantly resolved the issue of heteroskedasticity and serial correlation. This technique is discussed in the section on GMM in Chapter 5. Classical linear regression model assumes that the error terms are free from serial correlation or autocorrelation. Therefore, this study chose the GMM model to prevent the issues of autocorrelation and heteroskedasticity.

4.6.5 Validity of system- Generalised Method of Moments (GMM) estimations

The validity of the system-GMM strongly depends on the strength of instrumental variables. For Panel data, essential requirement is exogeneity, which confirms consistency of the estimations. This exogeneity can be measured by the Sargan or Hansen over-identifying restrictions tests, under the null hypothesis that instruments as a group are exogenous. The test statistics shows Chi-squared distribution with degrees of freedom equaling the difference between the number of moment conditions and number of parameters. While the Hansen test is more robust than the Sargan test to heteroscedasticity and autocorrelation, it is significantly weakened by instrument proliferation. However, as can be seen from all results in the Chapters 5 finding and discussion, the number of instruments is well kept to be smaller than the number of groups as suggested by (Rodman, 2009). Therefore, the Hansen test is reasonably employed in this study.

While the Hansen test observes the endogeneity of instruments as a group, the validity of subsets of instruments could also be investigated by the Difference-in-Hansen test. Under the null hypothesis of the exogeneity of instrument subset, the test statistic follows Chi-squared distribution with degrees of freedom equaling the number of suspect instruments. In this study, instrumental variables are divided into two smaller subsets, including IV-style and GMM-style instruments.

Another condition of valid instruments is no autocorrelation in the first-differenced idiosyncratic disturbances $\Delta\varepsilon it = \varepsilon it - \varepsilon it{-}1$. The negative first-order autocorrelation AR(1) is expected, since $\Delta\varepsilon it$ relates to $\Delta\varepsilon it{-}1$ via the shared term $\varepsilon it{-}1$; however the evidence is uninformative (Roodman, 2009a). Therefore, the test of second-order autocorrelation AR(2) or further should be focused on. This study employs the test proposed by Arellano and Bond (1991)

with the null hypothesis of no autocorrelation, which is widely accepted as the standard in testing autocorrelation in GMM. If the nth-order autocorrelation does not present, lags of n or further could be utilized as instruments. Since this study uses lags of 2 to 4, AR(2) tests must be insignificant to ensure the validity of the models. Table 4.3 presents the rules of thumb for post-estimation specification tests of GMM. The validity of system-GMM estimation is assessed through the number of instruments, AR(2), Hansen and Difference-in-Hansen tests. The GMM estimation is considered valid if the number of instruments used is smaller than the number of group, and results of all other tests are insignificant (i.e. p-values are larger than 0.1).

Table 4.3: Standards of post-estimation specification tests of GMM

Tests	Null hypothesis	Standards
AR(2)	No second-order autocorrelation in idiosyncratic errors in differences	Insignificant (p-value > 0.1)
Hansen test	Instruments as a group are exogenous	Insignificant, (p-value > 0.1)
Difference-in-Hansen tests - *GMM instruments for levels* - *IV*	 Instrument subset is exogenous Instrument subset is exogenous	 Insignificant (p-value > 0.1) Insignificant (p-value > 0.1)
The number of instruments		Smaller than the number of groups

4.6.6 Other tests

The following are the other tests used in this study.

4.6.6.1 Endogeneity test

The potential problem of endogeneity exists in empirical studies on ownership concentration to firm value (Andres, 2008). A reverse causality relationship may occur between ownership and firm value. The controlling shareholder keeps their shares in a well-performing

firm while they hand over control in a firm with poor performance. Moreover, controlling shareholders have a high membership in the board of directors, which enables the controlling shareholder to acquire increased information about forecasting future firm performance. Therefore, firm value could be determined by the ownership concentration of the controlling shareholder (Andres, 2008).

However, firm performance is claimed to determine ownership concentration for several reasons. Although major shareholders hold advantageous information regarding the future prospects of firms, presuming that they can forecast the firm performance over the decades appears irrational (De Andres & Vallelado, 2008). Thus, the endogeneity test is conducted to examine the existence of reverse causality. This study applies an augmented regression test, the Durbin–Wu–Hausman (DWH) proposed by Davidson and MacKinnon (1993) to check for endogeneity issues. The test follows a two-step procedure. First, the potential endogenous variable is regressed on all the exogenous variables in the system, and the residuals are calculated. Second, the residuals are used in place of the endogenous variable in the original model. If the coefficient on residual is significant, then the variable is endogenous. The result of the potential candidate for endogeneity includes RPTs Benefit, RPTs Expense, and RPTs Other. These results of DWH test which are shown in section 5.8 of Chapter 5 indicating that these variables are exogenous.

4.6.6.2 Multicollinearity test

For the predicted ownership concentration in family-owned firms, multicollinearity problems are not significantly present among the independent variables in the proposed research Models (Models 1, 2, and 3), as all VIF values are less than five. VIF values less than five means

that multicollinearity problems do not occur in the models (Gujarati & Porter, 1999). The VIF value is less than 10 for the predicted ownership concentration in family-owned firms. Therefore, multicollinearity problems are not present in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b. The VIF values for all the variables in the correlation matrix of family-owned firms are shown in Table 5.2 in Section 5.2 of Chapter 5.

4.6.6.3 Normality test

Skewness and kurtosis determine data normality Pallant (2005) as both are important issues for normality. Skewness and kurtosis values should be zero in normal distribution (Hair, Black, Babin, Anderson, & Tatham, 1998). The analyzed variables require normal distribution in the regression analysis (Gujarati & Porter, 2009b). In this study, most of the distribution variables are skewed to the left or right of the curve. For example, firm size and profitability are highly skewed to the right, whereas ROE is skewed to the left. However, normality issues are relatively common in research that includes non-normal distribution of variables for a large sample size (Pallant, 2005). This argument is supported by researchers like Kleinbaum, Kupper, Muller, and Nizam (1998), Norušis (2000) and Norusis and Statistics (2000) who described variance analysis as not severely dependent on the assumption of normality. This assumption is used in regression when the sample size is large. Consequently, the normality assumption is not extremely violated in this study, which involves a large sample size of panel data.

4.6.6.4 Robustness Testing

The categorization of RPTs that includes family-owned firms may affect potential RPTs and ultimately influence firm performance (Gordon et al., 2004). Such categorization is controlled

through the robustness test for RPTs with 100% family-owned firms. If the effects of the RPTs categorization are uncontrolled, the regression results could be biased (Anderson & Reeb, 2003), which in turn may affect firm performance (Mason, 1939; Miller & Friesen, 1986). In this study, RPTs include only fully family-owned firms. Non-family-owned firms are excluded in the analysis. The categorization of all RPTs (which are wholly constrained to only one type of firms) is examined in family-owned firms. Hence, this robustness test is associated with family-owned firms.

Therefore, this study categorized all RPTs between controlling shareholder companies and subsidiaries in 12 different RPTs types in family-owned Pakistani firms based on Content Analysis for RPTs. Such RPTs types are further sub-categorized. The details of this categorization are shown in Appendix A. As stated, the two RPTs types, benefit-based and expense-based transactions, have been ignored whereas the 10 RPTs types have been discussed by various researchers (Aharony et al., 2010; Yenpao Chen et al., 2009; Gallery et al., 2008; Gordon et al., 2004). This study contributes in identifying the two RPTs types benefit-based and expense-based transactions. Findings from the GMM method about RPTs and CG variables, i.e., (IDI, FD, and FO), are checked through the robustness test in Chapter 5. Actual robustness test results are revealed by introducing three new interaction variables, namely, RPTs Benefit based, RPTs Expense based, and RPTs Other based along with RPTs abnormal, in the section on robustness test results in Chapter 5.

4.7 Conclusion

This chapter examined the numerous issues associated with research methodology, such as research Models (Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b), variable measurements, sampling design, and data analysis techniques (namely the Fixed Effect (FE) or Random Effect (RE) and Generalized Method of Moments (GMM). The panel data of 150 family-owned firms listed on KSE for 11 years are analyzed using Stata software version 14. The study developed an IDI by taking three of its dimensions, i.e., composition, financial expertise, and tenure of independent non-executive directors. The independent variables in this study include CG mechanisms, i.e., independent non-executive director, family director, and family concentration. Dependent variables involve performance measured through market-based (Tobin's Q) and accounting-based (ROA and ROE) means. Control variables include firm Size, profit margin, leverage, age of firm, industry dummies and year dummies. This research also used various Models like Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b to check the effect of CG mechanisms (i.e., independent non-executive director, FD, and family concentration) on firm performance. Model 1 is utilized to assess the effect of CG mechanisms on firm performance as measured through accounting-based ROA. Model 2 is used to check the influence of CG mechanisms on firm performance through accounting-based ROE. Model 3 is applied to evaluate the consequence of CG mechanisms on firm performance through market-based Tobin's Q. This study also assessed the moderating role of RPTs on the relationship between CG mechanisms and firm performance. Moreover, relevant statistical issues and assumptions, endogeneity issues, model selection criteria, and robustness testing are examined in this research. It is argued that the endogeneity of corporate governance variables and RPTs in the relation with firm performance could come from firm level unobserved heterogeneity, simultaneity and/or dynamic endogeneity.

Since traditional Fixed Effects or Random Effect Methods are unable to control completely for all those sources of endogeneity, the well-developed system-Generalised Method of Moment (GMM) is employed. To assess the validity of the GMM estimator, post estimation tests including the Hansen test, the Difference-in-Hansen test and the autocorrelation test should be carried out. The next chapter discusses the research results, descriptive statistics, hypotheses testing, and robustness test outcomes.

CHAPTER 5: FINDING AND DISCUSSION

5.1 Introduction

This chapter consists of the analyses and empirical results presented in thirteen sections. The introduction provides an overview of this chapter. Section 5.2 summarizes the data analyses and results of the IDI. Section 5.3 shows Pre-estimation diagnostic tests including the test for heteroscedasticity and auto-correlation among independent variables without and with an interaction variable (RPTs). Section 5.4 shows the analysis and results of the Random Effect Method. Section 5.5 shows the results of fixed effect methods. Section 5.6 shows test for selection of fixed effect method or random Effect Method. Section 5.7 explain that why Generalized Methods of Moments (GMM) is superior method. Section 5.8 describes the solution of endogeneity problem. Sections 5.9 describe Post-estimation specification tests of Generalized Method of Moments (GMM). Section 5.10 displays the analysis and results of the Generalized Methods of Moments (GMM) including the test of autocorrelation in the first difference for all independent variables without and with an interaction variable (RPTs). Section 5.11 describes discussion of the study. Section 5.12 describes the hypotheses testing, whereas Section 5.13 reveals the summary of the hypotheses. Section 5.14 presents the robustness checks. Finally, Section 5.15 concludes the chapter.

5.2 Descriptive statistics of family Owned Firms

Table 5.1: Descriptive statistics of Family-owned firms

Variable	Minimum	Maximum	Mean	Std. Dev.
Related Party Transaction (RPT_{it})	42.72	55.70	48.69	2.27
Related Party Transaction Benefit (RPTs $Benefit_{it}$)	12.61	15.20	14.26	0.51
Related Party Transaction expense (RPTs $Expense_{it}$)	13.39	20.79	16.57	1.30
Related Party Transaction Other (RPTs $Other_{it}$)	14.14	20.04	17.86	1.26
Related Party Transaction Abnormal (RPT $abnormal_{it}$)	6.408	8.36	7.30	0.34
Independent non-executive director Index (IDI_{it})	0.00	100	29.28	9.71
Family Directorship(FD_{it})	11.37	23.42	16.76	2.22
Family Ownership (FO_{it})	8.02	78.32	44.88	19.36
Tobin's Q (Q_{it})	1.00	35.55	9.02	7.54
Return on Assets (ROA_{it})	0.04	29.12	8.71	7.78
Return on Equity (ROE_{it})	1.00	75.04	21.68	17.37
Profit Margin (PM_{it})	1.00	58.43	12.73	13.66
Firm Size (FS_{it})	7.85	19.48	14.91	1.82
Leverage (Lev_{it})	5.61	26.49	5.96	4.52
Age of firm (Age_{it})	1.57	3.90	11.96	4.52
Industry type	1.34	10.9	6.21	3.28

Note: This table shows the descriptive statistics of the study where RPT_{it}=amount of related party transaction that possibly to result in transfer at year t, RPTs $Benefit_{it}$=amount of rpt benefit based transactions that possibly to result in transfer at year t, RPTs $Expense_{it}$= amount of rpt expense based transactions that possibly to result in transfer at year t, RPTs $Other_{it}$=amount of RPT Other based transaction that possibly to result in transfer at year t, RPT (abnormal) $_{it}$ = amount of abnormal related party transaction that possibly to result in transfer at year t, IDI_{it}= Independent non-executive director index, FD_{it} = Natural log of shareholding by Family member shareholding as director in BOD, FO_{it}= Concentration of Family ownership of major shareholder in the firm at year t, ROA_{it}=Measurement of firm performance based on accounting value by Return On Asset at time t, ROE_{it}=Measurement of firm performance based on accounting value by return on equity at time t, Q_{it}=Measurement of firm performance based on market value by Tobin's Q at time t, Control variables includes FS_{it}=Firm size of firm at year t, PM_{it}= Profitability of firm at year t, $Leverage_{it}$= leverage of firm at year t, Age_{it}= Age of firm at year t and industry type.

Table 5.1 shows the descriptive statistics of RPTs and CG mechanisms, (namely, IDI, FD, and concentration of FO). The mean of the variables determine the overall value of the variables across all the family-owned firms listed on KSE included in the sample. The mean RPTs determine the number of RPTs of the said family-owned firms. All RPTs are categorized in to three types. RPTs Benefit has a mean value of 14.26. RPTs Expense has a mean value of 16.57. RPTs Other have a mean value of 17.86. RPTs (abnormal) has a mean value of 7.30.

The mean board composition determines the number of independent non-executive director of firms (INED). The IDI, which shows the percentage of independent non-executive director

(INED) in the board, has a mean value of 23.95%. This value can be compared to that by Gul (2012) at 15.54%. The FO concentration in the sample in Pakistan is 44.88%. The FD indicates that, on average, every firm has around 16.76% compared with the 24.87% in Gul (2012). The average board size of the sample is around eight directors. Two methods are used to measure the performance of family-owned firms: market- and accounting-based measurements. The average of market-based measurement, i.e., the Tobin's Q is 9.02. The accounting-based measurement has two other types: ROA and ROE. Both are used to measure firm performance. In the sample, the averages of ROA and ROE are 8.71 and 21.68 respectively. These outcomes can be compared with the ROE value calculated by Dar et al. (2011), which is 37.73%.

The average log of assets i.e., the firm size, is 14.92. The average ratio of the PM is 12.73 in the sample. The average ratio of the leverage is 5.96. While, the average ratio of the firm's age and industry type are is 11.96 and 6.21 respectively. The standard deviation compares the overall deviation or divergence that is prevalent in the sample data. This variation determines the diversity of patterns among family-owned firms in the sample. The least extent of deviation is in the ROA, and the most deviation is in the board size. The confidence level reached 95%.

Table 5.2: Correlation Matrix (Family Owned Firms)

	RPTs	RPTs Benefit	RPTs Expense	RPTs Other	RPTs (abnormal)	IDI	FD	FO	roa	roe	Q	PM	FS	lv	age	Industry	VIF
RPTs	1.0																1.14
RPTs Benefit	0.70**	1.0															1.62
RPTs Expense	0.75**	0.42**	1.0														1.25
RPTs Other	0.74*	0.44*	0.16*	1.0													1.24
RPTs (abnormal)	0.78*	0.61*	0.79**	0.71*	1.0												1.31
IDI	0.01*	0.04*	0.03*	-0.03*	0.01**	1.0											1.16
FD	0.33*	0.39**	0.22	0.22*	0.33	-0.04	1.0										1.18
FO	-0.07	-0.02*	-0.14**	0.03	-0.07**	0.09	-0.18**	1.0									1.07
Q	-0.027	-0.01*	-0.04*	-0.02	-0.03*	0.02	-0.06**	-0.06	1.0								-
roa	-0.031**	-0.01*	-0.03*	-0.02	-0.05*	0.25	-0.05**	-0.04	0.09*	1.0							-
roe	0.01*	0.04*	-0.08*	0.04*	0.02*	0.03	-0.08*	-0.03	0.71*	0.73	1.0						
PM	0.01*	0.06*	0.02*	-0.02	0.01	0.14	0.12*	-0.11	0.42	0.41**	0.29*	1.0					1.05
FS	0.17*	0.19*	0.11*	0.09*	0.17	0.08	0.18*	-0.21	0.01*	0.02	-0.17*	0.18*	1.0				1.11
leverage	0.21*	0.22*	0.15*	0.12*	0.21	0.09	0.24*	-0.28	0.12*	0.05	-0.25*	0.15	0.12*	1.0			1.51
Age	0.23**	0.23*	0.19*	0.15**	0.23	0.05	0.18	-0.31*	0.15*	0.30*	-0.45*	0.26	0.45*	0.11	1.0		1.41
Industry type	0.34**	0.34*	0.28*	0.27**	0.34	0.09	0.29	-0.41*	0.15*	0.41*	-0.65*	0.34	0.56*	0.85	0.21	1.0	1.12

Note: this table shows correlation among variables of family owned firms where RPT= related party transactions, RPTs Benefit= related party transaction benefit based, RPTs Expense = related party transactions expense based, RPTs Other= related party transactions other based, RPT (ab)= amount of abnormal related party transaction that possibly to result in transfer at year t, IDI= Independent non-executive director index, FD= Family Directorship, FO= Concentration of Family ownership structure of major shareholder, Q= Tobin's Q, ROA= return on asset, ROE=return on equity, PM= Profit Margin and FS = Firm size, Leverage= leverage of firm at year t, Age= Age of firm at year t and industry type.

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed)

Table 5.2 represents the correlation among the variables and shows the Pearson correlation of the variables used to conduct this research. Pearson correlation aims to measure the extent of multicollinearity among variables. In Table 5.2, the variables are compared horizontally and diagonally to determine their correlation. The relationship among RPTs i.e. RPTs Benefit-based, RPTs Expense-based, RPTs Other-based and RPTs (abnormal) and CG variables (IDI and FD) shows that RPTs Benefit, RPTs Expense and RPTs (abnormal) are positively correlated with IDI and FD. However, RPTs Other is negatively correlated with IDI and positively correlated with FD and FO. Concentration of FO is negatively correlated with RPTs Benefit, RPTs Expense and RPTs (abnormal) and positively correlated with RPTs Other. Similarly, IDI is positively correlated with Q, ROA and ROE whereas FD and FO are negatively correlated with the three firm performances i.e. Q, ROA and ROE. RPTs Benefit is negatively correlated with Q and ROA but positively correlated with ROE, PM, firm size, leverage, age and industry type. RPTs Expense is negatively correlated with Q, ROA, and ROE, but positively correlated with PM, firm size, leverage, age and industry type. Similarly, RPTs Other is negatively correlated with Q, ROA, and PM, but positively correlated with ROE, firm size leverage, age and industry type. Finally, RPTs (abnormal) is negatively correlated with Q and ROA but positively correlated with ROE, PM, firm size leverage, age of firm and industry type.

The last column in Table 5.2 shows the VIF, an important statistic indicating the multicollinearity issue in the research model. The highest value of VIF is 1.62, which suggests that multicollinearity is not significant in this research. Although there is some significant correlation among the variables, the value of multicollinearity should not exceed 0.8 to be significant; hence, the issue of multicollinearity can be ignored in this scenario (Gujrati, 1992).

Result of Index of Independent non-executive director (IDI)

The IDI results of each family-owned firm for a particular period (11 years) are shown in Figure 5.1. The IDI values are provided in Appendix C. The lowest and highest average IDI value is 7.79 and 40.08, respectively, for family-owned Pakistani firms for the studied period. The IDI is also categorized into three levels (lowest, moderate, and highest levels)(Azim et al., 2018a).

The ranges of these levels are as follows.

1. Level 1 is from 0 to 33
2. Level 2 is from 34 to 66.
3. Level 3 is from 67 to 100.

The results of this study demonstrate that among 150 family-owned firms, of which 140 firms fell into the lowest category. Only 10 such firms are classified into the moderate level. This outcome further proves that more than 90% belong in the lowest category, whereas less than 10% fall into the moderate level. The IDI results confirm that the autonomy of independent non-executive directors in family-owned firms is low, which is crucial for the attention of the SECP in connection with the importance of the autonomy of independent non-executive directors (Appendix C) (Azim et al., 2018a).

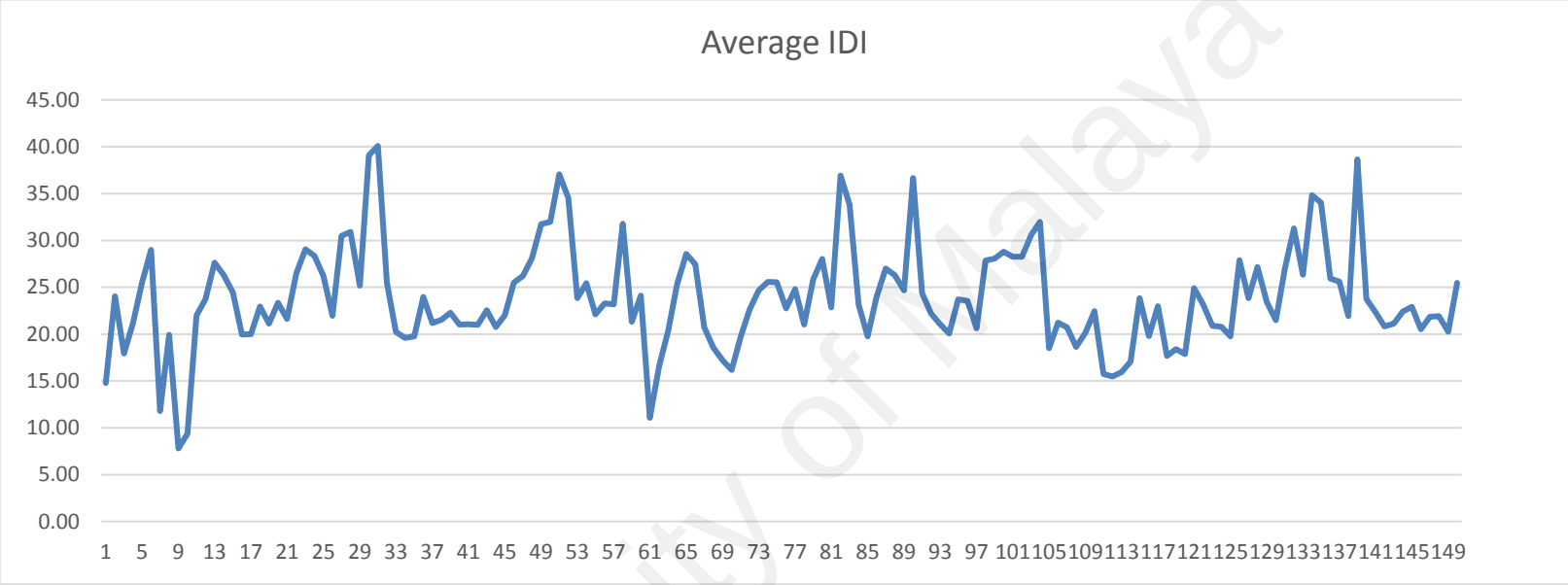

Figure 5-1: Independent non-executive director Index (IDI) of Family Owned Firms by Azim et al. (2018b)

5.3 Random Effect Regression without and with Moderator variable i.e. RPTs

In this section, the data were run through Random Effect Regression method in Stata version 14 without and with a moderating variable (RPTs) in Model 1a, Models 1b, Model 2a, Model 2b, Model 3a and Model 3b employed in Panels A, B, and C, respectively. The dependent variable of Model 1a and Model 1b is ROA. Conversely, the dependent variables of Models 2a, Model 2b, Model 3a and Model 3b are ROE and Tobin's Q, respectively. The results of Model 1a, Models 1b, Model 2a, Model 2b, Model 3a and Model 3b using Random effect regression without and with an interaction or moderating variable (RPTs) are reported in Table 5.3. The details of the variables used in the three models are shown in Table 5.3.

Model 1a and Model 1b of Panel A: Firm performance is function of CG, RPTs, and control variables. Model 1a and Model 1b of Panel A are shown below without and with an interaction variable (RPTs) respectively.

Model 1a: Firm performance without an interaction variable

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Model 1b: Firm performance with an interaction variable

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)\ y$$

Model 2a and Model 2b of Panel B: Firm performance is also a function of CG, RPTs, and control variables. Model 2a and Model 2b of Panel B are shown below without and with an interaction variable (RPTs) respe4ctively.

Model 2a: Firm performance without an interaction variable

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Model 2b: Firm performance with an interaction variable

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)\ y$$

Model 3a and Model 3b of Panel C: Firm performance in this model is a function of CG, RPTs, and control variables. Model 3a and Model 3b of Panel C are shown below without and with an interaction variable (RPTs) respectively.

Model 3a: Firm performance without an interaction variable

$$Q_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Model 3b: Firm performance with an interaction variable

$$Q_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)\ y$$

Table 5.3: RPTs, Corporate Governance and firm performance without and with moderation variable i.e. RPTs

	Panel A		Panel B		Panel C	
	Column(1)	**Column(2)**	**Column(1)**	**Column(2)**	**Column(1)**	**Column(2)**
	Model 1 a	Model 1 b	Model 2 a	Model 2 b	Model 3 a	Model 3 b
	roa	roa	roe	roe	Q	Q
Independent Non-Executive director (IDI)	0.005*	0.074*	0.009*	0.226**	0.008*	0.259*
	(0.004)	(0.076)	(0.051)	(0.934)	(0.021)	(0.380)
FD	-0.003**	-0.335	-0.179**	-0.149*	-0.257**	-0.080
	(0.034)	(0.510)	(0.258)	(4.914)	(0.115)	(2.110)
FO	-0.001***	-0.003	-0.044***	-0.891	-0.028***	-0.351*
	(0.003)	(0.050)	(0.027)	(0.534)	(0.012)	(0.225)
Related Party transactions (RPTs)	-0.008	-0.062	-0.230**	-0.214	-0.035	-0.134
	(0.027)	(0.190)	(0.237)	(1.944)	(0.103)	(0.821)
Profit Margin (PM)	-0.089***	-0.093***	-0.481***	-0.358**	-0.058***	-0.044***
	(0.176)	(0.177)	(1.462)	(1.455)	(0.651)	(0.651)
Firm size (FS)	-0.148***	-0.155***	-0.268***	-0.506***	-0.652***	-0.671***
	(0.307)	(0.309)	(2.556)	(2.544)	(1.138)	(1.138)
Leverage (Lev)	0.057***	0.060***	0.036***	0.044***	0.104***	0.114***
	(0.113)	(0.114)	(0.942)	(0.938)	(0.420)	(0.420)
Age of firm (Age)	0.001***	0.001***	0.029***	0.024***	0.030**	0.030**
	(0.003)	(0.003)	(0.030)	(0.030)	(0.012)	(0.013)
Industry Type	0.121*	0.108*	0.209*	0.005*	0.305*	0.286*
	(0.188)	(0.189)	(1.754)	(1.758)	(0.718)	(0.721)
Year (2005)	-0.279	-0.269	0.299	0.154	-0.425	-0.408
	(0.186)	(0.187)	(1.753)	(1.754)	(0.717)	(0.718)
Year (2006)	-0.213	-0.205	-0.214	-0.445	-0.555	-0.579
	(0.184)	(0.185)	(1.757)	(1.757)	(0.718)	(0.719)
Year (2007)	-0.163	-0.157	-0.058	-0.909	-0.450	-0.456
	(0.180)	(0.181)	(1.758)	(1.757)	(0.718)	(0.719)
Year (2008)	-0.125	-0.123	-0.710	-0.587	-0.386	-0.407
	(0.177)	(0.178)	(1.771)	(1.769)	(0.723)	(0.723)
Year (2009)	-0.060	-0.054	-0.039	-0.807	-0.560	-0.586
	(0.171)	(0.172)	(1.767)	(1.768)	(0.719)	(0.721)
Year (2010)	-0.230	-0.224	0.989**	0.886**	0.449	0.462
	(0.163)	(0.164)	(1.766)	(1.766)	(0.715)	(0.716)
Year (2011)	0.180	0.174	0.314***	0.142***	0.327	0.318**
	(0.152)	(0.153)	(1.766)	(1.766)	(0.707)	(0.708)
Year (2012)	0.144	0.137	0.355**	0.062**	0.724	0.676*
	(0.134)	(0.135)	(1.713)	(1.716)	(0.673)	(0.674)
Year (2013)	0.105	0.096	0.511**	2.132**	0.146	0.205**
	(0.108)	(0.109)	(1.533)	(1.540)	(0.585)	(0.588)
Year (2014)	0.263	0.257	0.059	0.902	0.458	0.452*
	(0.180)	(0.181)	(1.758)	(1.757)	(0.718)	(0.719)
RPT X IDI		0.001*		0.045**		0.005*
		(0.002)		(0.019)		(0.008)
RPT X FD		-0.007		-0.026		-0.017
		(0.010)		(0.100)		(0.043)
RPT X FO		-0.000		-0.019*		-0.008*
		(0.001)		(0.011)		(0.005)
Cons	13.190***	16.656*	42.720***	43.329	17.865***	22.493
Observations	1,650	1,650	1,650	1,650	1,650	1,650
F Statistics	5.52	5.62	3.80	3.92	5.48	5.58
R Square	19.52	20.12	12.85	13.55	16.48	18.25

Note: This table shows the Random effect regression of Model 1, Model 2 and Model 3 where dependent variable is roa= Return on asset, roe= Return on equity, Q= Tobin's Q, while independent variables are IDI=Independent non-executive director index, FD= Family Directorship, FO= Family Ownership, RPT= related party transactions; and control variables are Profit Margin, Firm size, leverage of firm, Age of firm, Industry type and year. * p<0.1;**p<0.05; ***p<0.01

Table 5.3 shows the results for Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b by using Random effect regression without and with an interaction or moderating variable (i.e. RPTs) employed in Panels A, B, and C, respectively.

Panel A of Table 5.3 shows Model 1a and Model 1b without and with moderating variables (RPTs) in Columns (1) and (2), respectively. Model 1a in Column (1) shows results without the moderation of RPTs on the relationship between the ROA and the independent variables (IDI, FD, FO and RPTs). The control variables include firm Size, profit margin, leverage, age of firm, industry type and year from Model 1a. The RPTs in Column (1) of Model 1a is insignificant at a coefficient of –0.008. This outcome suggests that firm performance has a negative yet insignificant relationship with RPTs. The CG variables (IDI, FD, and FO) in Column (1) of Model 1a are significant with coefficients of 0.005, –0.003, and –0.001, respectively. Hence, firm performance has a positive significant relationship with IDI at less than 10%. Similarly, firm performance has a negatively significant relationship with FD and FO 5% and 1% respectively. However, the trend in ROA for Model 1a is insignificant. This finding demonstrates a decrease in firm performance (i.e., ROA) from Year 2005 to Year 2010. While, the trend of firm performance then increased from Year 2011 to Year 2014. The decrease and increase in the firm performance trend calculated through ROA is not significant.

Column (2) of Model 1b of Panel A shows the relationship between the ROA and the independent variables (IDI, FD, FO and RPTs) with the moderation of RPTs. The control variables include firm Size, profit margin, leverage, age of firm, industry type and year from Model 1b. The RPTs in Column (2) of Model 1b is insignificant at a coefficient of –0.062. Such finding demonstrates that firm performance has negatively insignificant relationship with RPTs. The IDI, FD, and FO in Column (2) of Model 1b having

coefficients of 0.074, –0.335, and –0.030 respectively. Thus, firm performance has a positive significant relationship with IDI at less than 10%. By contrast, firm performance has a negatively insignificant relationship with FD and FO. However, all dummy years of Model 1b are insignificant. Hence, a decrease in firm performance trend is noted (i.e. ROA) from Year 2005 to Year 2010. Subsequently, an increase in the ROA trend is observed from Year 2011 to Year 2014. The increase and decrease in the ROA trend are insignificant.

Moderation effect of RPTs with IDI, FD and FO of Model 1b

Column (2) of Model 1 of Panel A describes the interaction or moderating variable (RPTs) with IDI, FD, and FO. The RPTs with IDI has significant coefficients of 0.001. Hence, the interaction variable (RPTs) positively moderates the relationship between IDI and firm performance. The RPTs play a significant positively moderation role between IDI and firm performance. This relationship is positively significant at less than 10%. However, the interaction variable (RPTs) has no moderating role between corporate firm performance and governance variable, i.e. FD and FO.

Panel B of Table 5.3 shows Model 2a and Model 2b without and with moderating variables (RPTs) in Columns (1) and (2), respectively. Column (1) of Model 2a describes the relationship between the ROE and the independent variables (IDI, FD, FO and RPTs) without the moderation of RPTs. The control variables include firm Size, profit margin, leverage, age of firm, industry type and year from Model 2a. The RPTs in Column (1) of Model 2a is significant with a coefficient of –0.230. This result demonstrates that firm performance has a negatively significant relationship with RPTs at less than 5%. CG variables (IDI, FD, and FO) of Column (1) in Model 2 are significant with coefficients of 0.009, –0.179, and –0.044, respectively. Thus, firm performance has a positive significant

relationship with IDI at less than 10%. However, firm performance has a negatively significant relationship with FD and FO at less than 5% and 1%, respectively. However, the ROE trend of Model 2a from Year 2005 to Year 2009 are negatively insignificant. This trend becomes positively significant from Year 2010 to Year 2014. This pattern shows an increased significant trend in firm performance i.e., ROE.

Column (2) of Model 2b of Panel B shows the relationship between the ROE and the independent variables (IDI, FD, FO and RPTs) with the moderation of RPTs. The control variables include firm Size, profit margin, leverage, age of firm, industry type and year from Model 2b. The RPTs in Column (2) of Model 2 is insignificant with a coefficient of –0.214. This finding indicates that firm performance has a negative insignificant relationship with RPTs. The IDI and FD of Column (2) of Model 2b are significant at coefficients of 0.226 and –0.149 respectively. Therefore, firm performance has a positive significant relationship with IDI at less than 5%. By contrast, firm performance has a negatively significant relationship with FD at less than 10%. However, firm performance has a negatively insignificant relationship with FO having coefficients -0.891. The trend of firm performance (i.e., ROE) decreased from Year 2005 to Year 2009. The ROA trend significant increased from Year 2010 to Year 2014.

Moderation effect of RPTs with IDI, FD and FO of Model 2b

Column (2) of Model 2 of Panel B shows an interaction or moderating variable (RPTs) with IDI, FD, and FO. The interaction or moderating variable (RPTs) is significantly correlated with IDI having coefficients 0.045. Thus, the interaction variable (RPT) positively moderates the relationship between IDI and firm performance. The RPTs play a significant positive moderating role between IDI and firm performance. This relationship is positively significant at less than 5%. However, the interaction variable

(RPTs) has no moderating role between corporate firm performance and governance variable (i.e. FD and FO).

Panel C of Table 5.3 shows Model 3a and Model 3b without and with moderating variables (RPTs) in Columns (1) and (2) respectively. Model 3a of Column (1) shows the relationship between Tobin's Q and the independent variables (IDI, FD, FO and RPTs) without the moderation of RPTs. The control variables include firm Size, profit margin, leverage, age of firm, industry type and year from Model 3a. The RPTs in Column (1) of Model 3a is insignificant at a coefficient of –0.035. Hence, firm performance has a negatively insignificant relationship with RPTs. CG variables (IDI, FD, and FO) in Column (1) of Model 3a are significant at coefficients of 0.008, –0.257 and –0.028 respectively. Thus, firm performance has a positive significant relationship with IDI at less than 10%. However, firm performance has a negatively significant relationship with FD and FO at less than 5% and 1%, respectively. However, the trend in Tobin's Q in Model 3a from Year 5 to Year 10 shows an insignificant decrease. The Tobin's Q trend increased from Year 2011 to Year 2014. Thus, the decrease and increase trend in the Tobin's Q is insignificant.

Column (2) of Model 3b of Panel C shows the relationship between the Tobin's Q and the independent variables (IDI, FD, FO and RPTs) with the moderation of RPTs. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 3b. The RPTs in Column (2) of Model 3 is insignificant at a coefficient of –0.134. Therefore, firm performance has a negatively insignificant relationship with RPTs. The IDI of Column (2) of Model 3b is significant with coefficients of 0.259. Hence, firm performance has a positive significant relationship with IDI at less than 10%. Similarly, firm performance has a negatively significant relationship

with FO having coefficient -0.351 at less than 10%. However, firm performance has a negatively insignificant relationship with FD having coefficient -0.080. However, the Tobin's Q trend in Model 3 from Year 5 to Year 2010 shows an insignificant decrease. Thus, the firm performance trend decreased, i.e. Tobin's Q. However, the trend in Tobin's Q of Model 3b from Year 2011 to Year 14 exhibits significant increase. Thus, the firm performance trend notably increased, i.e. Tobin's Q.

Moderation effect of RPT with IDI, FD and FO of Model 3b

Column (2) of Model 3b of Panel C shows the interaction or moderation variable (i.e., RPTs) with IDI, FD, and FO. The interaction or moderation variable (RPTs) is significant with IDI with a coefficient of 0.005. Hence, the interaction variable (RPTs) positively moderates the relationship between IDI and firm performance. The RPTs play a significant positive moderating role between IDI and firm performance. This relationship is positively significant at less than 10%. Conversely, the interaction variable i.e. RPTs negatively moderates the relationship between FO and firm performance. The RPTs exert a significant negative moderation role between FO and firm performance. This relationship is negatively significant at less than 10%. The interaction variable (RPTs) with FD has no moderation role between corporate firm performance and the governance variables (i.e., FD).

5.4 Fixed effect Regression without and with Moderator variable i.e. RPTs

In this section, the data were run through Fixed effect regression method in Stata version 14 without and with a moderating variable (RPTs) in Model 1a, Models 1b, Model 2a, Model 2b, Model 3a and Model 3b employed in Panels A, B, and C, respectively. The dependent variable of Model 1a and Model 1b is ROA. Conversely, the dependent

variables of Models 2a, Model 2b, Model 3a and Model 3b are ROE and Tobin's Q, respectively. The results of Model 1a, Models 1b, Model 2a, Model 2b, Model 3a and Model 3b using Fixed effect regression without and with an interaction or moderating variable (RPTs) are reported in Table 5.4. The details of the variables used in the three models are shown in Table 5.4.

Model 1a and Model 1b of Panel A: Firm performance is function of CG, RPTs, and control variables. Model 1a and Model 1b of Panel A are shown below without and with an interaction variable (RPTs) respectively.

Model 1a: Firm performance without an interaction variable

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Model 1b: Firm performance with an interaction variable

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)\ y$$

Model 2a and Model 2b of Panel B: Firm performance is also a function of CG, RPTs, and control variables. Model 2a and Model 2b of Panel B are shown below without and with an interaction variable (RPTs) respe4ctively.

Model 2a: Firm performance without an interaction variable

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Model 2b: Firm performance with an interaction variable

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)\ y$$

Model 3a and Model 3b of Panel C: Firm performance in this model is a function of CG, RPTs, and control variables. Model 3a and Model 3b of Panel C are shown below without and with an interaction variable (RPTs) respectively.

Model 3a: Firm performance without an interaction variable

$$Q_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Model 3b: Firm performance with an interaction variable

$$Q_{it} = \left(\frac{\delta y}{\delta x1} \frac{\delta y}{\delta x1} \text{-------} \frac{\delta y}{\delta xk} \right) \text{ y}$$

Table 5.4: RPTs, Corporate Governance and firm performance without and with moderation variable i.e. RPTs

	Panel A		Panel B		Panel C	
	Column(1)	**Column(2)**	**Column(1)**	**Column(2)**	**Column(1)**	**Column(2)**
	Model 1 a	Model 1 b	Model 2 a	Model 2 b	Model 3 a	Model 3 b
	roa	roa	roe	roe	Q	Q
Related Party Transactions (RPTs)	-0.113	-0.331	-0.219**	-0.768	-0.088	-0.236
	(0.135)	(0.953)	(0.328)	(2.308)	(0.132)	(0.933)
Independent non-executive director Index (IDI)	0.027*	0.151*	0.055*	0.609**	0.027*	0.205*
	(0.026)	(0.451)	(0.064)	(1.091)	(0.026)	(0.441)
Family Directorship (FD)	-0.151**	-0.267	-0.328**	-0.079*	-0.152**	-0.015*
	(0.157)	(2.538)	(0.382)	(6.145)	(0.154)	(2.483)
Family ownership (FO)	-0.046***	-0.010	-0.001***	-0.599	-0.046***	-0.008*
	(0.014)	(0.264)	(0.035)	(0.639)	(0.014)	(0.258)
Profit Margin (PM)	-0.564***	-0.559***	-0.650***	-0.634***	-0.592***	-0.590***
	(0.674)	(0.675)	(1.636)	(1.635)	(0.660)	(0.661)
Firm size (FS)	-1.899*	-1.890*	-4.754*	-4.711*	-1.925*	-1.920*
	(1.186)	(1.188)	(2.878)	(2.877)	(1.161)	(1.163)
Leverage (Lev)	0.253*	0.252*	0.350*	0.344*	0.259*	0.258*
	(0.217)	(0.218)	(0.527)	(0.527)	(0.213)	(0.213)
Age of firm (Age)	0.018*	0.018*	0.019*	0.019*	0.011*	0.011*
	(0.016)	(0.016)	(0.038)	(0.038)	(0.015)	(0.015)
Industry type	0.019*	0.019*	0.020*	0.020*	0.012*	0.012*
	(0.017)	(0.017)	(0.039)	(0.039)	(0.016)	(0.016)
Year (2005)	-0.165	-0.185	-0.143	-0.458	-0.344	-0.371
	(0.709)	(0.713)	(1.721)	(1.727)	(0.694)	(0.698)
Year (2006)	-0.249	-0.261	-0.020	-0.215	-0.425	-0.442
	(0.708)	(0.710)	(1.718)	(1.720)	(0.693)	(0.695)
Year (2007)	-0.503	-0.521	-1.563	-1.827	-0.584	-0.607
	(0.710)	(0.712)	(1.723)	(1.724)	(0.695)	(0.697)
Year (2008)	-0.456	-0.466	-0.783	0.625	-0.453	-0.466
	(0.711)	(0.712)	(1.724)	(1.724)	(0.695)	(0.697)
Year (2009)	-0.339	-0.349	-1.459	1.356	-0.349	-0.359
	(0.720)	(0.721)	(1.747)	(1.746)	(0.704)	(0.706)
Year (2010)	-0.512	-0.529	1.669	1.445	-0.569	-0.589
	(0.720)	(0.722)	(1.747)	(1.747)	(0.704)	(0.706)
Year (2011)	0.599	0.590	3.468**	3.358*	0.489	0.479
	(0.723)	(0.724)	(1.754)	(1.754)	(0.707)	(0.709)
Year (2012)	0.412	0.400	4.670***	4.522**	0.300	0.287
	(0.735)	(0.736)	(1.783)	(1.783)	(0.719)	(0.720)
Year (2013)	0.806	0.787	3.747**	3.496*	0.698	0.676
	(0.741)	(0.743)	(1.799)	(1.800)	(0.725)	(0.727)
Year (2014)	0.011	0.036	1.912	1.574	0.197	0.227
	(0.757)	(0.760)	(1.837)	(1.840)	(0.741)	(0.744)
RPT X IDI		0.004*		0.054**		0.005*
		(0.009)		(0.022)		(0.009)
RPT X FD		0.009		0.030		0.004
		(0.051)		(0.124)		(0.050)
RPT X FO		-0.001		-0.012		-0.001*
		(0.005)		(0.013)		(0.005)
Cons	17.541**	28.161	60.388***	134.981	17.048**	24.214
	(7.425)	(46.981)	(18.016)	(113.760)	(7.265)	(45.971)
Observations	1,650	1,650	1,650	1,650	1,650	1,650
F Statistics	4.43	4.40	2.79	2.72	4.27	4.23
R Square	15.94	16.07	14.94	15.68	15.14	15.28

Note: This table shows the Fixed effect regression of Model 1, Model 2 and Model 3 where dependent variable is roa= Return on asset, roe= Return on equity, Q= Tobin's Q, while independent variables are IDI=Independent non-executive director index, FD= Family Directorship, FO= Family Ownership, RPT= related party transactions; and control variables are Profit Margin, Firm size, leverage of firm, Age of firm, Industry type and year. * p<0.1;**p<0.05; ***p<0.01

Table 5.4 shows the results for Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b by using Fixed effect regression without and with an interaction or moderating variable (i.e. RPTs) employed in Panels A, B, and C, respectively.

Panel A of Table 5.4 shows Model 1a and Model 1b without and with moderating variables (RPTs) in Columns (1) and (2), respectively. Model 1a in Column (1) shows results without the moderation of RPTs on the relationship between the ROA and the independent variables (IDI, FD, FO and RPTs). The control variables include firm Size, profit margin, leverage, age of firm, industry type and year from Model 1a. The RPTs in Column (1) of Model 1a is insignificant at a coefficient of –0.113. This outcome suggests that firm performance has a negative yet insignificant relationship with RPTs. The CG variables (IDI, FD, and FO) in Column (1) of Model 1a are significant with coefficients of 0.027, –0.151, and –0.046, respectively. Hence, firm performance has a positive significant relationship with IDI at less than 10%. Similarly, firm performance has a negatively significant relationship with FD and FO at 5% and 1% respectively. However, the trend in ROA for Model 1a is insignificant. This finding demonstrates a decrease in firm performance (i.e., ROA) from Year 2005 to Year 2010. While, the trend of firm performance then increased from Year 2011 to Year 2014. The decrease and increase in the firm performance trend calculated through ROA is not significant.

Column (2) of Model 1b of Panel A shows the relationship between the ROA and the independent variables (IDI, FD, FO and RPTs) with the moderation of RPT. The control variables include firm Size, profit margin, leverage, age of firm, industry type and year from Model 1b. The RPTs in Column (2) of Model 1b is insignificant at a coefficient of –0.331. Such finding demonstrates that firm performance has negatively insignificant relationship with RPTs. The IDI, FD, and FO in Column (2) of Model 1b having

coefficients of 0.151, –0.267, and –0.010 respectively. Thus, firm performance has a positive significant relationship with IDI at less than 10%. By contrast, firm performance has a negatively insignificant relationship with FD and FO. However, all dummy years of Model 1b are insignificant. Hence, a decrease in firm performance trend is noted (i.e. ROA) from Year 2005 to Year 2009. Subsequently, an increase in the ROA trend is observed from Year 2010 to Year 2014. The increase and decrease in the ROA trend are insignificant.

Moderation effect of RPTs with IDI, FD and FO of Model 1b

Column (2) of Model 1 of Panel A describes the interaction or moderating variable (RPTs) with IDI, FD, and FO. The RPTs with IDI has significant coefficients of 0.004. Hence, the interaction variable (RPTs) positively moderates the relationship between IDI and firm performance. The RPTs play a significant positively moderation role between IDI and firm performance. This relationship is positively significant at less than 10%. However, the interaction variable (RPTs) has no moderating role between corporate firm performance and governance variable, i.e. FD and FO.

Panel B of Table 5.4 shows Model 2a and Model 2b without and with moderating variables (RPTs) in Columns (1) and (2), respectively. Column (1) of Model 2a describes the relationship between the ROE and the independent variables (IDI, FD, FO and RPTs) without the moderation of RPTs. The control variables include firm Size, profit margin, leverage, age of firm, industry type and year from Model 2a. The RPTs in Column (1) of Model 2a is significant with a coefficient of –0.219. This result demonstrates that firm performance has a negatively significant relationship with RPTs at less than 5%. CG variables (IDI, FD, and FO) of Column (1) in Model 2 are significant with coefficients of 0.055, –0.328, and –0.001, respectively. Thus, firm performance has a positive significant

relationship with IDI at less than 10%. However, firm performance has a negatively significant relationship with FD and FO at less than 5% and 1%, respectively. However, the ROE trend of Model 2a from Year 5 to Year 9 are negatively insignificant. This trend becomes positively significant from Year 2011 to Year 2014 except Year 2010. This pattern shows an increased significant trend in firm performance i.e., ROE.

Column (2) of Model 2b of Panel B shows the relationship between the ROE and the independent variables (IDI, FD, FO and RPTs) with the moderation of RPTs. The control variables include firm Size, profit margin, leverage, age of firm, industry type and year from Model 2b. The RPTs in Column (2) of Model 2 is insignificant with a coefficient of –0.768. This finding indicates that firm performance has a negative insignificant relationship with RPTs. The IDI and FD of Column (2) of Model 2b are significant at coefficients of 0.609 and –0.079 respectively. Therefore, firm performance has a positive significant relationship with IDI at less than 5%. By contrast, firm performance has a negatively significant relationship with FD at less than 5%. However, firm performance has a negatively insignificant relationship with FO having coefficients -0.599. The trend of firm performance (i.e., ROE) decreased from Year 2005 to Year 2009. The ROA trend significant increased from Year 2010 to Year 2014.

Moderation effect of RPTs with IDI, FD and FO of Model 2b

Column (2) of Model 2 of Panel B shows an interaction or moderating variable (RPTs) with IDI, FD, and FO. The interaction or moderating variable (RPTs) is significantly correlated with IDI having coefficients 0.054. Thus, the interaction variable (RPT) positively moderates the relationship between IDI and firm performance. The RPTs play a significant positive moderating role between IDI and firm performance. This relationship is positively significant at less than 5%. However, the interaction variable

(RPTs) has no moderating role between corporate firm performance and governance variable (i.e. FD and FO).

Panel C of Table 5.4 shows Model 3a and Model 3b without and with moderating variables (RPTs) in Columns (1) and (2) respectively. Model 3a of Column (1) shows the relationship between Tobin's Q and the independent variables (IDI, FD, FO and RPTs) without the moderation of RPTs. The control variables include firm Size, profit margin, leverage, age of firm, industry type and year from Model 3a. The RPTs in Column (1) of Model 3a is insignificant at a coefficient of –0.088. Hence, firm performance has a negatively insignificant relationship with RPTs. CG variables (IDI, FD, and FO) in Column (1) of Model 3a are significant at coefficients of 0.027, –0.152 and –0.0.046 respectively. Thus, firm performance has a positive significant relationship with IDI at less than 10%. However, firm performance has a negatively significant relationship with FD and FO at less than 5% and 1%, respectively. However, the trend in Tobin's Q in Model 3a from Year 5 to Year 10 shows an insignificant decrease. The Tobin's Q trend increased from Year 2011 to Year 2014. Thus, the decrease and increase trend in the Tobin's Q is insignificant.

Column (2) of Model 3b of Panel C shows the relationship between the Tobin's Q and the independent variables (IDI, FD, FO and RPTs) with the moderation of RPTs. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 3b. The RPTs in Column (2) of Model 3 is insignificant at a coefficient of –0.236. Therefore, firm performance has a negatively insignificant relationship with RPTs. The IDI of Column (2) of Model 3b is significant with coefficients of 0.205. Hence, firm performance has a positive significant relationship with IDI at less than 10%. Similarly, firm performance has a negatively significant relationship

with FD having coefficient -0.015 at less than 10%. However, firm performance has a negatively insignificant relationship with FO having coefficient -0.008. However, the Tobin's Q trend in Model 3 from Year 5 to Year 2010 shows an insignificant decrease. Thus, the firm performance trend decreased, i.e. Tobin's Q. However, the trend in Tobin's Q of Model 3b from Year 2011 to Year 14 exhibits an insignificant increase. Thus, the firm performance trend notably increased, i.e. Tobin's Q.

Moderation effect of RPT with IDI, FD and FO of Model 3b

Column (2) of Model 3b of Panel C shows the interaction or moderation variable (i.e., RPTs) with IDI, FD, and FO. The interaction or moderation variable (RPTs) is significant with IDI with a coefficient of 0.005. Hence, the interaction variable (RPTs) positively moderates the relationship between IDI and firm performance. The RPTs play a significant positive moderating role between IDI and firm performance. This relationship is positively significant at less than 10%. Conversely, the interaction variable i.e. RPTs negatively moderates the relationship between FO and firm performance. The RPTs exert a significant negative moderation role between FO and firm performance. This relationship is positively significant at less than 10%. The interaction variable (RPTs) with FD has no moderation role between corporate firm performance and the governance variables (i.e., FD).

5.5 Hausman specification Test for selection of fixe Effect Method or Random Effect Method

Table 5.5 shows the Hausman Specification test for all independent variables used in Models 1b, Model 2b and Model 3b with interaction/moderation variable (RPTs). Model 1b indicates the relationship between the ROA and the independent variables (IDI, FD, FO, and RPTs) and the interaction/moderation variable i.e. RPTs with the IDI, FD, and FO. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 1b. Similarly, Model 2b depicts the relationship between the ROE and the independent variables (IDI, FD, FO, and RPTs) and the interaction/moderation variable i.e. RPTs with the IDI, FD, and FO. The control variables include firm Size, profit margin, leverage, age of firm, industry type and year, as employed in Model 2b. Similarly, Model 3b reveals the relationship between Q and the independent variables (IDI, FD, FO, and RPTs) and the interaction /moderation variable i.e. RPTs with IDI, FD, and FO. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year in Model 3b. Therefore, this study has two hypotheses for choosing Fixed effects Model or Random effects Model.

Ho is Random Effect Method is more appropriate.

H_1 is Fixed Effect Method is more appropriate.

Table 5.5: Hausman Test for Model 1a, Model 2b and Model 3b

	Model 1b	Model 2b	Model 3b
	ROA	ROE	Tobin's Q
Chi-squared	83.25	88.72	98.66
p-value	0.0000	0.0000	0.0000

Hausman test of Table 5.5 shows that a fixed effects model is appropriate than Random Effect Model. The reason for choosing fixed Effect Method is that by using of Hausman test shows that chi-squared= 83.25, 88.72 and 98.66 and P-values = 0.0000.

Hausman test for three Model (1b, 2b and 3 b) show the p value which is smaller than 5% significant level. Therefore, the null hypothesis (H_o) is rejected which means Fixed effect Model is a better option than Random effect model for the Panel data of this study.

5.6 Pre-estimation diagnostic tests

Table 5.6 shows the heteroscedasticity (HSK), autocorrelation and endogeneity for all independent variables used in Models 1b, Model 2b and Model 3b with interaction/moderation variable (RPTs). Model 1b indicates the relationship between the ROA and the independent variables (IDI, FD, FO, and RPTs) and the interaction/moderation variable i.e. RPTs with the IDI, FD, and FO. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 1b. Similarly, Model 2b depicts the relationship between the ROE and the independent variables (IDI, FD, FO, and RPTs) and the interaction/moderation variable i.e. RPTs with the IDI, FD, and FO. The control variables include firm Size, profit margin, leverage, age of firm, industry type and year, as employed in Model 2b. Similarly, Model 3b reveals the relationship between Q and the independent variables (IDI, FD, FO, and RPTs) and the interaction /moderation variable i.e. RPTs with IDI, FD, and FO. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year in Model 3b. As the system-GMM is designed to deal with endogeneity, one of the largest challenges in corporate governance empirical study, this subsection is to check the presence of endogenous variables in the Model 1b, Model 2b and Model 3b. In addition, as under heteroscedasticity and autocorrelation, the GMM estimator is more efficient than the Fixed Effects (Jeffrey M Wooldridge, 2001), tests of these problems are also conducted.

The Durbin-Wu-Hausman test is carried out to test the endogeneity under the null hypothesis that the endogenous regressors can be actually treated as exogenous. The test statistic follows Chi-squared ($\chi 2$) distribution with the degrees of freedom equaling the number of suspected endogenous variables. Following Wintoki, Linck, and Netter (2012), in this study all independent variables in three Models i.e. Model (1b), Model (2b) and Model (3b), except Profit Margin, firm size, leverage and age of firm are treated as endogenous in the tests. One-year lagged differences of endogenous variables are employed as instruments. The results in Table 5.6 reject the null hypothesis in all three Models i.e. Model 1, Model 2 and Model 3 with the significance levels of 5% and 10%. This indicates that these regressors as a group should be treated as endogenous. Therefore, the system-GMM should be used because of its superiority in terms of consistency compared to the Fixed Effects or Random Effect.

Furthermore, the test of Breusch and Pagan (1979) for heteroscedasticity and J. M. Wooldridge (2002) test for autocorrelation in panel data are conducted. While the Breusch-Pagan test statistic follows Chi-squared distribution, the Wooldridge test statistic follows F distribution with the null hypotheses of constant variance and no autocorrelation respectively. Table 5.3 shows that both Random Effect method and fixed effect method, this study has problems of endogeneity, heteroscedasticity and auto correlation. There are CG variables like IDI, FD FO and RPTs which were become insignificant in various Models like Model (1b), Model (2b) and Model (3b), when conducting Random Effect and fixed effect. Table 5.3 further shows, all test statistics reject the null hypotheses at the 1% level, showing strong evidence for the existence of both heteroscedasticity and serial correlation in the sample. In order to overcome these problems, this study has further examined all variables in Generalized Method of

Moments (GMM). The use of system- GMM as it is more efficient than Random Effect Method and Fixed Effect Method under these problems.

Table 5.6: Pre-estimation diagnostic tests for Model 1a, Model 2b and Model 3b

	Model 1b	Model 2b	Model 3b
	ROA	ROE	Tobin's Q
Durbin-Wu-Hausman test, null hypothesis: regressors as a group are exogenous			
Chi-squared	$\chi2(8) = 16.76$	$\chi2(10) = 18.25$	$\chi2(8) = 14.61$
p-value	0.0330	0.05083	0.06718
Breusch-Pagan test, null hypothesis: homoscedasticity			
Chi-squared	$\chi2(16) = 105.61$	$\chi2(18) = 515.07$	$\chi2(16) = 72.25$
p-value	0.0000	0.0000	0.0000
Wooldridge test, null hypothesis: no autocorrelation			
F statistic	F(1, 59) = 86.348	F(1, 56) = 70.825	F(1, 59) = 76.978
p-value	0.0000	0.0000	0.0000

5.7 Why Generalized Method of Moments (GMM) is superior in Panel data regression

This study utilized Generalized Method of Moments (GMM) for data analysis, as most of the variables of Corporate Governance, related party transactions and interactions variable i.e. RPTs employed in Model 1a, Model 1b, Model 2a, Model 3a and Model 3 b are insignificant in the Random Effect Method and Fixed Effect Method. The problem of endogeneity, Heteroscedasticity and autocorrelation occurs in Random Effect Method and Fixed method. Thus, in the subsequent section, the Generalized Method of Moments (GMM) is adopted to overcome endogeneity, Heteroscedasticity, and autocorrelation. As mentioned, a chief advantage of this method is that it helps avoid the endogeneity, autocorrelation and Heteroscedasticity problems often encountered by the standard Random Effect Method and Fixed Effect Method, which in turn affects estimation efficiency (Baum et al., 2003). The Heteroscedasticity issue refers to the circumstance wherein the conditional variance of Variable X is not constant with that of Variable Y. The classical linear regression model assumes that each variable has the same variance or constant (i.e., homoskedastic). Another main advantage of the GMM method is that it

provides a unified framework for analyzing the results of other common estimation method, such as the Fixed Effect or Random Effect and IV approaches (Kennedy, 2008). The GMM estimator can be identified by including the exact number of instruments as the number of independent variables. In addition, as under heteroscedasticity and autocorrelation, the Generalized Method of Moments (GMM) estimator is more efficient than Random Effect Method and Fixed Effect Method (Jeffrey M Wooldridge, 2001), tests of these problems are also conducted.

5.8 Solving of Endogeneity Problem

Firm performance is claimed to determine ownership concentration for several reasons. Although major shareholders hold advantageous information regarding the future prospects of firms, presuming that they can forecast the firm performance over the decades appears irrational (De Andres & Vallelado, 2008). Thus, the endogeneity test is conducted to examine the existence of reverse causality. This study applies an augmented regression test, the Durbin–Wu–Hausman (DWH) proposed by Davidson and MacKinnon (1993) to check for endogeneity issues. The test follows a two-step procedure. First, the potential endogenous variable is regressed on all the exogenous variables in the system, and the residuals are calculated. Second, the residuals are used in place of the endogenous variable in the original model. If the coefficient on residual is significant, then the variable is endogenous. The potential candidate for endogeneity in this study includes RPTs Benefit, RPTs Expense, and RPTs Other. Results from the DWH test indicate that these variables are exogenous. The possibility of reverse causality between related party transactions i.e. RPTs benefit based, RPTs Expense based and RPTs Other based with firm value creates the following possible simultaneous equations:

$$1.)\ Q_{it} = \beta_0 + \beta_1(\text{RPTsBenefit})_{it} + \beta_2(RPTsExpense)_{it} + \beta_3(RPTsOther)_{it} + \beta_4(\text{IDI})_{it} + \beta_5(\text{FD})_{it} + \beta_6(\text{FO})_{it} + \beta_7(\text{PM})_{it} + + \beta_8(\text{FS})_{it} + \beta_9(\text{Lev})_{it} + \beta_{10}(\text{Age})_{it} + \beta_{11}(\text{Year})_{it} + \varepsilon_{it} \quad (5.8)$$

$$2)\ \text{RPTsBenefit}_{it} = \alpha_0 + \alpha_1 Q_{it} + \alpha_2 Q_{i(t+1)} + \cdots + \alpha_3 Q_{i(t+n)} + \nu_{it} \quad (5.9)$$

3) $\text{RPTs Expense}_{it} = \alpha_0 + \alpha_1 Q_{it} + \alpha_2 Q_{i(t+1)} + \cdots + \alpha_3 Q_{i(t+n)} + \nu_{it}$ (5.10)

4) $\text{RPTsOther}_{it} = \alpha_0 + \alpha_1 Q_{it} + \alpha_2 Q_{i(t+1)} + \cdots + \alpha_3 Q_{i(t+n)} + \nu_{it}$ (5.11)

5) $ROA_{it} = \beta_0 + \beta_1(\text{RPTsBenefit})_{it} + \beta_2(RPTsExpense)_{it} + \beta_3(RPTsOther)_{it} + \beta_4(\text{IDI})_{it} + \beta_5(\text{FD})_{it} + \beta_6(\text{FO})_{it} + \beta_7(\text{PM})_{it} + + \beta_8(\text{FS})_{it} + \beta_9(\text{Lev})_{it} + \beta_{10}(\text{Age})_{it} + \beta_{11}(\text{Year})_{it} + \varepsilon_{it}$ (5.12)

6) $\text{RPTsBenefit}_{it} = \alpha_0 + \alpha_1 ROA_{it} + \alpha_2 ROA_{i(t+1)} + \cdots + \alpha_3 ROA_{i(t+n)} + \nu_{it}$ (5.13)

7) $\text{RPTs Expense}_{it} = \alpha_0 + \alpha_1 ROA_{it} + \alpha_2 ROA_{i(t+1)} + \cdots + \alpha_3 ROA_{i(t+n)} + \nu_{it}$ (5.14)

8) $\text{RPTsOther}_{it} = \alpha_0 + \alpha_1 ROA_{it} + \alpha_2 ROA_{i(t+1)} + \cdots + \alpha_3 ROA_{i(t+n)} + \nu_{it}$ (5.16)

9) $ROE_{it} = \beta_0 + \beta_1(\text{RPTsBenefit})_{it} + \beta_2(RPTsExpense)_{it} + \beta_3(RPTsOther)_{it} + \beta_4(\text{IDI})_{it} + \beta_5(\text{FD})_{it} + \beta_6(\text{FO})_{it} + \beta_7(\text{PM})_{it} + + \beta_8(\text{FS})_{it} + \beta_9(\text{Lev})_{it} + \beta_{10}(\text{Age})_{it} + \beta_{11}(\text{Year})_{it} + \varepsilon_{it}$ (5.17)

10) $\text{RPTsBenefit}_{it} = \alpha_0 + \alpha_1 ROE_{it} + \alpha_2 ROE_{i(t+1)} \ldots + \alpha_3 ROE_{i(t+n)} + \nu_{it}$ (5.18)

11) $\text{RPTsExpense}_{it} = \alpha_0 + \alpha_1 ROE_{it} + \alpha_2 ROE_{i(t+1)} \ldots + \alpha_3 ROE_{i(t+n)} + \nu_{it}$ (5.19)

12) $\text{RPTsOther}_{it} = \alpha_0 + \alpha_1 ROE_{it} + \alpha_2 ROE_{i(t+1)} \ldots + \alpha_3 ROE_{i(t+n)} + \nu_{it}$ (5.20)

Qit, RPTsBenefit_{it}, RPTs Expense_{it}, RPTs Other_{it} are Endogenous Variables

The rest of variables: Exogenous Variables

Qit: Performance measured by Tobin's Q at time t.

ROE_{it} : Performance measured by Return On Equity at time t.

ROA_{it} : Performance measured by Return On Asset at time t.

RPTsBenefit_{it}: amount of RPT benefit based transactions that result in expropriation at year t.

RPTs Expense_{it}: amount of RPT expense based transactions that result in expropriation at year t.

RPTs Other_{it}: amount of RPT Other based transactions that result in expropriation at year t.

IDI_{it}: Independent non-executive director index of independent non-executive directors in the firm at year t.

FD_{it}: Natural log of amount of shareholding by Family member as director in BoD at year t.

FO_{it}: Concentration of family ownership structure in the firm at year t (%).

PM_{it}: Profitability of firm at year t.

FS_{it} =: Firm size of firm at year t.

Lev_{it} :Financial leverage of firm which is firm financial obligation at time t.

Age_{it} : Age of firm which is founding year of firm

$Industry_{it}$: Industry of family-owned firms at year t.

$YEAR_{yit}$: Year Dummies

μ_{it}: Stochastic error term at year t

ν_{it}: Stochastic error term at time t

n: No. of years

The Hausman Specification Test is performed to test for these endogeneity issues (J. A. Hausman, & Wise, D. A., 1978) for family-owned firms. To run the Hausman Test, first, the following simultaneous equations which exist in this research are identified:

1. $$Q_{it} = \beta_0 + \beta_1(\text{RPTsBenefit})_{it} + \beta_2(RPTsExpense)_{it} + \beta_3(RPTsOther)_{it} + \beta_4(\text{IDI})_{it} + \beta_5(\text{FD})_{it} + \beta_6(\text{FO})_{it} + \beta_7(\text{PM})_{it} + +\beta_8(\text{FS})_{it} + \beta_9(\text{Lev})_{it} + \beta_{10}(\text{Age})_{it} + \beta_{11}(\text{Year})_{it} + \varepsilon_{it} \quad (5.21)$$

2. $$ROA_{it} = \beta_0 + \beta_1(\text{RPTsBenefit})_{it} + \beta_2(RPTsExpense)_{it} + \beta_3(RPTsOther)_{it} + \beta_4(\text{IDI})_{it} + \beta_5(\text{FD})_{it} + \beta_6(\text{FO})_{it} + \beta_7(\text{PM})_{it} + +\beta_8(\text{FS})_{it} + \beta_9(\text{Lev})_{it} + \beta_{10}(\text{Age})_{it} + \beta_{11}(\text{Year})_{it} + \varepsilon_{it} \quad (5.22)$$

3. $$ROE_{it} = \beta_0 + \beta_1(\text{RPTsBenefit})_{it} + \beta_2(RPTsExpense)_{it} + \beta_3(RPTsOther)_{it} + \beta_4(\text{IDI})_{it} + \beta_5(\text{FD})_{it} + \beta_6(\text{FO})_{it} + \beta_7(\text{PM})_{it} + +\beta_8(\text{FS})_{it} + \beta_9(\text{Lev})_{it} + \beta_{10}(\text{Age})_{it} + \beta_{11}(\text{Year})_{it} + \varepsilon_{it} \quad (5.23)$$

Related party transactions model (Gordon and Henery 2005)

1. $\text{RPTsBenefit}_{it} = \beta_0 + \beta_1(\text{FS})_{it} + \beta2(\text{FS})^2_{it} + \beta_3(\text{Profitability})_{it} + \mu_{it}$ (5.24)
2. $\text{RPTs Expense}_{it} = \beta_0 + \beta_1(\text{FS})_{it} + \beta_2(\text{FS})^2_{it} + \beta_3(\text{Profitability})_{it} + \mu_{it}$ (5.25)
3. $\text{RPTs Other}_{it} = \beta_0 + \beta_1(\text{FS})_{it} + \beta_2(\text{FS})^2_{it} + \beta_3(\text{Profitability})_{it} + \mu_{it}$ (5.26)

Qit: Performance measured by Tobin's Q at time t.

ROEit : Performance measured by Return On Equity at time t.

ROAit : Performance measured by Return On Asset at time t.

RPTsBenefit_{it}: amount of RPT benefit based transactions that result in expropriation at year t.

RPTs Expense_{it}: amount of RPT expense based transactions that result in expropriation at yeart.

RPTs Other_{it}: amount of RPT Other based transactions that result in expropriation at year t.

IDI_{it}: Independent non-executive director composition of independent non-executive directors in the firm at year t.

FD_{it}: Natural log of amount of shareholding by Family members as director in BOD at year t.

FO_{it}: Family concentration of controlling shareholder in the firm at year t (%).

Control Variables

PM_{it}: Profitability of firm at year t.

FS_{it} : Firm size of firm at year t.

Lev_{it} :Financial leverage of firm which is firm financial obligation at time t.

Age_{it} : Age of firm which is founding year of firm

Industry_{it} : Industry of family-owned firms at year t.

$YEAR_{yit}$: Year Dummies

μ_{it}: Stochastic error term at year t.

Subsequently, Related Party transactions i.e. RPTs benefit based, RPTs Expense based and RPTs Other based are regressed against all the exogenous variables in the system as shown in the following equations:

1. $$RPTsBenefit_{it} = \beta_0 + \beta_1(\mathrm{IDI})_{it} + \beta_2(FD)_{it} + \beta_3(FO)_{it} + \beta_4(\mathrm{FS})_{it} + \beta_5(\mathrm{FS})2_{it} + \beta_6(\mathrm{PM})_{it} + \beta_7(\mathrm{Lev})_{it} + + \beta_8(\mathrm{Age})_{it} + + \beta_9(\mathrm{Year})_{it} + \varepsilon_{it} \quad (5.27)$$

2. $$RPTsExpense_{it} = \beta_0 + \beta_1(\mathrm{IDI})_{it} + \beta_2(FD)_{it} + \beta_3(FO)_{it} + \beta_4(\mathrm{FS})_{it} + \beta_5(\mathrm{FS})2_{it} + \beta_6(\mathrm{PM})_{it} + \beta_7(\mathrm{Lev})_{it} + + \beta_8(\mathrm{Age})_{it} + + \beta_9(\mathrm{Year})_{it} + \varepsilon_{it} \quad (5.28)$$

3. $$RPTsOther_{it} = \beta_0 + \beta_1(\mathrm{IDI})_{it} + \beta_2(FD)_{it} + \beta_3(FO)_{it} + \beta_4(\mathrm{FS})_{it} + \beta_5(\mathrm{FS})2_{it} + \beta_6(\mathrm{PM})_{it} + \beta_7(\mathrm{Lev})_{it} + + \beta_8(\mathrm{Age})_{it} + + \beta_9(\mathrm{Year})_{it} + \varepsilon_{it} \quad (5.29)$$

From these 3 regression Models i.e. Model 1a, Model 2b and Model 3b, the residual error terms are obtained from the research results and this residual error terms will be an additional independent variable to be inserted into the original family owned-firm model as shown in the research results below. If the coefficient of the residual error term is significant at 1%, 5% or 10% significance level, then, endogeneity between RPTs i.e. (RPTs benefit based, RPTs Expense based and RPTs Other based) and firm value exist within the Model. The following are the Hausman Test results in Table 5.7:

Table 5.7: Hausman Test Results to Test for Endogeneity

	Model 1b	Model 2b	Model 3b
	roa	roe	Q
RPTs	-0.252**	-0.246**	-0.273**
	(0.165)	(0.132)	(1.249)
RPTs Benefit	-0.141*	-0.299*	-0.287***
	(0.125)	(0.496)	(0.509)
RPTs Expense	-0.132*	-0.240**	-0.219*
	(0.112)	(3.382)	(0.133)
RPTs Other	-0.132*	-0.935*	-0.189*
	(0.112)	(0.440)	(0.481)
Independent non-executive director Index (IDI)	0.012**	0.899**	0.006**
	(0.022)	(0.533)	(0.055)
Family Directorship (FD)	-0.236*	-0.974*	0.478*
	(0.170)	(3.976)	(0.550)
Family Ownership (FO)	-0.223*	-0.012*	-0.526*
	(1.004)	(0.012)	(0.350)
Profit Margin (PM)	0.255***	0.135***	0.778***
	(0.507)	(0.469)	(0.448)
Firm size (FS)	-0.359***	-0.580***	-0.786***
	(1.161)	(0.899)	(0.835)
Leverage (Lev)	0.080***	0.469***	-1.043***
	(1.639)	(1.516)	(1.456)
Age of firm (Age)	-0.681***	-0.606***	-0.939***
	(0.496)	(0.511)	(1.084)
Industry type	0.091***	0.090***	0.080**
	(0.034)	(0.024)	(0.018)
RPTs Benefit X IDI	0.355**	-0.707*	-0.905**
	(0.563)	(0.427)	(0.420)
RPTs Benefit X FD	0.770**	-0.291	-0.765
	(0.529)	(0.390)	(0.424)
RPTs Benefit X FO	0.689**	0.207*	-0.293
	(0.481)	(0.400)	(0.384)
RPTs Expense X IDI	0.980*	0.024*	0.242*
	(0.567)	(0.372)	(0.394)
RPTs Expense X FD	0.393	0.479	0.011
	(0.470)	(0.362)	(0.370)
RPTs Expense XFO	0.592*	0.368*	0.504*
	(0.241)	(0.422)	(0.359)
RPTs Other X IDI	0.355**	0.259*	0.544*
	(0.563)	(0.451)	(0.325)
RPTs Other X FD	-0.058	-0.004	-0.271
	(0.039)	(0.013)	(0.451)
RPTs Other X FO	0.512**	-1.148**	-0.019**
	(0.295)	(0.427)	(0.008)
Residual error term (u)	-0.082478	-0.02458	-0.06585
	(0.552)	(0.389)	(1.136)
N	1,650	1,650	1,650
Adjusted R-Squared(%)	22.8828	14.2581	10.2547
F-Statictics	14.23566***	4.28514***	8.52141***
* p<0.1;**p<0.05; ***p<0.01			

The Hausman Test results show that in the family firm regression models, endogeneity exist between RPTs i.e. (RPTs benefit based, RPTs Expense based and RPTs

Other based) and ROE as well as between RPTs i.e. (RPTs benefit based, RPTs Expense based and RPTs Other based) and ROA. This is because the residual error terms in these 2 accounting-based performance measures are significant at 1% and 10% significance level respectively. Below are the summary of the variables as shown below in Table 5.8 which shows Possible Endogeneity between Variables.

Similarly, the Hausman Test results show that in the family owned firm regression Models i.e. Model 1b, Model 2b and Model 3b, endogeneity exist between RPTs i.e. (RPTs benefit based, RPTs Expense based and RPTs Other based) and Tobin's Q. This is because the residual error terms in these two accounting-based performance measures i.e. ROA and ROE are significant at 1% and 10% significance level respectively. Below are the summary of the variables which are used in Table 5.8 showing Possible Endogeneity between Variables.

Table 5.8: Possible Endogeneity in Family Firms Regression Model

Independent variable	Dependent Variable
RPTs benefit based, RPTs Expense based and RPTs Other based	ROA and ROE
Independent variable	Dependent Variable
RPTs benefit based, RPTs Expense based and RPTs Other based	Tobin's Q

With endogeneity issues involved in this research, the instrumental variable (IV) is a suitable variable to be used to eliminate the endogeneity problem (Gujarati & Porter, 2009a). This IV is used to substitute the original Related party transactions (RPTs) variable and it will not have any correlation with the variance of the endogenous variable (i.e. in this case, firm value), hence, resolving the endogeneity problem (Gujarati &

Porter, 2009a). While, Demsetz (1983) argued that the firm's current ownership structure resulted from interactions of decisions of various owners in the value maximizing process. Allowing possible on-the-job consumption of manager positions, the shareholders' decisions to buy a certain number of shares, as well as to become managers themselves or to hire professional managers, depend on which choices could reward them with the highest utility. Supporting this view, Demsetz and Lehn (1985) stated that during the decision-making process, firm owners have already been aware of possible consequences of losing control over managers, as well as associated offsetting benefits such as lower capital acquisition cost, economies of scale and managerial specialization. Thus, if shareholders choose a dispersed ownership structure, they have rationally expected the benefits to be able to offset the costs to ensure the ultimate goal of value maximization. Obviously, these arguments focus on expected firm performance, which is usually measured by Tobin's Q. But backward-looking performance (i.e. accounting profit) is a strong indicator that forms the forward-looking Tobin's Q, because investors always take into consideration past information to form their expectation on the future profitability of firms. As a result of the process, firm performance, regardless of whether it is backward-looking or forward-looking, is expected to have no systematic relationship with ownership structure (Demsetz & Villalonga, 2001).

Since, Demsetz and Lehn (1985) argue that ownership is a function of firm size and risk, the IV utilized in this research is the predicted value of ownership concentration. This value is obtained by regression of the original ownership concentration values against firm size, the square of firm size and firm risk (Anderson & Reeb, 2003; Himmelberg, Hubbard, & Palia, 1999). The IV (i.e. predicted value of ownership concentration) is subsequently substituted into the original research model, replacing the prior ownership concentration values and all the independent variables are regressed

against the firm value again. While, Himmelberg et al. (1999) proposed that another source of endogeneity of ownership structure could be unobserved firm heterogeneities that simultaneously determine both firm performance and managerial ownership structure. They pointed out three examples of unobserved heterogeneity, including monitoring technology, intangible assets and degree of market power. Obviously, superior monitoring technology, high intangible assets and strong market power could positively affect firms' profitability. Meanwhile, firms with better monitoring technology could choose a lower level of managerial ownership while still retaining maximizing value. On the other hand, because intangible assets are harder to monitor compared to tangible assets and easy to be subjected to managerial discretion, firms with a high proportion of intangible assets would call for a higher level of managerial ownership in order to align managers' interest with that of shareholders. It is similar to the case of firms with strong market power, since such firms provide favorable conditions for managers to exploit shareholders. Himmelberg et al. (1999) stated that if these unobserved firm heterogeneities are not well controlled in empirical models, the consequences of omitting variables such as a spurious relationship could arise. De Miguel, Pindado, and De La Torre (2004) carried out model experiments on the sample of 135 Spanish non-financial firms during 1990-1999 and stated that the main source of endogeneity is the simultaneity between ownership and firm performance, rather than time-invariant unobserved heterogeneities. Thus, they suggested that using an IV or Simultaneous Equation Model is more appropriate than Fixed Effects in tackling the endogeneity problem.

Similarly, Demsetz and Villalonga (2001) stated that a source of endogenous ownership structure could be simultaneity. While ownership structure could affect firm performance, it is likely that firm performance could also affect ownership structure, particularly managerial ownership. Information asymmetry creates divergences in firm

performance expectations between insiders (i.e. managers) and outside shareholders, allowing managers to vary their holding of stocks based on their own expectations. An extreme example is leverage buyout, in which non-management shares are significantly purchased by managers who can access inside information and therefore, have distinct expectations about prospective firm performance compared to outside shareholders. On the other hand, stock option compensation for managers is another typical example in which firm performance can affect managerial ownership. Thus, firm performance and ownership structure could be jointly determined. However, it should be noted that assumptions under these arguments include an efficient market, in which investors are well informed (or at least well signaled by the market), shares are freely traded, and the legal protection of minority shareholders and outside shareholders is effective. Thus, under less pleasant conditions of transition markets, these arguments seem to be less powerful. This implies that the endogeneity of ownership structure is less likely to be as clear as in developed countries (Demsetz & Villalonga, 2001).

5.9 Post-estimation Specification tests of Generalized Method of Moments (GMM)

To verify the validity of the Generalised Method of Moments (GMM) in three Models i.e. Model 1b, Model 2b and Model 3b, post-estimation tests are conducted and reported in Table 5.9. Model 1b expresses the relationship between the ROA and the independent variables (RPTs, IDI, FD, and FO) and the interaction/moderation variable (i.e., RPTs) with IDI, FD, and FO. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 1b. Similarly, Model 2b describes the relationship between the ROE and the independent variables (RPTs, IDI, FD, and FO) and the interaction/moderation variable (i.e., RPTs) with IDI, FD, and FO. The control variables are firm Size, profit margin, leverage, age of firm, industry

type and year as employed in Model 2b. Furthermore, Model 3b shows the relationship between Tobin's Q and the independent variables (RPTs, IDI, FD, and FO) and the interaction/moderation variables (i.e., RPTs) with IDI, FD, and FO. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 3b. AR (1) tests' z-statistics are negative in all in three Models i.e. Model 1b, Model 2b and Model 3b, indicating the possible presence of the negative first-order autocorrelation among idiosyncratic disturbances in differences. The negative first-order autocorrelation is statistically significant as expected in three Models i.e. Model 1b, Model 2b and Model 3b. However, the results of AR(1) test are not used to test the validity of Generalised Method of Moments (David Roodman, 2009a). Meanwhile, all z-statistics of the AR (2) tests in three Models i.e. Models 1, Model 2 and Model 3 are insignificant (p-values are 0.1962, 0.7791 and 0.2832 respectively). Therefore, it is not possible to reject the null hypothesis of no second-order serial correlation of idiosyncratic disturbance in differences, indicating the nonexistence of the first-order autocorrelation in their levels. Thus, lags from two periods in levels could be employed as instruments in the differenced equation (D Roodman, 2009). In other words, the results support the choice of lags from 2 to 4 as instruments in this study.

Table 5.9: Post-estimation specification tests of Generalised Method of Moments

	Model 1b		Model 2b		Model 3b	
	ROA	ROA	ROE	ROE	Q	Q
Order	z	Prob > z	z	Prob > z	z	Prob > z
AR (1) in first differences	-6.0471	0.0000	-7.9534	0.0000	-9.578	0.0000
AR (2) in first differences	1.2926	0.1962	-0.28051	0.7791	1.11	0.2832
Number of instruments	81	81	92	92	71	71
Number of groups	150	150	150	150	150	150
Hansen test of over-identifying restrictions	25.66	0.145	28.23	0.182	35.27	0.315
Difference-in-Hansen tests (p-value)						
- *GMM instruments for levels*	0.216		0.456		0.355	
- *IV*	0.781		0.681		0.847	
	H0:no autocorrelation		H0:no autocorrelation		H0: no autocorrelation	

On the other hand, the Hansen tests of over-identification reveal the J-statistics of 25.66 (p-value = 0.145), 28.23 (p-value = 0.182) and 35.27 (p-value = 0.315) in Model 1b, Model 2b and Model 3b respectively. The larger-than-0.1 p-values indicate that the null hypothesis of the exogeneity of all instruments as a group can be accepted. Furthermore, to test the exogeneity of instrument subsets, i.e. GMM-style instruments for levels and IV-style instruments, the Difference-in-Hansen tests are conducted. All p values of the Difference-in-Hansen test statistics in three models are insignificant; therefore, there is no evidence to reject the null hypothesis of exogeneity. So, the results of both the Hansen test and the Difference-in-Hansen test support the exogeneity of instrumental variables used in the three models. Such exogeneity is a crucial characteristic of good instruments. In addition, the number of instruments is kept smaller than the number of groups as recommended by (David Roodman, 2009a). Therefore, possible consequences of too many instruments are more likely to be avoided. In sum, all post-estimation specification tests strongly support the validity of the Models of Generalised Method of Moments. Therefore, this study mainly focuses on results of Generalized Method of Moments (GMM) in subsequent discussions.

5.10 Generalized Method of Moments (GMM) without and with an interaction/ Moderator variable i.e. RPTs

This study applies an alternative estimation technique, the Generalized Method of Moments (GMM) to determine the regression results. Table 5.10 shows the findings of Model 1a, Models 1b, Model 2a, Model 2b, Model 3a, and Model 3b by using GMM panel data technique without interaction variables (i.e., RPTs). Details of the variables used in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a, and Model 3b are shown in Table 5.10.

Model 1a and Model 1b of Panel A: Firm performance is function of CG, RPTs, and control variables. Model 1a and Model 1b of Panel A are shown below without and with an interaction variable (RPTs) respectively.

Model 1a: Firm performance without an interaction variable

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Model 1b: Firm performance with an interaction variable

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Model 2a and Model 2b of Panel B: Firm performance is also a function of CG, RPTs, and control variables. Model 2a and Model 2b of Panel B are shown below without and with an interaction variable (RPTs) respe4ctively.

Model 2a: Firm performance without an interaction variable

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Model 2b: Firm performance with an interaction variable

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Model 3a and Model 3b of Panel C: Firm performance in this model is a function of CG, RPTs, and control variables. Model 3a and Model 3b of Panel C are shown below without and with an interaction variable (RPTs) respectively.

Model 3a: Firm performance without an interaction variable

$$Q_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Model 3b: Firm performance with an interaction variable

$$Q_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Table 5.10: Related Party transactions, Corporate governance and firm performance without interaction variables i.e. RPTs using GMM

	Panel A		Panel B		Panel C	
	Column (1)	(2)	Column (1)	(2)	Column (1)	(2)
	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b
	roa	roa	roe	roe	Q	Q
L.roa/ L.roe/ L.Q	0.416***	0.417***	0.377***	0.376***	0.397***	0.396***
	(0.022)	(0.022)	(0.029)	(0.030)	(0.020)	(0.020)
Related party transactions (RPTs)	-0.188**	-0.433**	-0.124*	-0.934*	-0.159*	-0.258*
	(0.128)	(0.880)	(0.379)	(2.400)	(0.126)	(0.823)
Independent non-executive director index (IDI)	0.012**	0.466*	0.006*	1.334*	0.018*	0.585*
	(0.023)	(0.366)	(0.056)	(0.943)	(0.021)	(0.348)
Family Directorship (FD)	-0.251*	-1.997*	-0.540**	-5.254	-0.247*	-0.273*
	(0.167)	(2.229)	(0.553)	(6.200)	(0.160)	(2.120)
Family Ownership (FO)	-0.019*	-0.573**	-0.055*	-1.350*	-0.013*	-0.571**
	(0.013)	(0.259)	(0.036)	(0.702)	(0.013)	(0.254)
RPT X IDI		-0.010*		0.027*		-0.014*
		(0.007)		(0.019)		(0.007)
RPT X FD		-0.046**		-0.097		-0.031
		(0.045)		(0.127)		(0.043)
RPT X FO		-0.012**		-0.027***		-0.012**
		(0.005)		(0.015)		(0.005)
Profit Margin (PM)	0.219***	0.275***	0.847****	0.928****	0.169***	0.212***
	(0.472)	(0.449)	(0.486)	(0.493)	(0.476)	(0.455)
Firm size (FS)	-0.449***	-0.353***	-1.708**	-1.559***	-0.611***	-0.553***
	(0.837)	(0.797)	(0.973)	(0.971)	(0.841)	(0.805)
Leverage (Lev)	0.196***	0.022***	-1.264***	-1.513***	0.306***	0.179***
	(1.528)	(1.451)	(1.578)	(1.602)	(1.540)	(1.472)
Age of firm (Lev)	0.001***	0.004***	-0.031***	-0.026***	-0.004***	-0.002***
	(0.013)	(0.013)	(0.032)	(0.032)	(0.013)	(0.013)
Industry type	0.002***	0.005***	0.032***	0.027***	0.005***	0.003***
	(0.014)	(0.014)	(0.033)	(0.033)	(0.014)	(0.014)
Year (2005)	-0.706	-0.606	-0.918*	-1.083*	-0.933*	-0.848*
	(0.494)	(0.501)	(1.059)	(1.053)	(0.479)	(0.483)
Year (2006)	-0.494	-0.450	-1.449*	-1.799*	-0.802*	-0.753*
	(0.469)	(0.480)	(1.065)	(1.049)	(0.462)	(0.470)
Year (2007)	-0.311	-0.200	0.945*	0.722*	0.660*	0.540*
	(0.487)	(0.491)	(1.155)	(1.147)	(0.466)	(0.470)
Year (2008)	-0.186	-0.138	0.370*	0.334*	0.491*	0.459*
	(0.490)	(0.499)	(1.289)	(1.316)	(0.496)	(0.500)
Year (2009)	0.375*	0.492*	3.390***	3.214***	0.028*	0.090*
	(0.554)	(0.556)	(1.132)	(1.135)	(0.534)	(0.534)
Year (2010)	0.854*	0.925*	3.254**	3.207**	0.476*	0.549*
	(0.514)	(0.515)	(1.291)	(1.291)	(0.483)	(0.484)
Year (2011)	0.652*	0.781*	2.386**	2.374**	0.235*	0.358*
	(0.480)	(0.486)	(1.095)	(1.120)	(0.463)	(0.466)
Year (2012)	1.033*	1.087*	3.679***	3.438***	0.758*	0.784*
	(0.569)	(0.571)	(1.311)	(1.312)	(0.532)	(0.532)
Year (2013)	0.518*	0.526*	1.813*	1.553*	0.253*	0.292*
	(0.478)	(0.480)	(1.229)	(1.243)	(0.452)	(0.454)
Year (2014)	0.620*	0.098***	1.921*	1.506***	0.150*	0.098***
	(0.368)	(0.006)	(1.387)	(0.255)	(0.415)	(0.006)
Cons	21.083***	-58.186***	37.978***	-60.751**	22.049***	-47.097**
	(7.069)	(43.281)	(22.223)	(116.000)	(7.167)	(40.436)
Number of Groups	150	150	150	150	150	150
Observations	1,650	1,650	1,650	1,650	1,650	1,650

Note: This table shows the Generalized Method of Moment (GMM) regression of Model 1a, Models 1b, Model 2a, Model 2b, Model 3a and Model 3b where dependent variable is roa= Return on asset, roe= Return on equity, Q= Tobin's Q, while independent variables are IDI=Independent non-executive director index, FD= Family Directorship, FO= Family Ownership, RPT= related party transactions; and control variables are PM= Profit Margin, FS= Firm size, Lev= leverage of firm, Age= Age of firm, Industry type and year. * p<0.1;**p<0.05; ***p<0.01

Table 5.10 shows the results of Model 1a, Models 1b, Model 2a, Model 2b, Model 3a and Model 3b by using GMM regression without and with the interaction or

moderation variable (i.e. RPTs) employed in Panels A, B, and C, respectively. Table 5.7 further shows Columns (1) of Panels A, B, and C without the moderation variable (i.e., RPTs) for Model 1a, Model 2a and Model 3a respectively. Columns (2) of Panels A, B, and C present the moderation variable (i.e., RPTs) of Models 1b, Model 2b and Model 3b respectively.

Panel A of Table 5.10 shows Model 1a and Model 1b without and with the moderation variable (i.e., RPTs) in Columns (1) and (2), respectively. Column (1) of Model 1a exhibits the relationship between the ROA and the independent variables (RPTs, IDI, FD and FO) without the moderation of RPTs. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year, as employed in Model 1a. The RPTs in Column (1) of Model 1a is significant with a coefficient of –0.188. Hence, firm performance has a negative significant relationship with RPTs at less than 10%. The negative significant relationship in the GMM regression Model 1a as shown in Table 5.6, suggests that RPTs can explain part of the variation in Return on assets, however, not in the predicted direction (Ariff & Hashim, 2013; Fisman & Wang, 2010; Hasnan, Rahman, & Mahenthiran, 2012; M. J. Kohlbeck, Lee, Mayhew, & Salas, 2018a). This negative association shows that although RPTs might be used to manage earnings or mask firm resources extraction from shareholders, those transactions are not necessarily linked to income smoothing systematically (K. S. Kim, 2018c) . This is also consistent with the hypothesis of transaction cost and agency theory types (II) which shows that RPTs are conflicts of interest that results in expropriation of the minority shareholders by major shareholder in Pakistani family-owned firms that reduces firm performance (M. J. Kohlbeck et al., 2018b; C. Y. Liew, 2013). When RPTs are conducted to manipulate earnings or mask extraction of resources, this might affect accruals or cash flows, but it does not necessarily affect both (Jean Jinghan Chen et al., 2011; Tareq, Houqe, van Zijl, Taylor, & Morley, 2017).

The CG variables (IDI, FD, and FO) in Column (1) of Model 1a are significant with coefficients of 0.012, –0.251, and –0.019 respectively. Thus, firm performance has a positive significant relationship with IDI at less than 10%. This outcome is consistent with the findings of J. W. Byrd and Hickman (1992), Kaplan and Minton (1994) and Conyon and He (2011) and Erkens, Hung, and Matos (2012) who found that appointing outside independent non-executive directors into the board improves the financial performance of firms. This result is also consistent with previous research by Mandala, Kaijage, Aduda, and Iraya (2018) that found a positive association between independent non-executive director and firm performance calculated by ROA. This view is also supported by various researchers that high independency of independent non-executive director are positively related to firm performance calculated by ROA (Shaukat & Trojanowski, 2018; H. Zhou et al., 2018). The results of this study may also be explained in terms of increased access of independent non-executive director to resources of firm (J. Chow, 2016). This higher independency of independent non-executive director may not only increase their access resources of firm but also expand their range of experience which reduces risk to the firm (W. Wei et al., 2018). This enhances corporate governance as a variety of skills, experiences, knowledge and expertise of independent non-executive director can be increased along with their a independency (Assenga, Aly, & Hussainey, 2018).

Similarly, a highly independency of independent non-executive director also may have increased capability to monitor management as the number of independency of independent non-executive director increases (Amran & Ahmad, 2011; Balsmeier, Fleming, & Manso, 2017; Sulong & Nor, 2008). This higher level of oversight may contribute to the positive effect of a highly independency of independent non-executive director on firm calculated by ROA (DeBoskey, Luo, & Wang, 2018). At the same time,

as with any corporate governance mechanism, it must be remembered that each country has its own unique national character, and each corporation has its own unique background, environment and business objectives (Andriof, Waddock, Husted, & Rahman, 2017). Thus what is desirable from a corporate governance perspective in one scenario may not be so in another (Aguilera, Judge, & Terjesen, 2018). For example, highly independency of independent non-executive director in Pakistan may be to accommodate prominent independent non-executive director in board who were retired civil servants or other dignitaries (Sheikh et al., 2018). This is also consistent with most of independent non-executive director have political connection and that why their independency become low as compare to independent non-executive director which has no political connection (Ahmad, Saboor, & Nouman, 2018; M. U. Cheema, Munir, & Su, 2016; M. A. Hashmi, Brahmana, & Lau, 2018; Shahzad Hussain & Amir Shah, 2018; Saeed, Belghitar, & Clark, 2015).

However, this result of positive association of independent non-executive director with firm performance in Pakistan is not consistent with researcher like Q. Yasser et al. (2015) who found positive relationship between independent non-executive director and firm performance. As supported by conflict-of-interest view of Gordon et al. (2004), agency theory of M. C. Jensen and Meckling (1976) and Model of Berle and Means (1932), such findings indicate that independent non-executive directors have a considerable role in minimizing the resource transfers by major shareholder in family-owned Pakistani firms.

While, firm performance calculated by ROA in Column (1) of Model 1a has also negatively significant relationship with FD and FO at 10%. It found a negative relationship of FD with significant effect on firm performance. This negative relation might be due to

poor managerial talent; low expertise of family members as director can result in difficulties in entering new markets and taking new investment opportunities. Improper selection of family members as director will directly or indirectly affect firm performance (Arosa, Iturralde, & Maseda, 2010; Ferris, Jagannathan, & Pritchard, 2003; Yasser, Mamun, & Rodrigs, 2017). Similarly, family directorship acts in its own private interests instead of the company interest, to exploit interest of minority shareholders which will have negative impact on firm performance (Mullins & Holmes, 2018; Rubino, Tenuta, & Cambrea, 2017). This negative impact of family director with firm performance is also consistent with the findings of researchers showing that a family director negatively affects firm performance (Drago, Millo, Ricciuti, & Santella, 2015; J.-T. Wei, Wang, & Wu, 2018).

Similar context in Pakistani family-owned firms, it is consistent with researchers that outside directors accept every decision of top management for saving their jobs (W. Ali, Sandhu, Iqbal, & Tufail, 2016; Sheikh & Ali Shah, 2016). While the negative effect of family ownership with firm performance is consistent with the findings of researchers who found a negative and significant effect of ownership concentration on firm value (Anderson & Reeb, 2003; Sea-Jin Chang & Shim, 2015; Cucculelli & Micucci, 2008; Lopez-Delgado & Dieguez-Soto, 2015; Martínez, Stöhr, & Quiroga, 2007; Minichilli, Brogi, & Calabrò, 2016). This result shows that higher ownership concentration could induce the prioritization of self-interest by large shareholders and the consequent expropriation of firm resources (i.e. wealth) through RPTs resulting in decreased firm performance in Pakistani family-owned firms (Iqbal & Javaid, 2017; W. Ullah et al., 2017) .

Similarly, with concentrated ownership there is more incentive for majority/dominant shareholders to avoid information disclosure and such firms are likely to have weak monitoring controls (which facilitate expropriation), reducing the management's ability to take value-maximizing investment decisions leading to lower firm performance (Chin, Tang,

& Ahmad, 2017; Terlaak, Kim, & Roh, 2018). The negative impact of concentrated ownership might be attributed to the opportunities for nepotism that arise from it (P. C. Patel & Cooper, 2014). Family owned firms in developing countries (including Pakistan) are characterized by high concentration of ownership, often in the form of family-controlled businesses (Bhat, Chen, Jebran, & Bhutto, 2018a). In family-controlled firms the desire of majority shareholders is to pass on control and majority ownership of the firm to subsequent generations (Mazzi, 2011). Another reason for this relationship might be the behavior of each large shareholder which influences the impacts of other kinds of various large shareholders (Tam & Tan, 2007). In the Pakistani context, such result is consistent with researchers who revealed that concentrated ownership structure has a negative relationship with firm performance (Afgan, Gugler, & Kunst, 2016a; J. Khan, Ahsan, & Malik, 2016; Usman, Akhter, & Akhtar, 2015). However, the ROA trends in Model 1a are insignificant decreased except for 2010 and 2012. Thus, firm performance (i.e., ROA) decreased from Year 2005 to Year 2008 when a significant decrease occurred. Then, the ROA trend increased from Year 2009 to Year 2014 when a significant increase occurred.

Column (2) of Model 1b of Panel A shows the relationship between the ROA and the independent variables (RPTs, IDI, FD and FO) with the moderation of RPTs. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year, as employed in Model 1b. The RPTs in Column (2) of Model 1b is significant with a coefficient of -0.433. Therefore, firm performance has a negative significant relationship with RPTs at less than 5%. The negative significant relationship in the GMM regression Model 1b as shown in Table 5.6, suggests that RPTs can explain part of the variation in Return on assets, however, not in the predicted direction (Berkman et al., 2009; Sea Jin Chang & Hong, 2000; Maheshwari & Gupta, 2018). This negative association shows that although RPTs might be used to manage earnings or mask firm resources extraction from shareholders, those RPTs have impact on income

(KhosroKhah, Salari, & Amiri, 2018). This is also consistent with the hypothesis of transaction cost and agency theory types (II) which shows that RPTs are conflicts of interest that results in expropriation of the minority shareholders by major shareholder in Pakistani family-owned firms that reduces firm performance (Ilmas, Tahir, & Asrar-ul-Haq, 2018; Nazir & Afza, 2018). In Pakistani family owned firms, Related party transactions that is used by major shareholder for transfer of resources affect cash flow right (Shahid Hussain & Safdar, 2018; M. H. Shah, Zuoping, Abdullah, & Shah, 2018a).

Similarly, the IDI, FD, and FO in Column (2) of Model 1b are significant with coefficients of 0.466, –1.997, and –0.573 respectively. Thus, firm performance has a positive significant relationship with IDI at less than 10%. This result is consistent with that by Kaplan and Reishus (1990), Brickley et al. (1994), and Alhaji et al. (2012) who identified the positive effect of appointing outside independent non-executive directors into the board. This is also consistent with previous research that found a positive relationship between independent non-executive director and firm performance calculated by ROA (Terjesen, Couto, & Francisco, 2016). This results is also consistent empirically with previous researchers like Mandala et al. (2018), Arora and Sharma (2016), Leung, Richardson, and Jaggi (2014) and O'connell and Cramer (2010) that support this view that high independency of independent non-executive director were positively related to firm performance calculated by ROA.

While, firm performance calculated by ROA in Column (2) of Model 1b has a negatively significant relationship with FD and FO at less than 10% and 5%, respectively. It found a negative relationship of FD with significant effect on firm performance. This negative relation might be due to poor managerial talent; low expertise of family members as director can result in difficulties in entering new markets and taking new investment opportunities. Inappropriate selection of family members as director will directly or indirectly

affect firm performance (Bloom & Van Reenen, 2007; Gulbrandsen, 2005, 2009). In other words, family directorship acts in its own private interests instead of the company interest, to the detriment of minority shareholders which will result in lower firm performance (J.-T. Wei et al., 2018). This negative effect of family director with firm performance is also consistent with the findings by Morck et al. (1988) and Morck and Yeung (2003) showing that a family director negatively affects firm performance. This finding can be attributed to the possibility that outside directors may lose their jobs if they contradict top management decisions that serve their interest in Pakistani family-owned firms (Mahmood, Kouser, Ali, Ahmad, & Salman, 2018).

The negative effect of family ownership with firm performance is consistent with the findings of researchers like Mohan and Chandramohan (2018), Owusu and Weir (2018), Dyck and Zingales (2004), Lehmann and Weigand (2000), Z Chen and Cheung (2000), Mudambi and Nicosia (1998), Leech and Leahy (1991), and McConnell and Servaes (1990) who found a negative and significant effect of ownership concentration on firm value. This result shows that higher ownership concentration could induce the prioritization of self-interest by large shareholders and the consequent expropriation of firm resources (i.e. wealth) through RPTs resulting in decreased firm performance (Bona-Sanchez, Fernández-Senra, & Perez-Aleman, 2017). In other words, with concentrated ownership there is more incentive for majority/dominant shareholders to avoid information disclosure and such firms are likely to have weak monitoring controls (which facilitate expropriation), reducing the management's ability to take value-maximizing investment decisions leading to lower firm performance (Feng, Chen, & Tang, 2018).

Therefore, results of this study are inconsistent with the efficient monitoring hypothesis and the findings of Stiglitz (1985), Shleifer and Vishny (1986) and Leech and Leahy (1991) that show that large and controlling shareholders contribute to the mitigation

of the agency problems because they have the incentives, motivations and capacity to monitor the managers for the benefit of the shareholders. The negative impact of concentrated ownership might be attributed to the opportunities for nepotism that arise from it (Parise, Leone, & Sommavilla, 2017). Family owned firms in developing countries (including Pakistan) are characterized by high concentration of ownership, often in the form of family-controlled businesses (Azim et al., 2018b) . In family-controlled firms the desire of majority shareholders is to pass on control and majority ownership of the firm to subsequent generations (Bhaumik & Gregoriou, 2010). Another reason for this relationship might be the behavior of each large shareholder which influences the impacts of other kinds of various large shareholders (Barclay & Holderness, 1989; Hoskisson, Hitt, Johnson, & Grossman, 2002). In the Pakistani context, such result is consistent with that of Abdullah et al. (2011) and Irshad et al. (2015) who demonstrated that concentrated ownership structure has a negative relationship with firm performance. However, all dummy years of Model 1b are significant except Year 2005 to Year 2008. Hence, firm performance (i.e., ROA) trend decreased from Year 2005 to Year 2008. Subsequently, significantly increased in the ROA trend transpired from 2009 to 2014. While, decrease in the ROA trends are insignificant.

Moderation effect of RPTs with IDI, FD and FO of Model 1b

Column (2) of Model 1b of Panel A shows the interaction or moderation variable (i.e., RPTs) with IDI, FD, and FO. The moderation variable (i.e., RPTs) have significant coefficients with IDI (–0.010), and FD (–0.046) and FO (–0.012). Thus, the interaction variable (i.e., RPTs) negatively moderates the relationship between IDI and firm performance. The RPTs play a significant negative moderation role between IDI and firm performance. This relationship is negatively significant at less than 10%. Moreover, RPTs significantly and negatively moderate the relationship between FD and firm performance

at less than 5%. Similarly, RPTs significantly and negatively moderates the relationship between FO and firm performance at less than 5%.

Panel B of Table 5.10 describes Model 2a and Model 2b without and with moderation variables (i.e., RPTs) in Columns (1) and (2), respectively. Column (1) of Model 2a shows the relationship between the ROE and the independent variables, (RPTs, IDI, FD and FO) without the moderation of RPTs. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 2a. The RPTs in Column (1) of Model 2a is significant with a coefficient of -0.124. Thus, firm performance has a negatively significant relationship with RPTs at less than 10%. This negative association shows that although RPTs might be used to manage earnings or mask firm resources extraction from shareholders, those RPTs have negative effect impact firm performance (R. Ali, Liu, & Niazi, 2017; Noor & Rosyid, 2018; RAJNOHA, MERKOVÁ, DOBROVIČ, & RÓZSA, 2018; Q. R. Yasser, H. A. Entebang, & S. A. Mansor, 2015). This is also consistent with the hypothesis of transaction cost and agency theory types (II) which shows that RPTs are conflicts of interest that results in expropriation of the minority shareholders by major shareholder in Pakistani family-owned firms that lower firm performance calculated by ROE. In Pakistani family owned firms, related party transactions that is utilized by major shareholder for transfer of resources affect cash flow right of minority shareholder.

Similarly, CG variables (i.e., IDI, FD, and FO) in Column (1) of Model 2a are significant with coefficients of 0.006, –0.540, and –0.055, respectively. Thus, firm performance has a positive significant relationship with IDI at less than 10%. The result is consistent with the monitoring hypothesis of agency theory, which holds that the presence of a larger proportion of INEDs in the board adds value to the firm by providing the firm with independent decisions and judgments (Cadbury, 1992; Chhaochharia & Grinstein, 2009)

playing an important role in the board as a source of experience, monitoring services, reputation and expert knowledge (Pathan, Skully, & Wickramanayake, 2007). This is consistent with result of researcher like Dehaene, De Vuyst, and Ooghe (2001) who found the evidence that significant positive relationship between the number of external directors and return on equity (ROE). This is also consistent with previous research like Shaukat and Trojanowski (2018) who found a positive association between independent non-executive director and firm performance calculated by ROE. This view of association between independent non-executive directors is also supported by various researchers like Velnampy (2013), Low, Roberts, and Whiting (2015) that high independency of independent non-executive director were positively related to firm performance calculated by ROE. The results in this study may be explained in terms of increased access. High independency of independent non-executive director may increase the firm's access to resources, as well expand the range of experience independency of independent non-executive director which reduces risk to the firm (James, Singh, & Goyal, 2018). This enhances corporate governance as a variety of skills, experiences, knowledge and expertise can be had with a independency of independent non-executive director (Q. Yasser et al., 2015).

Similarly, this highly independency of independent non-executive director also may have increased capability to monitor management as the number of independency of independent non-executive director increases (Q. Yasser et al., 2015). This higher level of oversight may contribute to the positive effect of a highly independency of independent non-executive director on firm performance calculated by ROE (Qureshi & Mahmood, 2018). At the same time, as with any corporate governance mechanism, it must be remembered that each country has its own unique national character, and each corporation has its own unique background, environment and business objectives (Haniffa & Hudaib,

2006). For example, in Pakistan, highly independency of independent non-executive director may be to accommodate prominent independent non-executive director in board who were government functionaries or retired civil servants (Agyei-Mensah, 2016). The results of this is also consistent with result of researcher like Wajid and Shah (2017) about the effect of ownership structure on firm performance in emerging market like Pakistan which suggest that concentrated ownership at board show weak performance and presence of independent non-executive directors in board perform better.

While, firm performance calculated by ROE in Column (1) of Model 2a has a negatively significant relationship with FD and FO at less than 5% and 10%, respectively. It found a negative significant relationship of family directorship with firm performance. Similar context in Pakistani family-owned firms, it is consistent with researchers that outside directors accept every decision of Major shareholder for their self-interest. While the negative effect of family ownership with firm performance is consistent with the findings of researchers who found a negative and significant effect of ownership concentration on firm value. In the Pakistani context, such result is consistent with researchers who showed that concentrated ownership structure has a negative relationship with firm performance calculated by ROE. Nevertheless, the ROE trend of Model 2a from Year 5 to the Year 2006 is insignificant. This trend becomes positive from Year 2007 to Year 2014. Thus, firm performance (i.e., ROE) trend significantly increased from Year 2007 to 2014.

Column (2) of Model 2b of Panel B exhibits the relationship between the ROE and the independent variables (RPTs, IDI, FD, FO) with the moderation of RPTs. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year, as employed in Model 2b. The RPTs in Column (2) of Model 2b is significant with

a coefficient of –0.934. Therefore, firm performance has a negative significant relationship with RPTs at less than 10%. This negative relationship shows that although RPTs might be used to exploit the resources by Major shareholder, those RPTs have negative effect impact firm performance (ElGammal, El-Kassar, & Canaan Messarra, 2018; Ilmas et al., 2018; Kamran, Zhao, Ali, & Sabir, 2018; Rosyid & Irawan Noor, 2018). CG variables (IDI, FD, and FO) in Column (2) of Model 2b are significant with coefficients of 1.334, –5.254, and –1.350, respectively. Hence, firm performance has a positive significant relationship with IDI at less than 10%. This is also consistent with previous research like Sahi and Aslam (2018) that found positive relationship between independent non-executive director and firm performance calculated by ROE. This positive relationship shows that independent non-executive director in Pakistani family - owned firm has high expertise in decision making which can mitigate the transfer of resources made by major shareholder (M. A. Patel, 2018). This improves corporate governance as a variety of skills, experiences, knowledge and expertise of independent non-executive director can increase independency of independent non-executive director (M. A. Khan & Tariq, 2017). A highly independency of independent non-executive director also may have increased capability to monitor management as the number of independency of independent non-executive director increases (Fatima, Mortimer, & Bilal, 2018; Zaman, Bahadar, Kayani, & Arslan, 2018). This higher level of oversight may contribute to the positive effect of a highly independency of independent non-executive director on firm performance calculated by ROE (Farooq, Kazim, Usman, & Latif, 2018).

While, firm performance calculated by ROE in Column (2) of Model 2b has a negatively significant relationship with both FD and FO at less than 10%. It found a negative significant relationship of family directorship with firm performance. Similar

context in Pakistani family-owned firms, it is consistent with researchers that outside directors accept every decision of Major shareholder for their self-interest. While the negative effect of family ownership with firm performance is consistent with the findings of researchers who found a negative and significant effect of ownership concentration on firm value. In the Pakistani context, such result is consistent with researchers who showed that concentrated ownership structure has a negative relationship with firm performance calculated by ROE. However, the ROE trend of Model 2b from Year 5 to Year 2007 decreased. This trend increased from Year 2008 to Year 2014. In addition, firm performance (i.e., ROE) trend significantly increased from 2008 to 2014.

Moderation effect of RPTs with IDI, FD and FO of Model 2b

Column (2) of Model 2 of Panel B shows the interaction or moderation variable (i.e., RPTs) with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs) with IDI and FO have significant coefficients of 0.027 and –0.027 respectively. Thus, the interaction variable (i.e., RPTs) positively moderates the relationship between IDI and firm performance. The RPTs play a significant positive moderation role between IDI and firm performance. This relationship is positively significant at less than 10%. The interaction variable (i.e., RPTs) also negatively moderates the relationship between FO and firm performance. The RPTs play a significant negative moderation role between FO and firm performance. This relationship is negatively significant at less than 1%. However, the interaction variable (i.e., RPTs) has no moderation role between FD and firm performance.

Panel C of Table 5.10 describes Model 3a and Model 3b without and with moderation variables (i.e., RPTs) in Columns (1) and (2), respectively. Column (1) of Model 3a presents the relationship between Tobin's Q and the independent variables

(RPTs, IDI, FD, FO) without the moderation of RPTs. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 3a. The RPTs in Column (1) of Model 3a is significant with a coefficient of –0.159. Thus, firm performance has a negatively significant relationship with RPTs at less than 10%. This negative association shows that although RPTs might be used to manage earnings or mask firm resources extraction from shareholders, those RPTs have negative effect impact firm performance (Habib et al., 2017a; H. C. Kang, Anderson, Eom, & Kang, 2017; M. J. Kohlbeck et al., 2018b; Rafailov, 2017). This is also consistent with the hypothesis of transaction cost and agency theory types (II) which shows that RPTs are conflicts of interest that results in expropriation of the minority shareholders by major shareholder in Pakistani family-owned firms that lower firm performance calculated by Tobin's Q. In Pakistani family owned firms, related party transactions that is utilized by major shareholder for transfer of resources affect cash flow right of minority shareholder (Nazir & Afza, 2018; S. Singh, Tabassum, Darwish, & Batsakis, 2018).

Similarly, CG variables (IDI, FD, and FO) in Column (1) of Model 3a are significant with coefficients of 0.018, –0.247, and –0.013, respectively. Hence, firm performance has a positive significant relationship with IDI at less than 10%. This is also consistent with previous researchers like S. Singh et al. (2018) that found a positive association between independent non-executive director and firm performance calculated by Tobin's Q. This view is also supported by researcher like Shaukat and Trojanowski (2018) support this view that high independency of independent non-executive director were positively related to firm performance calculated by Tobin's Q. The results in this study may be explained in terms of increased access of highly independency of independent non-executive director may be enhanced skills and expertise which have highly approach to firm's critical resources (Sarwar, Xiao, Husnain, & Naheed, 2018) .

This highly independency enriches skills, experiences, knowledge and expertise of independent non-executive director in developing country like Pakistan which has great role in migration of transfer of resources made by major shareholder in family owned firms (Burki, 2018). This highly independency of independent non-executive director might also be enhanced skills to check the administration of the company as the number of independency of independent non-executive director increases (Sulong & Nor, 2008). This higher level of control might be provided the positive effect of a highly independency of independent non-executive director on firm performance calculated by Tobin's Q (S. Z. Ali Shah et al., 2009; Azim, 2015, 2018).

While, firm performance calculated by Tobin's Q in Column (1) of Model 3a has also negatively significant relationship with FD and FO at less than 10%. This study found a negative significant relationship of family directorship with firm performance which is consistent with previous researchers who found negative relationship between family directorship and firm performance calculated by Tobin's Q (Battaglia & Gallo, 2015; Rouyer, 2016; Terjesen et al., 2016; Watkins-Fassler, Fernández-Pérez, & Rodríguez-Ariza, 2016; Yasser, Mamun, & Seamer, 2017). Similar context in Pakistani family-owned firms, it is consistent with researchers that outside directors accept every decision of Major shareholder for their self-interest (Azmat, 2014; W. Ullah et al., 2017; Usman et al., 2015; Yasser, Mamun, & Seamer, 2017). While the negative effect of family ownership with firm performance is consistent with the findings of researchers who found a negative and significant effect of ownership concentration on firm performance calculated by Tobin's Q (Amit, Ding, Villalonga, & Zhang, 2015; Feldman, Amit, & Villalonga, 2016; Jaskiewicz, Block, Combs, & Miller, 2017; Nekhili, Nagati, Chtioui, & Rebolledo, 2017; S. Singh et al., 2018). In the Pakistani context, such result is consistent with researchers who showed that concentrated ownership structure has a negative relationship with firm performance calculated by Tobin's Q (Afgan et al., 2016a; Sajjad Hussain, Ilyas, Rehman,

& Fatima, 2016; Javaid & Saboor, 2015; W. Ullah et al., 2017; Usman et al., 2015). However, the trend in Tobin's Q of Model 3a significantly decreased from Year 5 to Year 2007. This trend significantly increased from Year 2008 to 2014.

Column (2) of Model 3b of Panel C shows the relationship between the Tobin's Q and the independent variables (RPTs, IDI, FD and FO) with the moderation of RPTs. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 3b. The RPTs in Column (2) of Model 3b are significant with a coefficient of –0.258. Therefore, firm performance has a negatively significant relationship with RPTs at less than 10%. This negative association shows that although RPTs might be used to manage earnings or mask firm resources extraction from shareholders, those RPTs have negative effect impact firm performance (Chauhan, Lakshmi, & Dey, 2016; Cherif, 2017; Habib et al., 2017a; M. J. Kohlbeck et al., 2018b; R. M. Wong et al., 2015). This is also consistent with the hypothesis of transaction cost and agency theory types (II) which shows that RPTs are conflicts of interest that results in expropriation of the minority shareholders by major shareholder in Pakistani family-owned firms that lower firm performance calculated by Tobin's Q. In Pakistani family owned firms, related party transactions that is utilized by major shareholder for transfer of resources affect cash flow right of minority shareholder (Ghani et al., 2010; Javeed, Hassan, & Azeem, 2014; Yasser, 2011; Yasser & Mamun, 2015, 2017).

Similarly, the IDI, FD, and FO in Column (2) of Model 3b are significant with coefficients of 0.585, –0.273, and –0.571, respectively. Thus, firm performance has a positive significant relationship with IDI at less than 10%. This is also consistent with previous researchers like S. Singh et al. (2018), Bhat, Chen, Jebran, and Bhutto (2018b), Hassan, Rizwan, and Sohail (2017) and U. Bashir, Fatima, Sohail, Rasul, and Mehboob

(2018) that found a positive association between independent non-executive director and firm performance calculated by Tobin's Q. The results in this study may be explained in terms of approach of high independency of independent non-executive director to resources of the firm due to a variety of skills, experiences, knowledge and expertise (Khawaja, Bhatti, Ashraf, & Henry, 2018). A highly independency of independent non-executive director also may have improved ability to check performance of the company as the number of independency of independent non-executive director have positive effect on firm performance calculated by Tobin's Q (Sahu & Manna, 2013).

While, firm performance calculated by Tobin's Q in Column (2) of Model 3b has also negatively significant relationship with FD and FO at less 10% and 5%, respectively. It found a negative significant relationship of family directorship with firm performance (Anderson & Reeb, 2004; Bodnaruk, Massa, & Yadav, 2017; Ghosh, 2007; Mishra et al., 2001; Pandey, Vithessonthi, & Mansi, 2015; Rouyer, 2016). Similar context in Pakistani family-owned firms, it is consistent with researchers that outside directors accept every decision of top management for saving their self-interest (Azmat, 2014; Qaiser Rafique & Al Mamun, 2015; Yasser, Mamun, & Rodrigs, 2017) .

While the negative effect of family ownership with firm performance calculated by Tobin's Q is consistent with the findings of researchers who found a negative and significant effect of ownership concentration on firm performance (Al-Ghamdi & Rhodes, 2015; K. Lee & Barnes, 2017; T. Lee & Chu, 2015; Mehboob, Tahir, & Hussain, 2015a). In the Pakistani context, such result is consistent with researchers who showed that concentrated ownership structure has a negative relationship with firm performance calculated by Tobin's Q (Y. Ali, Tahir, & Nazir, 2015a; Javaid & Saboor, 2015; Nazir & Afza, 2018; Yasser, Mamun, & Seamer, 2017). However, the trend in Tobin's Q of Model

3b decreased from Year 5 to Year 2007. This trend significantly increased from Year 2008 to 2014.

Moderation effect of RPTs with IDI, FD and FO of Model 3b

Column (2) of Model 3b of Panel C shows the interaction or moderation variable (i.e., RPTs) with IDI, FD, and FO. The moderation variable (i.e., RPTs) is significantly correlated (–0.014) with IDI. Thus, the interaction variable (i.e., RPTs) negatively moderates the relationship between IDI and firm performance. The RPTs play a significant negative moderation role between IDI and firm performance. This relationship is negatively significant at less than 10%. The interaction variable (i.e., RPTs) is significant with FO with a coefficient of –0.012. This finding shows that the interaction variable (i.e., RPTs) negatively moderates the relationship between FO and firm performance. The RPTs play a significant negative moderation role between FO and firm performance. This relationship is negatively significant at less than 5%. However, the interaction variable (i.e., RPTs) has no moderation role between FD and firm performance.

5.11 Discussion of the study

The first research objective, the study aims to examine the effect of RPTs on firm performance. The first objective, that is, to examine the effect of RPTs on the relationship between IDI and firm performance calculated through ROA, ROE, and Tobin's Q in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b using GMM, is also achieved. The RPTs are empirically proven to have a significant negative relationship with firm performance in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b. Thus, hypothesis 1 is accepted. This finding is consistent with that of Gordon et al.

(2004a) and Ryngaert and Thomas (2012), who found a negative association between RPTs and firm performance.

Second, the present study aims to examine the effect of INED on firm performance. This study focuses on the expropriation of the interest of minority shareholders in family-owned Pakistani firms. This study developed an IDI of family-owned firms, which includes different dimensions for the measurement of the autonomy of independent non-executive directors. These dimensions include composition, financial expertise, and independent non-executive director's tenure. The index results show that 140 of the 150 family owned firms fell into the lowest category. Only 10 family-owned firms fell into the moderate level. Thus, more than 90% of such firms are categorized in the lowest category, whereas, less than 10% of them are in the moderate level. The IDI results indicate that major shareholders expropriate resources through RPTs in family-owned Pakistani firms where an independent non-executive director has low autonomy. The low autonomy of independent non-executive directors is a crucial issue for the attention of the SECP regarding the importance of the autonomy of independent non-executive directors (see Figure 5.1 and Appendix C).

The second research objective, that is, to examine the effect of IDI on the performance of family-owned Pakistani firms, is addressed. Based on the regression results, IDI has a significant positive relationship with firm performance (i.e., ROA, ROE, and Tobin's Q) in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b using the GMM. The IDI in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b is empirically proven to have a significant positive relationship with firm performance (Javaid & Saboor, 2015). This relationship is highly significant, but most of family-owned firms have low independence, as most decisions are made by major

shareholders, and the interest of minority shareholders is exploited through RPTs (Abdullah et al., 2011; A Khan & Awan, 2012). Thus, hypothesis 2 is accepted. These results are also consistent with the findings of researchers such as Chen and Jaggi (2000), Elloumi and Gueyie (2001) and R. Morris et al. (2012), who identified a positive association between the ratio of independent non-executive directors and firm performance. This finding is also in accordance with agency theory (type II).

Third, this study aims to examine the effect of FD on firm performance. The Third research objective, that is, to examine the effect of FD on the performance of family-owned Pakistani firms, is also addressed. Regression results confirmed that FD has a significant negative relationship with firm performance (i.e., ROA, ROE, and Tobin's Q) in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b using GMM. The FD in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b exhibited a significant negative relationship with firm performance. Thus, hypothesis 3 is accepted. This result is consistent with the findings of Morck et al. (1988) who revealed a negative association between the effects of directorship of family-owned firms and firm performance. However, this outcome contradicts Nicholls and Ahmed (1995), Barontini and Caprio (2006), Chang et al. (2003), Joh (2003), and M. Carney and Gedajlovic (2002), who found a positive relationship of FD with firm performance.

Fourth, this study aims to examine the effect of FO structure on firm performance. The Fourth research objective, that is, to examine the effect of FO on the performance of family-owned Pakistani firms, is addressed. The regression results confirmed that FO has a significant negative relationship with firm performance (i.e. ROA, ROE, and Tobin's Q) in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b using GMM. The FO in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b has a

significant negative relationship with firm performance. Thus, hypothesis 4 is accepted. This outcome is consistent with that of Leech and Leahy (1991), Mudambi and Nicosia (1998), Lehmann and Weigand (2000), and Chen and Cheung (2000) who reported a negative and significant effect of ownership concentration on firm value.

Fifth, the study aims to examine the moderating effect of RPTs on the relationship between CG mechanisms (i.e., independent non-executive director, FD, and FO) and firm performance. The fifth objective, that is, to examine the moderating effect of RPTs on the relationship between CG mechanisms (i.e., IDI, FD, and FO) and firm performance calculated through ROA, ROE, and Tobin's Q in Models 1b, Model 2b, and Model 3b using GMM, is achieved. The RPTs are proven to significantly and negatively moderate the relationship between IDI and firm performance in Models 1b and Model 3b at less than 10%. However, RPTs significantly and positively moderate the relationship between IDI and firm performance in Model 2b at less than 10%. This is consistent with Aswadi Abdul Wahab et al. (2011), S. Utama et al. (2010), J. Wang and Yuan (2012) Chien and Hsu (2010), Hasnan et al. (2016). Thus, hypothesis 5.1 is accepted. The RPTs also negatively moderate the relationship of FD and firm performance at less 10% in Model 1b. Thus, hypothesis 5.2 is accepted for Models 1b. While, no moderation by RPTs is noted on the relationship between FD and firm performance in Models 2b and Model 3b. Thus, hypothesis 5.2 is rejected for Models 2b and Model 3b. Finally, RPTs significantly and negatively moderate the relationship between FO and firm performance in Models 1b and 3b at less than 5%. The RPTs also significantly and negatively moderate the relationship between FO and firm performance in Model 3b at less than 1%. Thus, hypothesis 5.3 is accepted.

5.12 Hypotheses Tested

The following details the hypotheses testing, and the conclusions drawn in this study.

H1: RPTs have a negative relationship with the performance of family-owned Pakistani firms.

Results show that RPTs have a significant negative relationship with firm performance (i.e., ROA, ROE, and Tobin's Q) at less than 10% in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b, respectively. Therefore, H4 is supported in Model 1a, Model 1b, Model 2b, Model 3a and Model 3b.

H2: IDI has a positive effect on the performance of family-owned Pakistani firms.

Results demonstrate that the IDI has a significant positive relationship with firm performance (i.e., ROA, ROE, and Tobin's Q) at less than 10% in Model 1a, Model 1b, Model 2b, Model 3a and Model 3b, respectively. Therefore, H1 is supported in Model 1a, Model 1b, Model 2b, Model 3a and Model 3b.

H3: FD has a negative effect on the performance of family-owned Pakistani firms.

Results show that FD has a significant negative relationship with firm performance (i.e., ROA, ROE, and Tobin's Q) at less than 10% in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b, respectively. Therefore, H2 is supported in Model 1a, Model 1b, Model 2b, Model 3a and Model 3b.

H4: A high concentration of FO structure has a negative effect on firm performance.

Findings indicate that FO has a significant negative relationship with firm performance (i.e., ROA, ROE, and Tobin's Q) at less than 10% in Model 1a, Model 1b, Model 2b, Model 3a and Model 3b, respectively. Therefore, H3 is supported in Model 1a, Model 1b, Model 2b, Model 3a and Model 3b.

H5.1: RPTs moderate the relationship between IDI and firm performance among family-owned Pakistani firms.

Findings indicate that RPTs moderate the relationship between IDI and firm performance (i.e., ROA, ROE, and Tobin's Q) in Models 1b, Model 2b, and Model 3b. The moderation relationship between IDI and firm performance is significant and negative at less than 10% in Model 1b. Moreover, the moderation relationship between IDI and firm performance is significant and negative at less than 10% in Models 2b and Model 3b. Therefore, H 5.1 is supported in Model 1b, Model 2b, and Model 3b.

H5.2: RPTs moderate the relationship between FDs and firm performance among family-owned Pakistani firms.

Results show that RPTs moderate the relationship between FD and firm performance (i.e., ROA) in Model 1b. The moderation relationship between FD and firm performance is significant and negative at less than 5% in Model 1b. Therefore, H 5.2 is supported in Model 1b. However, RPTs have no moderation relationship between FD and firm performance in Models 2b and 3b. Thus, H 5.2 is not supported in Model 2b and Model 3b.

H5.3: RPTs moderate the relationship between FO and firm performance among family-owned Pakistani firms.

Results show that RPTs moderate the relationship between FO and firm performance (i.e., ROA, ROE, and Tobin's Q) in in Models 1b, Model 2b, and Model 3b. The moderation relationship between FO structure and firm performance is significant and negative at less than 5% in Model 1b. Similarly, the moderation relationship between FO structure and firm performance is significant and negative at less than 1% in Models 2b and Model 3b. Therefore, H 5.3 is supported in Models 1b, Model 2b, and Model 3b.

5.13 Summary of Hypotheses

Table 5.11 presents the summary of the hypotheses testing in the previous section. The summary reveals whether a hypothesis is supported or not in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b.

Table 5.11: Summary of Hypotheses tested

Hypotheses	***Description***	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b
		Is hypothesis supported	Is hypothesis supported	Is hypothesis supported	Is hypothesis supported	Is hypothesis supported	Is hypothesis supported
H 1	Related party transactions have negative effect on Firm performance in in Pakistani family-owned firms.	Yes	Yes	Yes	Yes	Yes	Yes
H 2	Independent non-executive director index have positive effect on Firm performance in Pakistani family- owned firms.	Yes	Yes	Yes	Yes	Yes	Yes
H 3	Family directorship have negative effect on Firm performance in in Pakistani family- owned firms.	Yes	Yes	Yes	Yes	Yes	Yes
H 4	The presence of higher concentration of family ownership structure have negative effect on firm performance in in Pakistani family-owned firms.	Yes	Yes	Yes	Yes	Yes	Yes
H 5.1	The RPT moderate relationship between independent non-executive director index and firm performance among Pakistani family-owned firms.		Yes		Yes		Yes
H 5.2	The RPT moderate relationship between Family directorships and firm performance among Pakistani family-owned firms.		Yes		NO		NO
H 5.3	The RPT moderate relationship between concentrations of ownership and firm performance among Pakistani family-owned firms.		Yes		Yes		Yes

5.14 Robustness Test Results

The robustness test results are verified by industry adjusted return i.e. industry adjusted ROA, industry adjusted ROE and industry adjusted Tobin's Q with Corporate Governance variables i.e. IDI, FD and FO along without and with interaction variable i.e. RPTs. These results are discussed in following sub section 5.12.1. The robustness test results are also verified by introducing new interaction variables (i.e., Abnormal RPTs, RPTs Benefit, RPTs Expense, and RPTs Other) with CG variables i.e. IDI, FD and FO. These are discussed in the following subsection 5.12.2, subsection 5.12.3, subsection 5.12.4 and subsection5.12.5 that have important roles in the CG of family-owned Pakistani firms. Similarly, the robustness test results are verified by analyzing effect of all interaction variables (i.e., RPTs Benefit, RPTs Expense, and RPTs Other) in Subsection 5.12.6 that have important roles in the CG of family-owned Pakistani firms. This study classified all RPTs between controlling shareholder companies and subsidiaries in 12 different RPTs types in family-owned Pakistani firms, which are further sub-categorized. Details of this categorization are shown in Appendix A. The 2 types of RPTs (i.e., benefit-based and expense-based transactions) have been ignored, whereas the other 10 have been discussed by various researchers, including Gordon et al. (2004), Cheung et al. (2006), A. C. H. Lei and Song (2008), Gallery et al. (2008), Chen et al. (2009), Cheung et al. (2009), and Aharony et al. (2010) along with their implications and have categorized them into "other types" of RPTs.

This study categories all RPTSs in three types i.e. benefit-based transactions, expense-based transactions and other-based transactions. First category of this study is Benefit-based RPTs, abbreviated as RPTs Benefit, include bonus, convertible, and right issue shares. RPTs benefit-based transactions have positive effect on the family-owned firm performance. This is consistent with researchers like Gonenc and Hermes (2008),

(Q. Liu & Lu, 2007), (G. S. Bae et al., 2008), (Q. Liu & Lu, 2007), (G. S. Bae et al., 2008), (Guo & Ma, 2009) and (Chauhan, Dey, et al., 2016) who found that the use of offering cash rights share issues show that major shareholders prop up funds in family-owned firms. They further found that positive RPTs have positive effect on the firm performance. This is also consistent to similar concept of propping in which major shareholder take decision internally for firm in their financial distress position (Gonenc & Hermes, 2008). With propping, money is transferred from profitable firms to those who are facing financial difficulties. Moreover, majority owners may also bring their private resources to firms to keep them from bankruptcy (Friedman et al., 2003).

Similarly, second category of this study is expense-based RPTs, abbreviated as RPTs Expense, includes organizational expenditure, insurance, royalty payments, and other expenses. Further, RPTs expense-based transactions have negative effect on firm performance. This is consistent with findings of various researchers who have empirically proven the existence of tunneling in family-owned firms and also found that negative RPTs have negative effect on the family-owned firm performance (K. H. Bae et al., 2002; J. S. Baek et al., 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone, et al., 2000; Lins, 2003). Thus, major shareholders in Pakistani family-owned firms transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. This is also consistent with similar concept of tunneling in which the controlling shareholder has strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders (Bertrand et al., 2002). Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less

benefited from their shareholding. Transferring resources becomes costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and health of firms (K. H. Bae et al., 2002), (Toolsema, 2004), (Riyanto & Toolsema, 2008). Negative RPTs is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

Similarly, third category of this study is other RPTs (categorized as other RPTs) are designated as RPTs Other. They include ordinary shares, dividends, donations, interests, investments, purchase of assets, sale of assets, employee benefits, lease, loans, and advance payments. Furthermore, RPTs other based transactions have negative effect on firm performance. This is consistent with findings of various researchers who have empirically proven the existence of tunneling in family-owned firms and also found that negative RPTs have negative effect on the family-owned firm performance (K. H. Bae et al., 2002; J. S. Baek et al., 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone, et al., 2000; Lins, 2003). Thus, major shareholders in Pakistani family-owned firms transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. This is also consistent with similar concept of tunneling in which the controlling shareholder has strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders (Bertrand et al., 2002). Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. Transferring resources becomes

costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and health of firms (K. H. Bae et al., 2002), (Toolsema, 2004), (Riyanto & Toolsema, 2008). Negative RPTs is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

5.14.1 Industry Adjusted Return (i.e. ROA, ROE and Tobin's Q) and RPTs

In this section the robustness test results are verified by analyzing Industry adjusted return i.e. Industry adjusted ROA, Industry adjusted ROE and Industry adjusted Tobin's Q with corporate governance variables i.e. IDI, FD and FO along with interaction variable (i.e., RPTs). This study applies an alternative estimation technique, the GMM, to determine the regression results. Table 5.12 shows the findings of Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b by using GMM panel data technique without interaction variables (i.e. RPTs). Details of the variables used in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b are shown in Table 5.12.

Firm performance i.e. Industry-adjusted ROA without and with an interaction variable (i.e. RPTs)

Model 1a and Model 1b of Panel A show that firm performance is a function of CG, RPTs, and control variables. Model 1a and Model 1b of Panel A are shown below firm performance without the interaction variable (i.e., RPTs).

$$\text{ROA\_indutsry\_Adjusted}_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, Model 2b of Panel A is shown below firm performance with the interaction variable (i.e., RPTs).

$$\text{ROA\_indutsry\_Adjusted}_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)\ y$$

Firm performance i.e. Industry-adjusted ROE without and with an interaction variable (i.e. RPTs)

Model 2a and Model 2b of panel B show that firm performance is a function of CG, RPTs and control variables. Model 2a of Panel B is shown below without the interaction variable (i.e., RPTs).

$$\text{ROE\_indutsry\_Adjusted}_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, Model 2b of Panel B is shown below firm performance with the interaction variable (i.e., RPTs).

$$\text{ROE\_indutsry\_Adjusted}_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)\ y$$

Firm performance i.e. Industry-adjusted Tobin's Q without & with an interaction variable i.e. RPTs

Model 3a and Model 3b of Panel C show that firm performance is a function of CG, RPTs and control variables. Model 3a of Panel C is shown below without the interaction variable (i.e. RPTs).

$$\text{Q\_indutsry\_Adjusted}_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, Model 3b of Panel C is shown below firm performance with the interaction variable (i.e., RPTs).

$$\text{Q\_indutsry\_Adjusted}_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)\ y$$

Table 5.12: Related Party transactions, Corporate governance and firm performance (Industry-adjusted) without interaction variables i.e. RPTs using GMM

	Panel A		Panel B		Panel C	
	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b
	roa	roa	roe	roe	Q	Q
L.roa/ L.roe / L.Q (Industry-adjusted)	0.416***	0.419***	0.380***	0.388***	0.395***	0.398***
	(0.022)	(0.021)	(0.028)	(0.029)	(0.020)	(0.019)
RPT Industrial Average (RPT IA)	-0.028**	-0.010*	0.024*	0.052*	-0.028**	-0.026*
	(0.012)	(0.020)	(0.038)	(0.066)	(0.012)	(0.018)
Independent non-executive director Index (IDI)	0.306**	0.310**	0.283*	0.293*	0.301**	0.316**
	(0.145)	(0.150)	(0.448)	(0.463)	(0.143)	(0.145)
Family Directorship (FD)	-0.256*	-0.056*	-0.547*	-0.867*	-0.246*	-0.325*
	(0.168)	(0.309)	(0.555)	(0.961)	(0.161)	(0.276)
Family Ownership (FO)	-0.020*	0.033*	-0.055*	-0.133*	-0.014*	-0.036*
	(0.013)	(0.033)	(0.036)	(0.086)	(0.013)	(0.031)
Profit Margin (PM)	0.218**	0.272**	0.882**	0.891**	0.165**	0.201**
	(0.473)	(0.470)	(0.475)	(0.508)	(0.479)	(0.474)
Firm size (FS)	-0.449**	-0.328**	-0.651**	-0.469**	-0.619**	-0.530**
	(0.837)	(0.834)	(0.957)	(0.997)	(0.846)	(0.839)
Age of firm (Age)	-0.002***	-0.001***	-0.026***	-0.024***	-0.007***	-0.005***
	(0.013)	(0.013)	(0.033)	(0.032)	(0.013)	(0.013)
Leverage (Lev)	-0.020***	-0.002***	-0.138***	-0.145***	-0.032***	-0.019***
	(0.153)	(0.152)	(0.154)	(0.165)	(0.155)	(0.153)
Industry type	0.021***	0.003***	0.139***	0.146***	0.033***	0.020***
	(0.154)	(0.153)	(0.155)	(0.166)	(0.156)	(0.154)
Year (2005)	-1.370***	-0.349***	-0.358***	-0.292***	-0.176***	-0.203***
	(0.411)	(0.416)	(0.956)	(0.985)	(0.402)	(0.408)
Year (2006)	-1.139***	-1.114***	-0.910***	-0.886***	-0.033***	-0.040***
	(0.411)	(0.415)	(1.007)	(1.008)	(0.390)	(0.393)
Year (2007)	-0.967**	-0.918**	-0.498**	-0.308**	-0.895**	-0.889**
	(0.402)	(0.407)	(0.983)	(0.970)	(0.384)	(0.388)
Year (2008)	-0.848**	-0.816**	-0.174**	-2.150**	-0.729*	-0.735*
	(0.388)	(0.388)	(1.097)	(1.079)	(0.386)	(0.388)
Year (2009)	-0.285**	-0.298**	0.996**	0.001**	-0.268**	-0.306*
	(0.440)	(0.438)	(1.119)	(1.121)	(0.421)	(0.421)
Year (2010)	0.197**	0.208**	0.786**	0.892**	0.234**	0.210*
	(0.446)	(0.446)	(1.165)	(1.152)	(0.426)	(0.426)
Year (2011)	0.398**	0.398**	0.198**	0.075**	0.546*	0.542*
	(0.401)	(0.400)	(1.219)	(1.209)	(0.386)	(0.386)
Year (2012)	0.122**	0.140**	0.701**	-0.863*	0.049*	0.012*
	(0.390)	(0.390)	(1.017)	(1.017)	(0.368)	(0.368)
Year (2013	0.695**	0.684**	0.502**	0.441**	0.270**	0.303*
	(0.475)	(0.472)	(1.085)	(1.097)	(0.461)	(0.456)
Year (2014)	0.495**	0.584**	0.402**	0.341**	0.370**	0.403*
	(0.375)	(0.372)	(1.075)	(1.086)	(0.561)	(0.556)
RPTs X IDI		-0.001**		-0.001**		-0.001**
		(0.000)		(0.000)		(0.000)
RPTs X FD		-0.001*		-0.001		-0.000
		(0.001)		(0.002)		(0.001)
RPT s X FO		-0.001*		-0.001*		-0.001*
		(0.000)		(0.000)		(0.000)
cons	13.443***	6.727	33.706***	21.290	15.376***	14.036**
	(3.470)	(6.230)	(11.339)	(19.937)	(3.354)	(5.584)
Number of Groups	150	150	150	150	150	150
Observations	1,650	1,650	1,650	1,650	1,650	1,650

Note: This table shows the Generalized Method of Moment (GMM) regression of Model 1a, Models 1b, Model 2a, Model 2b, Model 3a and Model 3b where dependent variable is roa= Industry Adjusted Return on asset, roe= Industry Adjusted Return on equity, Q= Industry Adjusted Tobin's Q, while independent variables are IDI=Independent non-executive director index, FD= Family Directorship, FO= Family Ownership, RPTs= related party transactions; and control variables are PM= Profit Margin, FS= Firm size, Lev= leverage of firm, Age= Age of firm, Industry type and year. * p<0.1;**p<0.05; ***p<0.01

Table 5.12 shows the results of Model 1a, Models 1b, Model 2a, Model 2b, Model 3a and Model 3b by using Generalized Method of Moment (GMM) regression without and with the interaction or moderation variable (i.e. RPTs) employed in Panels A, B, and C, respectively. Table 5.9 further shows Columns (1) of Panels A, B, and C without the moderation variable (i.e., RPTs) for Model 1a, Model 2a and Model 3a respectively. Similarly, Columns (2) of Panels A, B, and C present the moderation variable (i.e., RPTs) of Models 1b, Model 2b and Model 3b respectively.

Panel A of Table 5.12 shows Model 1a and Model 1b without and with the moderation variable (i.e., RPTs) in Columns (1) and (2), respectively. Column (1) of Model 1a exhibits the relationship between the industry-adjusted ROA and the independent variables (RPTs, IDI, FD, FO) without the moderation of RPTs. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year, as employed in Model 1a. The RPTs in Column (1) of Model 1a is significant with a coefficient of –0.0.028. Hence, firm performance calculated by industry-adjusted ROA has a negative significant relationship with RPTs at less than 5%. This is consistent with finding of researchers who found that RPTs has negative impact on firm performance calculated by industry-adjusted ROA (Y.-L. Cheung, Jing, et al., 2009; Downs et al., 2016; Fahlenbrach et al., 2017; Gordon, Henry, & Palia, 2006; M. Kohlbeck & Mayhew, 2010). The CG variables (IDI, FD, and FO) in Column (1) of Model 1a are significant with coefficients of 0.306, –0.256, and –0.020 respectively. Thus, firm performance has a positive significant relationship with IDI at less than 5%. This outcome is consistent with the findings of researchers like Miller, Le Breton-Miller, Minichilli, Corbetta, and Pittino (2014) and Q. Yasser et al. (2015) who found that appointing outside independent non-executive directors into the board improves the financial performance of firms. As

supported by conflict-of-interest view of Gordon et al. (2004), agency theory of M. C. Jensen and Meckling (1976) and Model of Berle and Means (1932), such findings indicate that independent non-executive directors have a considerable role in minimizing the resource transfers by major shareholder in family-owned Pakistani firms.

However, Firm performance calculated by industry-adjusted ROA has a negatively significant relationship with FD and FO at 10%. This negative effect of FD with firm performance industry-adjusted ROA is consistent with the findings of previous researchers showing that a family director negatively affects firm performance calculated by industry-adjusted ROA (Anderson & Reeb, 2004; T.-K. Chen, Liao, & Chen, 2017; Eckbo, Thorburn, & Wang, 2016; Luo & Chung, 2013; R. W. Masulis & Mobbs, 2011). This finding can be attributed to the possibility that outside directors may lose their jobs if they contradict top management decisions that serve their interest. The negative effect of FO with firm performance is consistent with findings of previous researchers showing that a negative and significant effect of ownership concentration on firm performance industry-adjusted ROA (Gonenc & Ozkan, 2015; M. Liu, Shi, Wilson, & Wu, 2017; Miyajima, Ogawa, & Saito, 2018; Randolph & Memili, 2017). In the Pakistani context, such result is consistent with that findings of previous researchers demonstrated that concentrated ownership structure has a negative relationship with firm performance (Abdullah et al., 2011; Gul, Rashid, & Muhammad, 2017; Irshad et al., 2015; Rashid, Ali, & Magsi, 2018; Tahir & Sabir, 2014, 2015). However, the industry-adjusted ROA trends in Model 1a are significant decreased from Year 2005 to Year 2009. Thus, firm performance (i.e., industry-adjusted ROA) decreased from Year 2005 to Year 2009. Then, the industry-adjusted ROA trend increased from Year 2010 to Year 2014 when a significant increase occurred.

Column (2) of Model 1b of Panel A shows the relationship between the industry-adjusted ROA and the independent variables (RPTs, IDI, FD, FO) with the moderation of RPTs. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year, as employed in Model 1b. The RPTs in Column (2) of Model 1b is significant with a coefficient of -0.010. Therefore, firm performance has a negative significant relationship with RPTs at less than 10%. This is consistent with finding of researchers who found that RPTs has negative impact on firm performance (Downs et al., 2016; Fahlenbrach et al., 2017; Gordon et al., 2006; M. Kohlbeck & Mayhew, 2010). The IDI, FD, and FO in Column (2) of Model 1b are significant with coefficients of 0.310, –0.056, and –0.033 respectively. Thus, firm performance has a positive significant relationship with IDI at less than 5%. This result is consistent with that previous researchers who identified the positive effect of appointing outside independent non-executive directors into the board on firm performance calculated by industry-adjusted ROA (Y.-L. Cheung, Jing, et al., 2009; Downs et al., 2016; Fahlenbrach et al., 2017; Gordon et al., 2006; M. Kohlbeck & Mayhew, 2010; Shaukat & Trojanowski, 2018). Firm performance calculated by industry-adjusted ROA has a negatively significant relationship with FD and FO at less than 10%. However, all dummy years of Model 1b are significant from Year 2005 to Year 2014. While, the industry-adjusted ROA trends in Model 1b are significant decreased from Year 2005 to Year 2009. Thus, firm performance (i.e., industry-adjusted ROA) decreased from Year 2005 to Year 2009. Then, the ROA Industrial average trend increased from Year 2010 to Year 2014 when a significant increase occurred.

Moderation effect of RPTs with IDI, FD and FO of Model 1b

Column (2) of Model 1b of Panel A shows the interaction or moderation variable (i.e., RPTs) with IDI, FD, and FO. The moderation variable (i.e., RPTs) have significant

coefficients with IDI (–0.001), and FD (–0.001) and FO (–0.001). Thus, the interaction variable i.e., RPTs negatively moderates the relationship between IDI and firm performance. The RPTs play a significant negative moderation role between IDI and firm performance. This relationship is negatively significant at less than 5%. Moreover, RPTs significantly and negatively moderate the relationship between FD and firm performance at less than 10%. Similarly, RPTs significantly and negatively moderates the relationship between FO and firm performance at less than 10%.

Panel B of Table 5.12 describes Model 2a and Model 2b without and with moderation variables (i.e., RPTs) in Columns (1) and (2), respectively. Column (1) of Model 2a shows the relationship between the industry-adjusted ROE and the independent variables, (RPTs, IDI, FD and FO) without the moderation of RPTs. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 2a. The RPTs in Column (1) of Model 2a is significant with a coefficient of 0.024. Thus, firm performance has a positively significant relationship with RPTs at less than 10%. This is consistent with finding of researchers who found that RPTs has negative impact on firm performance (L. D. Brown & Caylor, 2009; Y.-L. Cheung, Jiang, & Tan, 2010). CG variables (i.e., IDI, FD, and FO) in Column (1) of Model 2a are significant with coefficients of 0.283, –0.547, and –0.055, respectively. Thus, firm performance has a positive significant relationship with IDI at less than 10%. This result is consistent with that previous researchers who identified the positive effect of appointing outside independent non-executive directors into the board on firm performance calculated by industry-adjusted ROE (Camisón, Forés, & Puig-Denia, 2016; Mayer, Warr, & Zhao, 2017). However, firm performance has a negatively significant relationship with FD and FO at less than 10%. This negative effect of FD with firm performance industry-adjusted ROE is consistent with the findings of previous researchers showing that a family director

negatively affects firm performance calculated by industry-adjusted ROE (H.-H. Huang & Chan, 2018; Miyajima, Ogawa, & Saito, 2016; Ramasubramanian, 2017). Similarly, the negative effect of FO with firm performance is consistent with findings of previous researchers showing that a negative and significant effect of ownership concentration on firm performance industry-adjusted ROE (Dalton et al., 2007; T.-m. Yeh & Hoshino, 2000). Nevertheless, the industry-adjusted ROE trend of Model 2a from Year 5 to the Year 2008 are negatively significant. This trend becomes positive from Year 2009 to Year 2014. Thus, firm performance (i.e., industry-adjusted ROE) trend significantly increased from Year 2009 to Year 2014.

Column (2) of Model 2b of Panel B exhibits the relationship between the industry-adjusted ROE and the independent variables (RPTs, IDI, FD and FO) with the moderation of RPTs. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year, as employed in Model 2. The RPTs in Column (2) of Model 2b is significant with a coefficient of 0.052. Therefore, firm performance has a positive significant relationship with RPTs at less than 10%. This is consistent with finding of researchers who found that RPTs has negative impact on firm performance (X. Wang, Cao, Liu, Tang, & Tian, 2015; Yung & Jian, 2017). CG variables (IDI, FD, and FO) in Column (2) of Model 2 are significant with coefficients of 0.293, –0.867, and –0.133, respectively. Hence, firm performance has a positive significant relationship with IDI at less than 10%. This result is consistent with that previous researchers who identified the positive effect of appointing outside independent non-executive directors into the board on firm performance calculated by industry-adjusted ROE (Camisón et al., 2016; Mayer et al., 2017). However, firm performance also has a negatively significant relationship with both FD and FO at less than 10%. This negative effect of FD with firm performance industry-adjusted ROE is consistent with the findings of previous researchers showing

that a family director negatively affects firm performance calculated by industry-adjusted ROE (Gupta & Choudhary, 2018; Leung & Horwitz, 2004; Miyajima et al., 2018). Similarly, the negative effect of FO with firm performance is consistent with findings of previous researchers showing that a negative and significant effect of ownership concentration on firm performance industry-adjusted ROE (Amedeo & Minichilli, 2014; Ammari, Kadria, & Ellouze, 2014). However, the industry-adjusted ROE trend of Model 2b from Year 5 to Year 2008 decreased. This trend increased from Year 2009 to Year 2014. In addition, firm performance (i.e., industry-adjusted ROE) trend significantly increased from Year 2009 to Year 2014.

Moderation effect of RPTs with IDI, FD and FO of Model 2b

Column (2) of Model 2 of Panel B shows the interaction or moderation variable (i.e., RPTs) with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs) with IDI and FO have significant coefficients of -0.001 and –0.001 respectively. Thus, the interaction variable (i.e., RPTs) negatively moderates the relationship between IDI and firm performance. The RPTs play a significant negative moderation role between IDI and firm performance. This relationship has negatively significant at less than 10%. The interaction variable (i.e., RPTs) also negatively moderates the relationship between FO and firm performance. The RPTs play a significant negative moderation role between FO and firm performance. This relationship is negatively significant at less than 10%. However, the interaction variable (i.e., RPTs) has no moderation role between FD and firm performance.

Panel C of Table 5.12 describes Model 3a and Model 3b without and with moderation variables (i.e., RPTs) in Columns (1) and (2), respectively. Column (1) of Model 3a presents the relationship between industry-adjusted Tobin's Q and the

independent variables (RPTs, IDI, FD and FO) without the moderation of RPTs. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 3a. The RPTs in Column (1) of Model 3a is significant with a coefficient of –0.028. Thus, firm performance has a negatively significant relationship with RPTs at less than 5%. This is consistent with finding of researchers who found that RPTs has negative impact on firm performance (Fang, Song, Nofsinger, & Wang, 2017; Ho, Liao, & Taylor, 2015; Wei Huang & Zhu, 2015; J. Yang, Guariglia, & Guo, 2017). CG variables (IDI, FD, and FO) in Column (1) of Model 3a are significant with coefficients of 0.301, –0.246, and –0.014, respectively. Hence, firm performance has a positive significant relationship with IDI at less than 5%. This result is consistent with that previous researchers who identified the positive effect of appointing outside independent non-executive directors into the board on firm performance calculated by industry-adjusted Tobin's Q (Callahan, Millar, & Schulman, 2003; Henry, 2008; R. W. Masulis, Wang, & Xie, 2012).

Similarly, Firm performance also has a negatively significant relationship with FD and FO at less than 10%. This negative effect of FD with firm performance industry-adjusted Tobin's Q is consistent with the findings of previous researchers showing that a family director negatively affects firm performance calculated by industry-adjusted Tobin's Q (Faleye, 2015; Nekhili, Chakroun, & Chtioui, 2016; Vintila, Onofrei, & Gherghina, 2014). Similarly, the negative effect of FO with firm performance is consistent with findings of previous researchers showing that a negative and significant effect of ownership concentration on firm performance industry-adjusted Tobin's Q (X. Chen, Cheng, & Dai, 2013; Ismail, Dockery, & Ahmad, 2017; Jo & Harjoto, 2011; King & Santor, 2008; R. W. Masulis & Mobbs, 2014). However, the trend in industry-adjusted

Tobin's Q of Model 3a significantly decreased from Year 5 to Year 2009.while, this trend significantly increased from Year 2010 to Year 2014.

Column (2) of Model 3b of Panel C shows the relationship between the industry-adjusted Tobin's Q and the independent variables (RPTs, IDI, FD and FO) with the moderation of RPTs. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 3b. The RPTs in Column (2) of Model 3a are significant with a coefficient of –0.026. Therefore, firm performance has a negatively significant relationship with RPTs at less than 10%. This is consistent with finding of researchers who found that RPTs has negative impact on firm performance (Aras, 2015; S. C. Bae, Kim, & Kwon, 2018; R. Bozec & Dia, 2015; J. C. Cheng & Wu, 2018; Flammer, 2018; Tang, 2016). The IDI, FD, and FO in Column (2) of Model 3b are significant with coefficients of 0.316, –0.325, and –0.036, respectively. Thus, firm performance has a positive significant relationship with IDI at less than 5%. This result is consistent with that previous researchers who identified the positive effect of appointing outside independent non-executive directors into the board on firm performance calculated by industry-adjusted Tobin's Q (Q. Cheng, Ranasinghe, & Zhao, 2017; Y. L. Cheung, Jiang, Limpaphayom, & Lu, 2010; J.-K. Kang, Luo, & Na, 2018).

However, Firm performance also has a negatively significant relationship with FD and FO at less 10%. This negative effect of FD with firm performance industry-adjusted Tobin's Q is consistent with the findings of previous researchers showing that a family director negatively affects firm performance calculated by industry-adjusted Tobin's Q (Bauguess & Stegemoller, 2008; L.-Y. Chen, Lai, & Chen, 2015; Lawal, 2018). Similarly, the negative effect of FO with firm performance is consistent with findings of previous researchers showing that a negative and significant effect of ownership concentration on

firm performance industry-adjusted Tobin's Q (Ammari et al., 2014; Li & Zaiats, 2018; Y.-C. Lin, 2017; Peni, 2014; G. Xie & Hao, 2017). However, the trend in industry-adjusted Tobin's Q of Model 3b decreased from Year 2005 to Year 2009. This trend significantly increased from Year 2010 to Year 2014.

Moderation effect of RPTs with IDI, FD and FO of Model 3b

Column (2) of Model 3b of Panel C shows the interaction or moderation variable (i.e., RPTs) with IDI, FD, and FO. The moderation variable (i.e., RPTs) is significantly correlated (-0.001) with IDI. Thus, the interaction variable (i.e., RPTs) negatively moderates the relationship between IDI and firm performance. The RPTs play a significant negative moderation role between IDI and firm performance. This relationship is negatively significant at less than 5%. The interaction variable (i.e., RPTs) is significant with FO with a coefficient of –0.001. This finding shows that the interaction variable (i.e., RPTs) negatively moderates the relationship between FO and firm performance. The RPTs play a significant negative moderation role between FO and firm performance. This relationship is negatively significant at less than 10%. However, the interaction variable (i.e., RPTs) has no moderation role between FD and firm performance.

5.14.2 Abnormal RPTs

In this section the robustness test results are verified by analyzing return i.e. ROA, ROE and Tobin's Q with corporate governance variables i.e. IDI, FD and FO along with interaction variable (i.e., abnormal RPTs). This study applies an alternative estimation technique, the GMM, to determine the regression results. Table 5.13 shows the findings of Model 1a, Model 1b, Model 2a, Model 2b, Model 3a, and Model 3b by using GMM panel data technique without interaction variables (i.e. abnormal RPTs). Details of the variables used in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b are

shown in Table 5.13. Model 1a and Model 1b show that firm performance is a function of CG, RPTs abnormal and control variables. Model 1a and Model 1b of Panel A are shown below without and with the interaction variable (i.e., RPTs abnormal) respectively.

Firm performance without an interaction variable (i.e. RPTs Abnormal)

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Firm performance with an interaction variable (i.e. RPTs Abnormal)

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Similarly, Model 2a and Model 2b shows that firm performance is a function of CG, RPT abnormal and control variables. Model 2a and Model 2b of Panel B are shown below without and with the interaction variable (i.e., RPTs abnormal) respectively.

Firm performance without an interaction variable (i.e. RPTs abnormal)

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, firm performance with an interaction variable (i.e., RPTs Ab)

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Similarly, Model 3a Model 3b shows that Firm performance is a function of CG, RPTs abnormal and control variables. Model 3a and Model 3b of Panel C are shown below without and with the interaction variable (i.e. RPTs abnormal) respectively.

Firm performance without an interaction variable (i.e. RPTs abnormal)

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, firm performance with an interaction variable i.e. RPTs abnormal.

$$Q_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Table 5.13: Related Party transactions Abnormal, Corporate governance and firm performance without and with interaction variables i.e. RPTs Abnormal using GMM

	Panel A		Panel B		Panel C	
	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b
	roa	roa	roe	roe	Q	Q
L.roa/ L.roe /L.Q	0.416***	0.416***	0.377***	0.375***	0.397***	0.396***
	(0.022)	(0.022)	(0.029)	(0.029)	(0.020)	(0.019)
RPTs Abnormal (RPT ab)	-0.938*	-0.351*	-0.622*	-0.612*	-0.797*	-0.096*
	(0.638)	(3.843)	(1.895)	(10.859)	(0.632)	(3.530)
Independent non-executive director Index (IDI)	0.012**	0.384**	0.006**	0.909**	0.018**	0.463**
	(0.023)	(0.353)	(0.056)	(0.911)	(0.021)	(0.334)
Family Directorship (FD)	-0.251*	-0.190*	-0.540*	-0.142*	-0.247*	-0.788*
	(0.167)	(2.025)	(0.553)	(6.069)	(0.160)	(1.914)
Family Ownership (FO)	-0.019*	-0.539**	-0.055*	-0.870*	-0.013*	-0.549**
	(0.013)	(0.248)	(0.036)	(0.737)	(0.013)	(0.241)
Profit Margin (PM)	0.222**	0.223**	0.848*	0.937**	0.171**	0.154**
	(0.472)	(0.452)	(0.485)	(0.486)	(0.476)	(0.456)
Firm size (FS)	-0.449**	-0.418**	-1.708*	-1.569*	-0.611*	-0.615**
	(0.837)	(0.801)	(0.972)	(0.972)	(0.841)	(0.806)
Age of firm (Age)	-0.009***	-0.009***	-0.037***	-0.038***	-0.012***	-0.012***
	(0.015)	(0.015)	(0.040)	(0.040)	(0.015)	(0.016)
Leverage (Lev)	-0.020***	-0.019***	-0.126**	-0.154***	-0.031***	-0.036***
	(0.153)	(0.146)	(0.158)	(0.158)	(0.154)	(0.148)
Industry type	0.223**	0.224**	0.849*	0.938**	0.172**	0.155**
	(0.473)	(0.453)	(0.486)	(0.487)	(0.477)	(0.457)
Year (2005)	-0.357***	-0.407***	-0.303***	-0.515***	-0.167***	-0.226***
	(0.410)	(0.416)	(0.955)	(0.976)	(0.400)	(0.405)
Year (2006)	-0.145***	-0.260***	-0.835***	-0.220***	-0.036***	-0.139***
	(0.410)	(0.421)	(1.001)	(1.022)	(0.389)	(0.400)
Year (2007)	-0.963**	-1.019**	-1.440	-1.646	-0.895**	-0.930**
	(0.403)	(0.415)	(0.985)	(1.007)	(0.384)	(0.395)
Year (2008)	-0.838**	-0.922**	-0.016*	-0.077*	-0.726*	-0.821**
	(0.392)	(0.405)	(1.117)	(1.151)	(0.389)	(0.404)
Year (2009)	0.276**	0.303**	0.004**	0.849**	0.263**	0.279**
	(0.441)	(0.440)	(1.119)	(1.106)	(0.422)	(0.421)
Year (2010)	0.203*	0.158*	0.868*	0.779	0.241**	0.199**
	(0.448)	(0.455)	(1.160)	(1.194)	(0.427)	(0.434)
Year (2011)	0.381*	0.331*	0.293*	0.060	0.524**	0.450**
	(0.402)	(0.402)	(1.215)	(1.209)	(0.387)	(0.388)
Year (2012)	0.133*	0.207*	0.573*	0.821	0.018**	0.035**
	(0.392)	(0.396)	(1.028)	(1.040)	(0.369)	(0.375)
Year (2013)	0.652	0.765*	0.386**	0.494**	0.235**	0.373**
	(0.480)	(0.487)	(1.095)	(1.110)	(0.463)	(0.471)
RPT (ab) X IDI		-0.038**		-0.086***		-0.046**
		(0.034)		(0.087)		(0.032)
RPT (ab) X FD		-0.046**		-0.064		-0.048
		(0.192)		(0.577)		(0.181)
RPT (ab) X FO		-0.054**		-0.079**		-0.054**
		(0.024)		(0.071)		(0.023)
Cons	2.673***	2.713**	3.985*	2.234***	3.081***	-6.626**
	(7.561)	(40.222)	(23.702)	(112.762)	(7.655)	(36.844)
Number of Groups	150	150	150	150	150	150
Observations	1,650	1,650	1,650	1,650	1,650	1,650

Note: This table shows the Generalized Method of Moment (GMM) regression of Model 1a, Models 1b, Model 2a, Model 2b, Model 3a and Model 3b where dependent variable is roa= Return on asset, roe= Return on equity, Q= Tobin's Q, while independent variables are IDI=Independent non-executive director index, FD= Family Directorship, FO= Family Ownership, RPT= related party transactions; and control variables are PM= Profit Margin, FS= Firm size, Lev= leverage of firm, Age= Age of firm, Industry type and year. * p<0.1;**p<0.05; ***p<0.01

Table 5.13 shows the results of Model 1a, Models 1b, Model 2a, Model 2b, Model 3a and Model 3b by using Generalized Method of Moment (GMM) regression without and with the interaction or moderation variable (i.e. RPTs Abnormal) employed in Panels A, B, and C, respectively. Table 5.10 further shows Columns (1) of Panels A, B, and C without the moderation variable (i.e., RPTs Abnormal) for Model 1a, Model 2a and Model 3a respectively. Similarly, Columns (2) of Panels A, B, and C present the moderation variable (i.e., RPTs Abnormal) of Models 1b, Model 2b and Model 3b respectively.

Panel A of Table 5.13 shows Model 1a and Model 1b without and with the moderation variable (i.e., RPTs Abnormal) in Columns (1) and (2), respectively. Column (1) of Model 1a exhibits the relationship between the ROA and the independent variables (RPTs Abnormal, IDI, FD and FO) without the moderation of RPTs Abnormal. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year, as employed in Model 1a. The RPTs Abnormal (RPTs ab) in Column (1) of Model 1a is significant with a coefficient of –0.938. Hence, firm performance has a negative significant relationship with RPTs Abnormal at less than 10%. This is consistent with finding of researchers who found that RPTs abnormal has negative impact on firm performance (Al-Dhamari et al., 2018; K. H. Chan, Mo, & Tang, 2015; S. Ullah & Zhang, 2016). The CG variables (IDI, FD, and FO) in Column (1) of Model 1a are significant with coefficients of 0.012, –0.251, and –0.019 respectively. Thus, firm performance has a positive significant relationship with IDI at less than 5%. This outcome is consistent with the findings of researchers that appointing outside independent non-executive directors into the board improves the financial performance of firms (Jian & Wong, 2010; M. J. Kohlbeck & Mayhew, 2004b; Y.-H. Yeh et al., 2012). However, Firm performance has a negatively significant relationship with FD and FO at 10%. This negative effect of

FD with firm performance is consistent with the findings of researchers showing that a family director negatively affects firm performance (Drago, Millo, Ricciuti, & Santella, 2012; Drago et al., 2015; Haldar & Raithatha, 2017; Ye & Li, 2017). This finding can be attributed to the possibility that outside directors may lose their jobs if they contradict top management decisions that serve their interest. The negative effect of FO with firm performance is consistent with findings of previous researchers showing that a negative and significant effect of ownership concentration on firm performance (Hasnan et al., 2016; Mohd-Saleh, Rahman, & Ridhuan, 2009; Shan, 2015; Yuan, Liu, Xiao, & Sun, 2018). However, the ROA trends in Model 1a are significant decreased from Year 2005 to Year 2008. Thus, firm performance (i.e., ROA) decreased from Year 2005 to Year 2008. Then, the ROA trend increased from Year 2009 to Year 2014 when a significant increase occurred.

Column (2) of Model 1b of Panel A shows the relationship between the ROA and the independent variables (RPTs Abnormal, IDI, FD and FO) with the moderation of RPTs Abnormal (RPTs ab). The control variables are firm Size, profit margin, leverage, age of firm, industry type and year, as employed in Model 1b. The RPTs Abnormal in Column (2) of Model 1b is significant with a coefficient of -0.351. This is consistent with finding of researchers who found that RPTs abnormal has negative impact on firm performance (Bhuiyan & Roudaki, 2018; Shanmugam & Irshad, 2018; Si, Fonseka, Tian, & Feng, 2017). Therefore, firm performance has a negative significant relationship with RPTs Abnormal at less than 10%. The IDI, FD, and FO in Column (2) of Model 1b are significant with coefficients of 0.384, –0.190, and –0.539 respectively. Thus, firm performance has a positive significant relationship with IDI at less than 5%. This result is consistent with previous researcher who identified the positive effect of appointing outside independent non-executive directors into the board (K. Y. Chen, Elder, & Hsieh,

2007; Gallery et al., 2008; M. Nekhili & M. Cherif, 2011). Firm performance has a negatively significant relationship with FD and FO at less than 10% and 5% respectively. This negative effect of FD with firm performance is consistent with the findings of researchers showing that a family director negatively affects firm performance (Hsu & Liu, 2016; X. Xie, Cai, Lu, Liu, & Takumi, 2015; Ye & Li, 2017). This finding can be attributed to the possibility that outside directors may lose their jobs if they contradict top management decisions that serve their interest. The negative effect of FO with firm performance is consistent with findings of previous researchers showing that a negative and significant effect of ownership concentration on firm performance (Boateng, Bi, & Brahma, 2017; S. Ullah & Zhang, 2016; Wellalage & Locke, 2016). However, all dummy years of Model 1b are significant from Year 2005 to Year 2014. While, the ROA trends in Model 1b are significant decreased from Year 2005 to Year 2008. Thus, firm performance (i.e., ROA) decreased from Year 2005 to Year 2008. Then, the ROA trend increased from Year 2009 to Year 2014 when a significant increase occurred.

Moderation effect of RPT with IDI, FD and FO of Model 1b

Column (2) of Model 1b of Panel A shows the interaction or moderation variable (i.e., RPTs Abnormal) with IDI, FD, and FO. The moderation variable (i.e., RPTs Abnormal) have significant coefficients with IDI (–0.038), and FD (–0.046) and FO (–0.054). Thus, the interaction variable (i.e., RPTs Abnormal) negatively moderates the relationship between IDI and firm performance. The RPTs Abnormal play a significant negative moderation role between IDI and firm performance. This relationship is negatively significant at less than 5%. Moreover, RPTs Abnormal significantly and negatively moderate the relationship between FD and firm performance at less than 5%. Similarly, RPTs significantly and negatively moderates the relationship between FO and firm performance at less than 5%.

Panel B of Table 5.13 describes Model 2a and Model 2b without and with moderation variables (i.e., RPTs Abnormal) in Columns (1) and (2), respectively. Column (1) of Model 2a shows the relationship between the ROE and the independent variables, (RPTs Abnormal, IDI, FD and FO) without the moderation of RPTs Abnormal. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 2a. The RPTs Abnormal in Column (1) of Model 2a is significant with a coefficient of -0.622. Thus, firm performance has a negatively significant relationship with RPTs Abnormal at less than 10%. This is consistent with finding of researchers who found that RPTs abnormal has negative impact on firm performance (Fang et al., 2017; Gupta & Choudhary, 2018; J. A. Hausman, & Wise, D. A., 1978). CG variables (i.e., IDI, FD, and FO) in Column (1) of Model 2a are significant with coefficients of 0.006 –0.540, and –0.055, respectively. Thus, firm performance has a positive significant relationship with IDI at less than 5%. This outcome is consistent with the findings of researchers that appointing outside independent non-executive directors into the board improves the financial performance of firms (Cao, Ding, & Zhang, 2016; Yunsen Chen, Wang, & Lin, 2014; Owusu & Weir, 2016). However, firm performance has a negatively significant relationship with FD and FO at less than 10%. This negative effect of FD with firm performance is consistent with the findings of researchers showing that a family director negatively affects firm performance (Gupta & Choudhary, 2018; H.-H. Huang & Chan, 2018; Leung & Horwitz, 2004). This finding can be attributed to the possibility that outside directors may lose their jobs if they contradict top management decisions that serve their interest. The negative effect of FO with firm performance is consistent with findings of previous researchers showing that a negative and significant effect of ownership concentration on firm performance (De Massis, Kotlar, Campopiano, & Cassia, 2015; Garcia-Castro & Aguilera, 2014; King &

Santor, 2008). Nevertheless, the ROE trend of Model 2a from Year 5 to the Year 2008 are negatively significant. This trend becomes positive from Year 2009 to Year 2014. Thus, firm performance (i.e., ROE) trend significantly increased from Year 2009 to Year 2014.

Column (2) of Model 2b of Panel B exhibits the relationship between the ROE and the independent variables (RPTs Abnormal, IDI, FD and FO) with the moderation of RPTs Abnormal. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 2. The RPTs Abnormal in Column (2) of Model 2b is significant with a coefficient of -0.612. Therefore, firm performance has a negative significant relationship with RPTs at less than 10%. This is consistent with finding of researchers who found that RPTs abnormal has negative impact on firm performance (Bava & Trana, 2017; S. Chen et al., 2012; M. Williams & Taylor, 2013). CG variables (IDI, FD, and FO) in Column (2) of Model 2 are significant with coefficients of 0.909, –0.142, and –0.870, respectively. Hence, firm performance has a positive significant relationship with IDI at less than 5%. This outcome is consistent with the findings of researchers that appointing outside independent non-executive directors into the board improves the financial performance of firms (P. Cheng & Chen, 2011; Y.-L. Cheung, Jing, et al., 2009; J. A. Hausman, & Wise, D. A., 1978). Firm performance also has a negatively significant relationship with both FD and FO at less than 10%. This negative effect of FD with firm performance is consistent with the findings of researchers showing that a family director negatively affects firm performance (Gupta & Choudhary, 2018; H.-H. Huang & Chan, 2018; Leung & Horwitz, 2004). This finding can be attributed to the possibility that outside directors may lose their jobs if they contradict top management decisions that serve their interest. The negative effect of FO with firm performance is consistent with findings of previous researchers showing that a negative

and significant effect of ownership concentration on firm performance (R. Ameer & Azizan, 2014; Habib & Jiang, 2015; Maigoshi, Latif, & Kamardin, 2016; Rasheed & Mallikarjunappa, 2018; Umobong, 2017). However, the ROE trend of Model 2b from Year 5 to Year 2008 decreased. This trend increased from Year 2009 to Year 2014. In addition, firm performance (i.e., ROE) trend significantly increased from Year 2009 to Year 2014.

Moderation effect of RPT with IDI, FD and FO of Model 2b

Column (2) of Model 2 of Panel B shows the interaction or moderation variable (i.e., RPTs Abnormal) with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Abnormal) with IDI and FO have significant coefficients of -0.086 and –0.079 respectively. Thus, the interaction variable (i.e., RPTs Abnormal) negatively moderates the relationship between IDI and firm performance. The RPTs Abnormal play a significant negative moderation role between IDI and firm performance. This relationship has negatively significant at less than 1%. The interaction variable (i.e., RPTs Abnormal) also negatively moderates the relationship between FO and firm performance. The RPTs play a significant negative moderation role between FO and firm performance. This relationship is negatively significant at less than 5%. However, the interaction variable (i.e., RPTs Abnormal) has no moderation role between FD and firm performance.

Panel C of Table 5.13 describes Model 3a and Model 3b without and with moderation variables (i.e., RPTs Abnormal) in Columns (1) and (2), respectively. Column (1) of Model 3a presents the relationship between Tobin's Q and the independent variables (RPTs Abnormal, IDI, FD and FO) without the moderation of RPTs Abnormal. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 3a. The RPTs Abnormal in Column (1) of Model 3a is

significant with a coefficient of –0.797. Thus, firm performance has a negatively significant relationship with RPTs Abnormal at less than 10%. This is consistent with finding of researchers who found that RPTs abnormal has negative impact on firm performance (A. C. Lei & Song, 2011; Ryngaert & Thomas, 2012; R. M. Wong et al., 2015). CG variables (IDI, FD, and FO) in Column (1) of Model 3a are significant with coefficients of 0.018, –0.247, and –0.013, respectively. Hence, firm performance has a positive significant relationship with IDI at less than 5%. This outcome is consistent with the findings of researchers that appointing outside independent non-executive directors into the board improves the financial performance of firms (M. Nekhili & M. Cherif, 2011; Rahmat, Ahmed, & Lobo; Ryngaert & Thomas, 2012).

Similarly, Firm performance also has a negatively significant relationship with FD and FO at less than 10%. This negative effect of FD with firm performance is consistent with the findings of researchers showing that a family director negatively affects firm performance (Gupta & Choudhary, 2018; Moscariello, Pizzo, Govorun, & Kostyuk, 2018; Sakinah Azizan & Ameer, 2012). This finding can be attributed to the possibility that outside directors may lose their jobs if they contradict top management decisions that serve their interest. The negative effect of FO with firm performance is consistent with findings of previous researchers showing that a negative and significant effect of ownership concentration on firm performance (R. Ameer & Azizan, 2014; Fooladi, Shukor, Saleh, & Jaffar, 2014; Habib et al., 2017a; A. C. Lei & Song, 2011). However, the trend in Tobin's Q of Model 3a significantly decreased from Year 5 to Year 2008. While, this trend significantly increased from Year 2009 to Year 2014.

Column (2) of Model 3b of Panel C shows the relationship between the Tobin's Q and the independent variables (RPTs Abnormal, IDI, FD, FO) with the moderation of

RPTs Abnormal. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 3b. The RPTs Abnormal in Column (2) of Model 3b are significant with a coefficient of –0.096. Therefore, firm performance has a negatively significant relationship with RPTs Abnormal at less than 10%. This is consistent with finding of researchers who found that RPTs abnormal has negative impact on firm performance (Bennouri et al., 2015; Bhuiyan & Roudaki, 2018; M.-A. Cheng & Leung, 2014; Weihua Huang, Schwienbacher, & Zhao, 2012; Moscariello et al., 2018). The IDI, FD, and FO in Column (2) of Model 3b are significant with coefficients of 0.463, –0.788, and –0.549, respectively. Thus, firm performance has a positive significant relationship with IDI at less than 5%. This outcome is consistent with the findings of researchers that appointing outside independent non-executive directors into the board improves the financial performance of firms (Ararat, Orbay, & Yurtoglu, 2010; Downs et al., 2016; Cynthia Afriani Utama & Utama, 2009).

Similarly, firm performance also has a negatively significant relationship with FD and FO at less 10% and 5% respectively. This negative effect of FD with firm performance is consistent with the findings of researchers showing that a family director negatively affects firm performance (Gupta & Choudhary, 2018; Moscariello et al., 2018; Sakinah Azizan & Ameer, 2012). This finding can be attributed to the possibility that outside directors may lose their jobs if they contradict top management decisions that serve their interest. The negative effect of FO with firm performance is consistent with findings of previous researchers showing that a negative and significant effect of ownership concentration on firm performance (R. Ameer & Azizan, 2014; Bhuiyan & Roudaki, 2018; Bona-Sanchez et al., 2017; Downs et al., 2016; Moscariello et al., 2018; Z. N. Wang, 2017). However, the trend in Tobin's Q of Model 3b decreased from Year 2005 to Year 2008. This trend significantly increased from Year 2009 to Year 2014.

Moderation effect of RPT with IDI, FD and FO of Model 3b

Column (2) of Model 3b of Panel C shows the interaction or moderation variable (i.e., RPTs IA) with IDI, FD, and FO. The moderation variable (i.e., RPTs Abnormal) is significantly correlated (-0.046) with IDI. Thus, the interaction variable (i.e., RPTs Abnormal) negatively moderates the relationship between IDI and firm performance. The RPTs play a significant negative moderation role between IDI and firm performance. This relationship is negatively significant at less than 5%. The interaction variable (i.e., RPTs Abnormal) is significant with FO with a coefficient of –0.054. This finding shows that the interaction variable (i.e., RPTs Abnormal) negatively moderates the relationship between FO and firm performance. The RPTs Abnormal play a significant negative moderation role between FO and firm performance. This relationship is negatively significant at less than 5%. However, the interaction variable (i.e., RPTs abnormal) has no moderation role between FD and firm performance.

5.14.3 Regression without and with interaction variable i.e. RPTs Benefit by using GMM Panel data technique

In this section the robustness test results are verified by analyzing return i.e. ROA, ROE and Tobin's Q with corporate governance variables i.e. IDI, FD and FO along with interaction variable (i.e., RPTs Benefit). Table 5.14 shows the results of Model 1a, Model 1b, Model 2a, Model 2b, Model 3a, and Model 3b by using the GMM regression without and with the interaction or moderation variable (i.e., RPTs Benefit) employed in Panels A, B, and C, respectively. Model 1a and Model 1b of Panel A show the both without and with interaction variable (i.e. RPTs Benefit). Firm performance is a function of CG, RPTs Benefit and control variables. Firm performance without an interaction variable i.e. RPTs Benefit.

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, firm performance with an interaction variable (i.e. RPTs Benefit)

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Similarly, Model 2a and Model 2b of Panel B shows both without and with interaction variable i.e. RPTs Benefit. Firm performance is a function of CG, RPTs Benefit and control variables. Firm performance without an interaction variable (i.e., RPTs Benefit)

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, firm performance with an interaction variable (i.e. RPTs Benefit)

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Similarly, Model 3a and Model 3b of Panel C shows that without and with interaction variable i.e. RPTs Benefit. Firm performance is a function of CG, RPTs Benefit and control variables. Firm performance without an interaction variable (i.e., RPTs Benefit)

$$Q_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, Firm performance with an interaction variable (i.e. RPTs Benefit)

$$Q_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Table 5.14: Related party transactions, corporate governance and firm performance without and with interaction variables i.e. RPTs Benefit

	Panel A		Panel B		Panel C	
	Model 1a	Model 1b	Model 2a	Model 2b	Model 3 a	Model 3b
	roa	roa	roe	roe	Q	Q
L.roa/ L.roe/ L.Q	0.418***	0.420***	0.379***	0.381***	0.397***	0.399***
	(0.022)	(0.021)	(0.028)	(0.029)	(0.020)	(0.019)
RPTs Benefit	0.288*	0.065*	0.377*	0.385*	0.084*	0.382*
	(1.055)	(5.418)	(2.987)	(15.103)	(0.983)	(4.972)
Independent non-executive director index (IDI)	0.013*	0.752*	0.009*	0.216*	0.017*	0.867*
	(0.023)	(0.514)	(0.055)	(1.110)	(0.021)	(0.474)
Family Directorship (FD)	-0.263*	-0.238*	-0.551*	-0.360**	-0.250*	-0.244*
	(0.168)	(4.227)	(0.557)	(12.583)	(0.161)	(4.017)
Family Ownership (FO)	-0.019*	-0.289*	-0.054*	-0.118**	-0.013*	-0.204*
	(0.013)	(0.365)	(0.036)	(0.961)	(0.013)	(0.341)
PM	0.260**	0.116**	0.877*	0.626**	0.192**	0.066**
	(0.500)	(0.475)	(0.458)	(0.580)	(0.509)	(0.483)
Firm size (FS)	-0.377*	-0.636*	-0.700*	-0.262**	-0.569*	-0.810*
	(0.885)	(0.839)	(0.942)	(1.126)	(0.896)	(0.850)
Leverage (Lev)	0.069*	0.541**	-0.367**	-0.523**	0.235**	0.651**
	(1.618)	(1.537)	(1.488)	(1.877)	(1.644)	(1.561)
Age of firm (Age)	0.000**	0.001*	-0.028*	-0.017**	-0.005*	-0.003*
	(0.013)	(0.013)	(0.032)	(0.032)	(0.013)	(0.013)
Industry type	0.270**	0.117**	0.887*	0.636**	0.194**	0.067**
	(0.400)	(0.375)	(0.358)	(0.480)	(0.409)	(0.383)
Year (2005)	-0.622	-0.119**	-0.711**	-2.542**	-1.122***	-1.111**
	(0.484)	(0.457)	(1.172)	(1.167)	(0.425)	(0.436)
Year (2006)	-0.432	-0.949**	-0.276***	-0.347***	-0.011**	-0.012**
	(0.463)	(0.448)	(1.194)	(1.162)	(0.436)	(0.435)
Year (2007)	-0.255	-0.758*	-0.819*	-0.766*	-0.870**	-0.865**
	(0.487)	(0.433)	(1.220)	(1.193)	(0.418)	(0.422)
Year (2008)	-0.184	-0.730*	-0.446*	-1.567*	-0.750*	-0.802*
	(0.492)	(0.451)	(1.177)	(1.189)	(0.425)	(0.433)
Year (2009)	0.406*	-0.109*	0.538**	0.459*	-0.276*	-0.276*
	(0.552)	(0.389)	(1.136)	(1.125)	(0.382)	(0.380)
Year (2010)	0.910*	0.360*	0.418*	01.344*	0.253*	0.209*
	(0.513)	(0.409)	(1.175)	(1.178)	(0.391)	(0.400)
Year (2011)	0.720	0.193*	0.593*	0.570*	0.021*	0.014*
	(0.478)	(0.401)	(1.020)	(1.018)	(0.368)	(0.379)
Year (2012)	0.085*	0.584*	0.827*	0.730*	0.509*	0.493*
	(0.571)	(0.399)	(1.176)	(1.174)	(0.361)	(0.364)
Year (2013)	0.547*	0.546*	0.548*	0.457*	0.478	0.748
	(0.474)	(0.474)	(0.474)	(0.474)	(0.474)	(0.474)
Year (2014)	0.948*	-0.530	0.892*	0.034*	0.269	0.271*
	(0.242)	(0.477)	(1.245)	(1.218)	(0.450)	(0.453)
RPTs Benefit X IDI		-0.053*		-0.084*		-0.062*
		(0.036)		(0.078)		(0.033)
RPTs Benefit X FD		-0.485*		-0.813**		-0.486*
		(0.296)		(0.888)		(0.282)
RPTs Benefit X FO		-0.022*		-0.146**		-0.015*
		(0.026)		(0.068)		(0.024)
_cons	7.959	85.427	28.930	312.026	15.685	92.204
	(15.470)	(76.965)	(45.202)	(213.390)	(14.435)	(70.747)
Number of Groups	150	150	150	150	150	150
Observations	1650	1650	1650	1650	1650	1650

Note: This table shows the GMM regression of Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b where dependent variable is roa= Return on asset, roe= Return on equity, Q= Tobin's Q, while independent variables are IDI=Independent non-executive director index, FD= Family Directorship, FO= Family Ownership, RPTs Benefit= RPT benefit based transactions , interaction variable is RPTs Benefit= rpt benefit based transactions and control variables are PM= Profit Margin, FS= Firm size, Lev= leverage of firm, Age= Age of firm, Industry type and year. * p<0.1;**p<0.05; ***p<0.01

Table 5.14 shows the results of Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b by using the GMM regression without and with the interaction or moderation variable (i.e., RPTs Benefit) employed in Panels A, B, and C, respectively. Details of the variables used in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b are shown in Table 5.11. Panel A of Table 5.14 shows Model 1a and Model 1b without and with the moderation variable (i.e., RPTs Benefit) in Columns (1) and (2), respectively. Column (1) of Model 1a describes the relationship without the moderation of interaction variable (i.e., RPTs Benefit) between the ROA and the independent variables (RPTs Benefit, IDI, FD and FO). The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 1a. The RPTs Benefit in Column (1) of Model 1a has significant coefficients of 0.288. Hence, firm performance has a significant positive relationship with RPTs Benefit at less than 10%. The CG variables (i.e., IDI, FD, and FO) in Column (1) of Model 1a are significant with coefficients of 0.013, -0.263 and -0.019 respectively. Thus, firm performance has a significant positive relationship with IDI at less than 10%. Firm performance also has significant negative relationships with FD and FO at less than 10%. However, the ROA trend in Model 1a notably decreased from Year 2005 to Year 2008 and then significantly increased from Year 2009 to Year 2014.

Column (2) of Model 1b of Panel A shows the relationship between the ROA and the independent variables (RPTs Benefit, IDI, FD and FO) with the moderation of RPTs Benefit. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year, as utilized in Model 1b. The RPTs Benefit in Column (1) of Model 1a is significant with coefficients of 0.065. Therefore, firm performance has a significant positively relationship with RPTs Benefit at less than 10%. Furthermore, RPTs benefit-based transactions i.e. bonus, convertible, and right issue shares have positive effect on

the family-owned firm performance. This is consistent with researchers like Gonenc and Hermes (2008), Q. Liu and Lu (2007), G. S. Bae et al. (2008), Q. Liu and Lu (2007), G. S. Bae et al. (2008), Guo and Ma (2009) and Chauhan, Dey, et al. (2016) who found that the use of offering cash rights share issues show that major shareholders prop up funds in family-owned firms . They further found that positive RPTs have positive effect on the firm performance. This is also consistent to similar concept of propping in which major shareholder take decision internally for firm in their financial distress position (Gonenc & Hermes, 2008). With propping, money is transferred from profitable firms to those who are facing financial difficulties. Moreover, majority owners may also bring their private resources to firms to keep them from bankruptcy (Friedman et al., 2003).

The CG variables (i.e., IDI, FD, and FO) in Column (2) of Model 1b are significant with coefficients of 0.752, -0.238 and -0.289 respectively. Hence, firm performance has a significant positive relationship with IDI at less than 10%. This outcome is consistent with the findings of J. W. Byrd and Hickman (1992), Kaplan and Minton (1994) and Conyon and He (2011) and Erkens et al. (2012) who found that appointing outside independent non-executive directors into the board improves the financial performance of firms. This result is also consistent with previous research by Mandala et al. (2018) that found a positive association between independent non-executive director and firm performance calculated by ROA. This view is also supported by various researchers that high independency of independent non-executive director are positively related to firm performance calculated by ROA (Shaukat & Trojanowski, 2018; H. Zhou et al., 2018).

Similarly, Firm performance also has a significant negative relationship with FD and FO at less than 5%. It found a negative relationship of FD with significant effect on

firm performance. This negative relation might be due to poor managerial talent; low expertise of family members as director can result in difficulties in entering new markets and taking new investment opportunities. Inappropriate selection of family members as director will directly or indirectly affect firm performance (Bloom & Van Reenen, 2007; Gulbrandsen, 2005, 2009). In other words, family directorship acts in its own private interests instead of the company interest, to the detriment of minority shareholders which will result in lower firm performance (J.-T. Wei et al., 2018). This negative effect of family director with firm performance is also consistent with the findings by Morck et al. (1988) and Morck and Yeung (2003) showing that a family director negatively affects firm performance. This finding can be attributed to the possibility that outside directors may lose their jobs if they contradict top management decisions that serve their interest in Pakistani family-owned firms (Mahmood et al., 2018). The negative effect of family ownership with firm performance is consistent with the findings of researchers like Mohan and Chandramohan (2018), Owusu and Weir (2018), Dyck and Zingales (2004), Lehmann and Weigand (2000), Z Chen and Cheung (2000), Mudambi and Nicosia (1998), Leech and Leahy (1991), and McConnell and Servaes (1990) who found a negative and significant effect of ownership concentration on firm value. This result shows that higher ownership concentration could induce the prioritization of self-interest by large shareholders and the consequent expropriation of firm resources (i.e. wealth) through RPTs resulting in decreased firm performance (Bona-Sanchez et al., 2017). However, the ROA trend in Model 1b insignificantly decreased from 2005 to 2008 and then significantly increased from 2010 to 2014, except on 2011.

Moderation effect of RPTs Benefit with IDI, FD and FO of Model 1a

Column (2) of Model 1a of Panel A shows the interaction or moderation variable RPTs Benefit with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs

Benefit) has significant coefficients with IDI (–0.053), FD (–0.485), and FO (–0.022). Hence, the interaction variable RPTs Benefit significantly and negatively moderates the relationship between IDI and firm performance at less than 10%. The RPTs Benefit also significantly and negatively moderates the relationship between FO and firm performance at less than 10%. Similarly, RPTs Benefit significantly and negatively moderates the relationship between FD and firm performance at less than 10%.

Panel B of Table 5.14 shows Model 2a without and with the moderation variable (i.e., RPTs Benefit) in Columns (1) and (2), respectively. Column (1) of Model 2a describes the relationship without the moderation of interaction variable (i.e., RPTs Benefit) between the ROE and the independent variables (RPTs Benefit, IDI, FD and FO). The control variables are firm Size, profit margin, leverage, age of firm, industry type and year, as employed in Model 2a. The RPTs Benefit in Column (1) of Model 2a has significant coefficients of 0.377. Hence, firm performance has a significant positive relationship with RPTs Benefit at less than 10%. The CG variables (i.e., IDI, FD, and FO) in Column (1) of Model 2 are significant with coefficients of 0.009, -0.551 and -0.054, respectively. Thus, firm performance has a significant positive relationship with IDI at less than 10%. Firm performance also has significant negative relationships with both FD and FO at less than 10%. However, the ROE trend in Model 2a significantly decreased from Year 2005 to 2008 and then notably increased from Year 2009 to Year 2014.

Column (2) of Model 2b of Panel B shows the relationship between the ROE and the independent variables (RPTs Benefit, IDI, FD and FO) with the moderation of RPTs Benefit. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as utilized in Model 2b. The RPTs Benefit in Column (1) of Model 2b is

significant with coefficients of 0.385. Therefore, firm performance has a significant positive relationship with RPTs Benefit at less than 10%. Furthermore, RPTs benefit-based transactions i.e. bonus, convertible, and right issue shares have positive effect on the family-owned firm performance. This is consistent with researchers like Gonenc and Hermes (2008), Q. Liu and Lu (2007), G. S. Bae et al. (2008), Q. Liu and Lu (2007), G. S. Bae et al. (2008), Guo and Ma (2009) and Chauhan, Dey, et al. (2016) who found that the use of offering cash rights share issues show that major shareholders prop up funds in family-owned firms. They further found that positive RPTs have positive effect on the firm performance. This is also consistent to similar concept of propping in which major shareholder take decision internally for firm in their financial distress position (Gonenc & Hermes, 2008). With propping, money is transferred from profitable firms to those who are facing financial difficulties. Moreover, majority owners may also bring their private resources to firms to keep them from bankruptcy (Friedman et al., 2003).

The CG variables (i.e., IDI, FD, and FO) in Column (2) of Model 2b are significant with coefficients of 0.216, -0.360 and -0.118 respectively. Hence, firm performance has a significant positive relationship with IDI at less than 10%. The result is consistent with the monitoring hypothesis of agency theory, which holds that the presence of a larger proportion of INEDs in the board adds value to the firm by providing the firm with independent decisions and judgments (Cadbury Report, 1992; Chhaochharia and Grinstein, 2009), playing an important role in the board as a source of experience, monitoring services, reputation and expert knowledge (Pathan et al., 2007). This is consistent with result of researcher like Dehaene et al. (2001) who found the evidence that significant positive relationship between the number of external directors and return on equity (ROE). This is also consistent with previous research like Shaukat and Trojanowski (2018) who found a positive association between independent non-executive

director and firm performance calculated by ROE. Firm performance also has a significant negative relationship with both FD and FO at less than 5%. Similar context in Pakistani family-owned firms, it is consistent with researchers that outside directors accept every decision of Major shareholder for their self-interest. While the negative effect of family ownership with firm performance is consistent with the findings of researchers who found a negative and significant effect of ownership concentration on firm value. In the Pakistani context, such result is consistent with researchers who showed that concentrated ownership structure has a negative relationship with firm performance calculated by ROE. However, the ROE trend in Model 2b significantly decreased from Year 2005 to Year 2008 and then significantly increased from 2009 to Year 2014.

Moderation effect of RPTs Benefit with IDI, FD and FO of Model 2b

Column (2) of Model 2b of Panel B shows the interaction or moderation variable RPTs Benefit with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Benefit) has significant coefficients with IDI (–0.084), FD (-0.813), and FO (–0.146). Hence, the interaction variable RPTs Benefit significantly and negatively moderates the relationship between IDI and firm performance at less than 10%. The RPTs Benefit also significantly and negatively moderates the relationship between FO and firm performance at less than 5%. Similarly, RPTs Benefit significantly and negatively moderates the relationship between FD and firm performance at less than 5%.

Panel C of Table 5.14 shows Model 3a and Model 3b without and with the moderation variable (i.e., RPTs Benefit) in Columns (1) and (2), respectively. Column (1) of Model 3a describes the relationship without the moderation of interaction variable (i.e., RPTs Benefit) between the Tobin's Q and the independent variables (RPTs Benefit,

IDI, FD and FO). The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 3a. The RPTs Benefit in Column (1) of Model 3a has significant coefficients of 0.084. Hence, firm performance has a significant positive relationship with RPTs Benefit at less than 10%. The CG variables (i.e., IDI, FD, and FO) in Column (1) of Model 3 are significant with coefficients of 0.017, -0.250 and -0.013, respectively. Thus, firm performance has a significant positive relationship with IDI at less than 10%. Firm performance also has significant negative relationships with both FD and FO at less than 10%. However, the Tobin's Q trend in Model 3a significantly decreased from Year 2005 to Year 2009 and then notably increased Year 2010 to Year 2014.

Column (2) of Model 3b of Panel C shows the relationship between the Tobin's Q and the independent variables (IDI, FD, FO and RPTs Benefit) with the moderation of RPTs Benefit. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as utilized in Model 3b. The RPTs Benefit in Column (1) of Model 3b is significant with coefficients of 0.382. Therefore, firm performance has a significant positive relationship with RPTs Benefit at less than 10%. Furthermore, RPTs benefit-based transactions i.e. bonus, convertible, and right issue shares have positive effect on the family-owned firm performance. This is consistent with researchers like Gonenc and Hermes (2008), Q. Liu and Lu (2007), G. S. Bae et al. (2008), Q. Liu and Lu (2007), G. S. Bae et al. (2008), Guo and Ma (2009) and Chauhan, Dey, et al. (2016) who found that the use of offering cash rights share issues show that major shareholders prop up funds in family-owned firms. They further found that positive RPTs have positive effect on the firm performance. This is also consistent to similar concept of propping in which major shareholder take decision internally for firm in their financial distress position (Gonenc & Hermes, 2008). With propping, money is transferred from profitable firms to those who

are facing financial difficulties. Moreover, majority owners may also bring their private resources to firms to keep them from bankruptcy (Friedman et al., 2003). The CG variables (i.e., IDI, FD, and FO) in Column (2) of Model 3b are significant with coefficients of 0.867, -0.244 and -0.204 respectively. Hence, firm performance has a significant positive relationship with IDI at less than 10%. This is also consistent with previous researchers like S. Singh et al. (2018), Bhat et al. (2018b), Hassan et al. (2017) and U. Bashir et al. (2018) that found a positive association between independent non-executive director and firm performance calculated by Tobin's Q. Firm performance also has a significant negative relationship with both FD and FO at less than 10%. It found a negative significant relationship of family directorship with firm performance (Anderson & Reeb, 2004; Bodnaruk et al., 2017; Ghosh, 2007; Mishra et al., 2001; Pandey et al., 2015; Rouyer, 2016). Similar context in Pakistani family-owned firms, it is consistent with researchers that outside directors accept every decision of top management for saving their self-interest (Azmat, 2014; Qaiser Rafique & Al Mamun, 2015; Yasser, Mamun, & Rodrigs, 2017) .

While the negative effect of family ownership with firm performance calculated by Tobin's Q is consistent with the findings of researchers who found a negative and significant effect of ownership concentration on firm performance (Al-Ghamdi & Rhodes, 2015; K. Lee & Barnes, 2017; T. Lee & Chu, 2015; Mehboob et al., 2015a). In the Pakistani context, such result is consistent with researchers who showed that concentrated ownership structure has a negative relationship with firm performance calculated by Tobin's Q (Y. Ali et al., 2015a; Javaid & Saboor, 2015; Nazir & Afza, 2018; Yasser, Mamun, & Seamer, 2017). However, the Tobin's Q trend in Model 3b significantly decreased from Year 2005 to Year 2009 and then notably increased Year 2010 to Year 2014.

Moderation effect of RPTs Benefit with IDI, FD and FO of Model 3b

Column (2) of Model 3b of Panel C shows the interaction or moderation variable RPTs Benefit with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Benefit) has significant coefficients with IDI (–0.062), FD (-0.486), and FO (–0.015). Hence, the interaction variable RPTs Benefit significantly and negatively moderates the relationship between IDI and firm performance at less than 10%. The RPTs Benefit also significantly and negatively moderates the relationship between FO and firm performance at less than 10%. Conversely, RPTs Benefit significantly and negatively moderates the relationship between FD and firm performance at less than 10%.

5.14.4 Regression without and with interaction variable i.e. RPTs Expense by using GMM Panel data technique

In this section the robustness test results are verified by analyzing return i.e. ROA, ROE and Tobin's Q with corporate governance variables i.e. IDI, FD and FO along with interaction variable (i.e., RPTs Expense). Table 5.15 shows the results of Model 1a, Model 1b, Model 2a, Model 2b, Model 2a and Model 3b by using the GMM regression without and with the interaction or moderation variable i.e. RPTs Expense employed in Panels A, B, and C, respectively. Details of the variables used in Model 1a, Model 1b, Model 2a, Model 2b, Model 2a and Model 3b are shown in Table 5.15. Model 1a and Model 2b of Panel A shows without and with interaction variable i.e. RPTs Expense. Firm performance is a function of CG, RPTs Expense and control variables. Firm performance without an interaction variable i.e. RPTs Expense.

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, firm performance with an interaction variable (i.e. RPTs Expense)

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Similarly,Model 2a and Model 2b of Panel B shows both without and with interaction variable i.e. RPTs Expense. Firm performance is a function of CG, RPTs Expense and control variables. Firm performance without an interaction variable i.e. RPTs Expense.

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, firm performance with an interaction variable i.e. RPTs Expense.

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Similarly, Model 3a and Model 3b of Panel C shows both without and with interaction variable i.e. RPTs Expense. Firm performance is a function of CG, RPTs Expense and control variables. Firm performance without an interaction variable i.e. RPTs Expense.

$$Q_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Similarly, firm performance with an interaction variable i.e. RPTs Expense.

$$Q_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Table 5.15: Related party transaction corporate governance and firm performance without and with interaction variable i.e. RPTs Expense

	Panel A		Panel B		Panel C	
	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b
	roa	roa	roe	roe	Q	Q
L.roa/ L.roe/ L.Q	0.419***	0.420***	0.379***	0.378***	0.399***	0.401***
	(0.021)	(0.021)	(0.029)	(0.029)	(0.019)	(0.019)
RPTs Expense	-0.239*	-0.139*	-0.292*	-0.240*	-0.219*	-0.151*
	(0.128)	(1.187)	(0.437)	(3.382)	(0.133)	(1.181)
Independent non-executive director Index (IDI)	0.013*	0.216*	0.008*	0.059*	0.019*	0.280*
	(0.022)	(0.231)	(0.055)	(0.636)	(0.021)	(0.219)
Family Directorship (FD)	-0.241*	-0.435*	-0.506*	-0.891*	-0.235*	-0.234*
	(0.169)	(1.035)	(0.549)	(3.085)	(0.162)	(1.037)
Family Ownership (FO)	-0.019*	-0.085*	-0.055*	-0.212*	-0.013*	-0.126*
	(0.013)	(0.102)	(0.036)	(0.330)	(0.013)	(0.099)
Profit Margin (PM)	0.244***	0.233***	0.835***	0.935***	0.189***	0.166***
	(0.475)	(0.475)	(0.466)	(0.440)	(0.481)	(0.482)
Firm size (FS)	-0.408**	-0.404	-1.760*	-1.554*	-0.579	-0.604
	(0.842)	(0.841)	(0.944)	(0.911)	(0.849)	(0.851)
Leverage (Lev)	0.119***	0.149***	-1.222***	-0.538***	0.240***	0.316***
	(1.536)	(1.535)	(1.515)	(1.425)	(1.554)	(1.557)
Age of firm (Age)	0.001***	0.002***	-0.030***	-0.028***	-0.004***	-0.004***
	(0.013)	(0.013)	(0.032)	(0.033)	(0.013)	(0.013)
Industry type	0.243***	0.234***	0.836***	0.936***	0.179***	0.167***
	(0.474)	(0.473)	(0.465)	(0.439)	(0.480)	(0.481)
Year (2005)	-0.659	-0.660	-0.828	-1.177	-1.172***	-0.910*
	(0.487)	(0.491)	(1.048)	(1.046)	(0.427)	(0.475)
Year (2006)	-0.448	-0.452	-1.378	-1.747	-1.044**	-0.779*
	(0.468)	(0.475)	(1.062)	(1.068)	(0.442)	(0.465)
Year (2007)	-0.277	-0.266	0.995	0.668	-0.908**	-0.614**
	(0.487)	(0.493)	(1.144)	(1.140)	(0.421)	(0.469)
Year (2008)	-0.153	-0.187	0.323	0.142	-0.738*	-0.511*
	(0.493)	(0.497)	(1.288)	(1.311)	(0.429)	(0.497)
Year (2009)	0.392*	0.413*	3.447***	3.007***	-0.302**	-0.017*
	(0.556)	(0.561)	(1.136)	(1.162)	(0.390)	(0.535)
Year (2010)	0.854*	0.860*	3.270**	2.983**	0.187*	0.454*
	(0.516)	(0.520)	(1.298)	(1.298)	(0.399)	(0.485)
Year (2011)	0.691*	0.737*	2.479**	2.152*	0.024*	0.296*
	(0.478)	(0.487)	(1.083)	(1.106)	(0.372)	(0.468)
Year (2012)	1.046*	1.053*	3.714***	3.343**	0.482*	0.725*
	(0.568)	(0.572)	(1.313)	(1.325)	(0.361)	(0.531)
Year (2013)	0.550*	0.522*	1.822**	1.387**	0.441*	0.269*
	(0.477)	(0.478)	(1.227)	(1.215)	(0.352)	(0.451)
Year (2014)	0.781	0.231*	0.784*	0.768*	0.285*	0.332*
	(0.562)	(0.151)	(0.224)	(0.561)	(0.450)	(0.214)
RPTs Expense X IDI		-0.014**		0.063*		-0.018*
		(0.014)		(0.038)		(0.013)
RPTs Expense X FD		-0.041*		-0.144		-0.029
		(0.060)		(0.183)		(0.060)
RPTs Expense X FO		-0.006***		-0.009**		-0.008*
		(0.006)		(0.020)		(0.006)
cons	15.678***	-7.368	28.029*	12.132	17.988***	-5.194
	(3.925)	(20.288)	(14.313)	(56.245)	(3.990)	(20.282)
Number of Groups	150	150	150	150	150	150
Observations	1650	1650	1650	1650	1650	1650

Note: This table shows the GMM regression of Model 1a, Model 1b, Model 2a, Model 2b, Model 2a and Model 3b where dependent variable is roa= Return on asset, roe= Return on equity, Q= Tobin's Q, while independent variables are IDI=Independent non-executive director index, FD= Family Directorship, FO= Family Ownership, RPTs Expense= rpt expense based transactions, interaction variable is RPTs Expense= rpt expense based transactions and control variables are PM= Profit Margin, FS= Firm size, Lev= leverage of firm, Age= Age of firm, Industry type and year, * p<0.1;**p<0.05; ***p<0.01

Table 5.15 shows the results of Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b by using the GMM regression without and with the interaction or moderation variable (i.e., RPTs Expense) employed in Panels A, B, and C, respectively. Details of the variables used in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b are shown in Table 5.12. Panel A of Table 5.13 shows Model 1a and Model 1b without and with the moderation variable (i.e., RPTs Expense) in Columns (1) and (2) respectively. Column (1) of Model 1a describes the relationship without the moderation of interaction variable (i.e., RPTs Expense) between the ROA and the independent variables (RPTs Expense, IDI, FD and FO). The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 1a. The RPTs Expense in Column (1) of Model 1a has significant coefficients of -0.239. Hence, firm performance has a significant negative relationship with RPTs Expense at less than 10%. The CG variables (i.e., IDI, FD, and FO) in Column (1) of Model 1 are significant with coefficients of 0.013, -0.241 and -0.019, respectively. Thus, firm performance has a significant positive relationship with IDI at less than 10%. Firm performance also has significant negative relationships with FD and FO at less than 10%. However, the ROA trend in Model 1 insignificantly decreased from 2005 to 2008 except 2006 and then significantly increased from Year 2009 to Year 2014.

Column (2) of Model 1b of Panel A shows the relationship between the ROA and the independent variables (RPTs Expense, IDI, FD and FO) with the moderation of RPTs Expense. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year, as utilized in Model 1b. The RPTs Expense in Column (1) of Model 1b is significant with coefficients of -0.139. Therefore, firm performance has a significant negative relationship with RPTs Expense at less than 10%. Further, RPTs expense-based transactions i.e. organizational expenditure, insurance, royalty payments, and other

expenses have negative effect on firm performance. This is consistent with findings of various researchers who have empirically proven the existence of tunneling in family-owned firms and also found that negative RPTs have negative effect on the family-owned firm performance (K. H. Bae et al., 2002; J. S. Baek et al., 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone, et al., 2000; Lins, 2003). Thus, major shareholders in Pakistani family-owned firms transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. This is also consistent with similar concept of tunneling in which the controlling shareholder has strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders (Bertrand et al., 2002). Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. Transferring resources becomes costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and health of firms (K. H. Bae et al., 2002; Riyanto & Toolsema, 2008; Toolsema, 2004). Negative RPTs is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

The CG variables (i.e., IDI, FD, and FO) in Column (2) of Model 1b are significant with coefficients of 0.216, -0.435 and -0.085 respectively. Hence, firm performance has a significant positive relationship with IDI at less than 10%. This outcome is consistent with the findings of J. W. Byrd and Hickman (1992), Kaplan and

Minton (1994) and Conyon and He (2011) and Erkens et al. (2012) who found that appointing outside independent non-executive directors into the board improves the financial performance of firms. This result is also consistent with previous research by Mandala et al. (2018) that found a positive association between independent non-executive director and firm performance calculated by ROA. This view is also supported by various researchers that high independency of independent non-executive director are positively related to firm performance calculated by ROA (Shaukat & Trojanowski, 2018; H. Zhou et al., 2018). Firm performance also has a significant negative relationship with FD and FO at less than 10%. It found a negative relationship of FD with significant effect on firm performance. This negative relation might be due to poor managerial talent; low expertise of family members as director can result in difficulties in entering new markets and taking new investment opportunities. Inappropriate selection of family members as director will directly or indirectly affect firm performance (Bloom & Van Reenen, 2007; Gulbrandsen, 2005, 2009). In other words, family directorship acts in its own private interests instead of the company interest, to the detriment of minority shareholders which will result in lower firm performance (J.-T. Wei et al., 2018). This negative effect of family director with firm performance is also consistent with the findings by Morck et al. (1988) and Morck and Yeung (2003) showing that a family director negatively affects firm performance. This finding can be attributed to the possibility that outside directors may lose their jobs if they contradict top management decisions that serve their interest in Pakistani family-owned firms (Mahmood et al., 2018). The negative effect of family ownership with firm performance is consistent with the findings of researchers like Mohan and Chandramohan (2018), Owusu and Weir (2018), Dyck and Zingales (2004), Lehmann and Weigand (2000), Z Chen and Cheung (2000), Mudambi and Nicosia (1998), Leech and Leahy (1991), and McConnell and Servaes (1990) who found a negative and significant effect of ownership concentration on firm value. This result

shows that higher ownership concentration could induce the prioritization of self-interest by large shareholders and the consequent expropriation of firm resources (i.e. wealth) through RPTs resulting in decreased firm performance (Bona-Sanchez et al., 2017). However, the ROA trend in Model 1 insignificantly decreased from Year 2005 to Year 2008 and then significantly increased from Year 2009 to Year 2014.

Moderation effect of RPTs Expense with IDI, FD and FO of Model 1b

Column (2) of Model 1b of Panel A shows the interaction or moderation variable RPTs Expense with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Expense) has significant coefficients with IDI (–0.014), FD (–0.041), and FO (–0.006). Hence, the interaction variable RPTs Expense significantly and negatively moderates the relationship between IDI and firm performance at less than 5%. Similarly, The RPTs Expense significantly and negatively moderates the relationship between FO and firm performance at less than 1%. Finally, the RPTs Expense significantly and negatively moderates the relationship between FD and firm performance at less than 10%.

Panel B of Table 5.15 shows Model 2a and Model 2b without and with the moderation variable (i.e., RPTs Expense) in Columns (1) and (2), respectively. Column (1) of Model 2a describes the relationship without the moderation of interaction variable (i.e., RPTs Expense) between the ROE and the independent variables (RPTs Expense, IDI, FD and FO). The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 2a. The RPTs Expense in Column (1) of Model 2 has significant coefficients of -0.292. Hence, firm performance has a significant negative relationship with RPTs Expense at less than 10%. The CG variables (i.e., IDI, FD, and FO) in Column (1) of Model 2a are significant with coefficients of 0.008, -0.506 and -0.055 respectively. Thus, firm performance has a significant positive relationship

with IDI at less than 10%. Firm performance also has significant negative relationships with FD and FO at less than 10%. However, the ROE trend in Model 2a insignificantly decreased from Year 2005 to Year 2006 and then notably significant increased from Year 2007 to Year 2014.

Column (2) of Model 2b of Panel B shows the relationship between the ROE and the independent variables (RPTs Expense, IDI, FD and FO) with the moderation of RPTs Expense. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as utilized in Model 2b. The RPTs Expense in Column (2) of Model 2b is significant with coefficients of -0.240. Therefore, firm performance has a significant negative relationship with RPTs Expense based at less than 10%. Further, RPTs expense-based transactions i.e. organizational expenditure, insurance, royalty payments, and other expenses have negative effect on firm performance. This is consistent with findings of various researchers who have empirically proven the existence of tunneling in family-owned firms and also found that negative RPTs have negative effect on the family-owned firm performance (K. H. Bae et al., 2002; J. S. Baek et al., 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone, et al., 2000; Lins, 2003). Thus, major shareholders in Pakistani family-owned firms transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. This is also consistent with similar concept of tunneling in which the controlling shareholder has strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders (Bertrand et al., 2002). Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their

shareholding. Transferring resources becomes costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and health of firms (K. H. Bae et al., 2002; Riyanto & Toolsema, 2008; Toolsema, 2004). Negative RPTs is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

The CG variables (i.e., IDI, FD, and FO) in Column (2) of Model 2b are significant with coefficients of 0.059, -0.891 and -0.212 respectively. Hence, firm performance has a significant positive relationship with IDI at less than 10%. The result is consistent with the monitoring hypothesis of agency theory, which holds that the presence of a larger proportion of INEDs in the board adds value to the firm by providing the firm with independent decisions and judgments (Cadbury Report, 1992; Chhaochharia and Grinstein, 2009), playing an important role in the board as a source of experience, monitoring services, reputation and expert knowledge (Pathan et al., 2007). This is consistent with result of researcher like Dehaene et al. (2001) who found the evidence that significant positive relationship between the number of external directors and return on equity (ROE). This is also consistent with previous research like Shaukat and Trojanowski (2018) who found a positive association between independent non-executive director and firm performance calculated by ROE. Firm performance also has a significant negative relationship with FD and FO at less than 10%. Similar context in Pakistani family-owned firms, it is consistent with researchers that outside directors accept every decision of Major shareholder for their self-interest. While the negative effect of family ownership with firm performance is consistent with the findings of researchers who found a negative and significant effect of ownership concentration on

firm value. In the Pakistani context, such result is consistent with researchers who showed that concentrated ownership structure has a negative relationship with firm performance calculated by ROE. However, the ROE trend in Model 2b insignificantly decreased from Year 2005 to Year 2006 and then notably significant increased from Year 2007 to Year 2014

Moderation effect of RPTs Expense with IDI, FD and FO of Model 2b

Column (2) of Model 2b of Panel B shows the interaction or moderation variable RPTs Expense with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Expense) has significant coefficients with IDI (0.063) and FO (–0.009). Hence, the interaction variable RPTs Expense significantly and positively moderates the relationship between IDI and firm performance at less than 10%. Conversely, The RPTs Expense also significantly and negatively moderates the relationship between FO and firm performance at less than 5%. Finally, RPTs Expense has no moderating effect on the relationship between FD and firm performance.

Panel C of Table 5.15 shows Model 3a without and with the moderation variable (i.e., RPTs Expense) in Columns (1) and (2), respectively. Column (1) of Model 3a describes the relationship without the moderation of interaction variable (i.e., RPTs Expense) between the Tobin's Q and the independent variables (RPTs Expense, IDI, FD and FO). The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 3a. The RPTs Expense in Column (1) of Model 3a has significant coefficients of -0.219. Hence, firm performance has a significant negative relationship with RPTs Expense based at less than 10%. The CG variables (i.e., IDI, FD, and FO) in Column (1) of Model 3a are significant with coefficients of 0.019, -0.235 and -0.013, respectively. Thus, firm performance has a significant positive relationship with

IDI at less than 10%. Firm performance also has significant negative relationships with both FD and FO at less than 10%. However, the Tobin's Q trend in Model 3a significantly decreased from Year 2005 to Year 2009 and then significantly increased from Year 2010 to Year 2014.

Column (2) of Model 3b of Panel C shows the relationship between the Tobin's Q and the independent variables (RPTs Expense, IDI, FD and FO) with the moderation of RPTs Expense. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as utilized in Model 3b. The RPTs Expense in Column (2) of Model 3b is significant with coefficients of -0.151. Therefore, firm performance has a significant negative relationship with RPTs Expense based at less than 10%. Further, RPTs expense-based transactions i.e. organizational expenditure, insurance, royalty payments, and other expenses have negative effect on firm performance. This is consistent with findings of various researchers who have empirically proven the existence of tunneling in family-owned firms and also found that negative RPTs have negative effect on the family-owned firm performance (K. H. Bae et al., 2002; J. S. Baek et al., 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone, et al., 2000; Lins, 2003). Thus, major shareholders in Pakistani family-owned firms transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. This is also consistent with similar concept of tunneling in which the controlling shareholder has strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders (Bertrand et al., 2002). Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less

benefited from their shareholding. Transferring resources becomes costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and health of firms (K. H. Bae et al., 2002; Riyanto & Toolsema, 2008; Toolsema, 2004). Negative RPTs is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

The CG variables (i.e., IDI, FD, and FO) in Column (2) of Model 3b are significant with coefficients of 0.280, -0.234 and -0.126 respectively. Hence, firm performance has a significant positive relationship with IDI at less than 10%. This is also consistent with previous researchers like S. Singh et al. (2018), Bhat et al. (2018b), Hassan et al. (2017) and U. Bashir et al. (2018) that found a positive association between independent non-executive director and firm performance calculated by Tobin's Q. Firm performance also has a significant negative relationship with FD and FO at less than 10%. It found a negative significant relationship of family directorship with firm performance (Anderson & Reeb, 2004; Bodnaruk et al., 2017; Ghosh, 2007; Mishra et al., 2001; Pandey et al., 2015; Rouyer, 2016). Similar context in Pakistani family-owned firms, it is consistent with researchers that outside directors accept every decision of top management for saving their self-interest (Azmat, 2014; Qaiser Rafique & Al Mamun, 2015; Yasser, Mamun, & Rodrigs, 2017) . While the negative effect of family ownership with firm performance calculated by Tobin's Q is consistent with the findings of researchers who found a negative and significant effect of ownership concentration on firm performance (Al-Ghamdi & Rhodes, 2015; K. Lee & Barnes, 2017; T. Lee & Chu, 2015; Mehboob et al., 2015a). In the Pakistani context, such result is consistent with researchers who showed that concentrated ownership structure has a negative relationship

with firm performance calculated by Tobin's Q (Y. Ali et al., 2015a; Javaid & Saboor, 2015; Nazir & Afza, 2018; Yasser, Mamun, & Seamer, 2017). However, the Tobin's Q trend in Model 3b significantly decreased from Year 2005 to Year 2009 and then significantly increased from Year 2010 to Year 2014.

Moderation effect of RPTs Expense with IDI, FD and FO of Model 3b

Column (2) of Model 3b of Panel C shows the interaction or moderation variable RPTs Expense with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Expense) has significant coefficients with IDI (–0.018) and FO (–0.008). Hence, the interaction variable RPTs Expense significantly and negatively moderates the relationship between IDI and firm performance at less than 10%. Similarly, the RPTs Expense also significantly and negatively moderates the relationship between FO and firm performance at less than 10%. Finally, RPTs Expense has no moderating effect on the relationship between FD and firm performance.

5.14.5 Regression without and with interaction variable i.e. RPTs Other by using GMM Panel data technique

In this section the robustness test results are verified by analyzing return i.e. ROA, ROE and Tobin's Q with corporate governance variables i.e. IDI, FD and FO along with interaction variable (i.e., RPTs Other). Table 5.16 shows the results of Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b by using the GMM regression without and with the interaction or moderation variable (i.e., RPTs Other) employed in Panels A, B, and C, respectively. Details of the variables used in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a, and Model 3b are shown in Table 5.16. Model 1a and Model 1b of Panel A shows both with and without interaction variable (i.e. RPTs Other). Firm performance is a function of CG, RPTs Other, and control variables.

Firm performance without an interaction variable i.e. RPTs Other.

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, firm performance with an interaction variable (i.e. RPTs Other)

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Similarly,Model 2a and Model 2b of Panel B show both with and without interaction variable i.e. RPTs Other. Firm performance is a function of CG, RPTs Other and control variables.

Firm performance without an interaction variable i.e. RPTs Other.

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, firm performance with an interaction variable i.e. RPTs Other.

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Similarly, Model 3a and Model 3b of Panel C show both with and without interaction variable i.e. RPTs Other. Firm performance is a function of CG, RPTs Other and control variables.

Firm performance without an interaction variable (i.e., RPTs Other)

$$Q_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, firm performance with an interaction variable i.e. RPTs Other.

$$Q_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Table 5.16: Related party transaction, corporate governance and firm performance without and with interaction variables i.e. RPTs Other

	Panel A		Panel B		Panel C	
	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b
	roa	roa	roe	roe	Q	Q
L.roa/ L.roe/ L.Q	0.419***	0.417***	0.379***	0.373***	0.398***	0.396***
	(0.021)	(0.022)	(0.028)	(0.029)	(0.019)	(0.020)
RPT other (RPT other)	-0.127*	-0.184**	-0.515*	-0.585*	-0.088*	-0.707*
	(0.214)	(1.581)	(0.551)	(4.121)	(0.213)	(1.519)
Independent non-executive director index (IDI)	0.013*	0.087*	0.006*	0.637*	0.018*	0.122*
	(0.023)	(0.221)	(0.056)	(0.585)	(0.021)	(0.213)
Family Directorship (FD)	-0.270*	-0.993*	-0.546*	-0.737*	-0.260*	-0.531*
	(0.169)	(1.459)	(0.557)	(3.951)	(0.163)	(1.416)
Family Ownership (FO)	-0.019*	-0.352**	-0.055*	-0.849**	-0.013*	-0.319**
	(0.013)	(0.138)	(0.036)	(0.365)	(0.013)	(0.137)
Profit Margin (PM)	0.234***	0.277***	0.806**	0.825***	0.183**	0.219***
	(0.471)	(0.452)	(0.473)	(0.524)	(0.471)	(0.451)
Firm size (FS)	-0.428	-0.348	-0.777*	-0.805*	-0.590	-0.545
	(0.834)	(0.802)	(0.946)	(1.001)	(0.833)	(0.798)
Leverage (lev)	0.145***	0.004***	-0.137***	-0.215	0.262***	0.150***
	(1.522)	(1.463)	(1.537)	(1.701)	(1.525)	(1.460)
Age of firm (Age)	0.001***	0.001***	-0.032***	-0.027***	-0.004***	-0.004***
	(0.013)	(0.013)	(0.033)	(0.033)	(0.013)	(0.013)
Industry type	0.235***	0.278***	0.807**	0.826***	0.184**	0.220***
	(0.470)	(0.451)	(0.472)	(0.523)	(0.470)	(0.450)
Year (2005)	-0.659	-1.075**	-0.733**	-0.747**	-0.162***	-0.042**
	(0.495)	(0.457)	(1.179)	(1.207)	(0.430)	(0.434)
Year (2006)	-0.465	-0.994**	-0.265***	-0.418***	-1.040**	-1.000**
	(0.469)	(0.461)	(1.188)	(1.214)	(0.438)	(0.446)
Year (2007)	-0.275	-0.763*	-0.840	-0.812	-0.905**	-0.838**
	(0.495)	(0.437)	(1.224)	(1.245)	(0.420)	(0.421)
Year (2008)	-0.190	-0.670*	-0.427	-1.237	-0.765*	-0.691*
	(0.495)	(0.445)	(1.175)	(1.210)	(0.424)	(0.426)
Year (2009)	0.386*	0.146*	0.545*	0.482*	-0.293	-0.270*
	(0.551)	(0.404)	(1.136)	(1.156)	(0.384)	(0.386)
Year (2010)	0.904*	0.379*	0.451*	0.660*	0.242*	0.262*
	(0.513)	(0.414)	(1.168)	(1.169)	(0.394)	(0.406)
Year (2011)	0.709*	0.235*	0.624*	0.850*	0.011*	0.058*
	(0.483)	(0.388)	(1.019)	(1.024)	(0.370)	(0.365)
Year (2012)	0.077*	0.544*	0.863*	0.873*	0.504*	0.494*
	(0.575)	(0.399)	(1.166)	(1.166)	(0.359)	(0.360)
Year (2013)	0.550*	0.644*	0.963*	0.773*	0.544*	0.594*
	(0.479)	(0.499)	(0.366)	(0.266)	(0.325)	(0.260)
Year (2014)	0.558*	0.597*	1.698*	1.598*	0.271*	0.324*
	(0.424)	(0.475)	(1.231)	(1.241)	(0.451)	(0.445)
RPT other X IDI		-0.006		0.035**		-0.008
		(0.012)		(0.033)		(0.012)
RPT other X FD		-0.123*		-0.120		-0.097*
		(0.081)		(0.214)		(0.079)
RPT other X FO		-0.021***		-0.045**		-0.019**
		(0.008)		(0.021)		(0.008)
Cons	4.582***	-5.144	2.821***	-1.107	1.306***	-3.311
	(5.404)	(28.744)	(14.797)	(74.640)	(5.513)	(27.356)
Number of Groups	150	150	150	150	150	150
Observations	1,650	1,650	1,650	1,650	1,650	1,650

Note: This table shows the GMM regression of Model 1, Model 2 and Model 3 where dependent variable is roa= Return on asset, roe= Return on equity, Q= Tobin's Q, while independent variables are IDI=Independent non-executive director index, FD= Family Directorship, FO= Family Ownership, , RPTs Other= rpt other based transactions, interaction variable is RPTs Other= rpt other based transactions and control variables are PM= Profit Margin, FS= Firm size, Lev= leverage of firm, Age= Age of firm, Industry type and year. * p<0.1;**p<0.05; ***p<0.01

Table 5.16 shows the results of Model 1a, Model 1b, Model 2a, Model 3a and Model 3b by using the GMM regression without and with the interaction or moderation variable (i.e., RPTs Other) employed in Panels A, B, and C, respectively. Details of the variables used in Model 1a, Model 1b, Model 2a, Model 3a, and Model 3b are shown in Table 5.13. Panel A of Table 5.13 shows Model 1a and Model 1b without and with the moderation variable (i.e., RPTs Other) in Columns (1) and (2), respectively. Column (1) of Model 1a describes the relationship without the moderation of interaction variable (i.e., RPTs Other) between the ROA and the independent variables (RPTs Other, IDI, FD and FO). The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 1a. The RPTs Other in Column (1) of Model 1a has significant coefficients of -0.127. Hence, firm performance has a significant negative relationship with RPTs Other at less than 10%. The CG variables (i.e., IDI, FD, and FO) in Column (1) of Model 1a are significant with coefficients of 0.013, -0.270 and -0.019, respectively. Thus, firm performance has a significant positive relationship with IDI at less than 10%. Similarly, Firm performance also has significant negative relationships with both FD and FO at less than 10%. However, the ROA trend in Model 1 insignificantly decreased from Year 2005 to Year 2008 and then significantly increased from Year 2009 to Year 2014.

Column (2) of Model 1b of Panel A shows the relationship between the ROA and the independent variables (RPTs Other, IDI, FD and FO) with the moderation of RPTs Other. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 1b. The RPTs Other in Column (2) of Model 1b is significant with coefficients of -0.184. Therefore, firm performance has a significant negative relationship with RPTs Other at less than 5%. Furthermore, RPTs other based transactions i.e. ordinary shares, dividends, donations, interests, investments, purchase of

assets, sale of assets, employee benefits, lease, loans, and advance payments have negative effect on firm performance. This is consistent with findings of various researchers who have empirically proven the existence of tunneling in family-owned firms and also found that negative RPTs have negative effect on the family-owned firm performance (K. H. Bae et al., 2002; J. S. Baek et al., 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone, et al., 2000; Lins, 2003). Thus, major shareholders in Pakistani family-owned firms transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. This is also consistent with similar concept of tunneling in which the controlling shareholder has strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders (Bertrand et al., 2002). Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. Transferring resources becomes costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and health of firms (K. H. Bae et al., 2002; Riyanto & Toolsema, 2008; Toolsema, 2004). Negative RPTs is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

The CG variables (i.e., IDI, FD, and FO) in Column (2) of Model 1b are significant with coefficients of 0.087, -0.993 and -0.352 respectively. Hence, firm performance has a significant positive relationship with IDI at less than 10%. This

outcome is consistent with the findings of J. W. Byrd and Hickman (1992), Kaplan and Minton (1994) and Conyon and He (2011) and Erkens et al. (2012) who found that appointing outside independent non-executive directors into the board improves the financial performance of firms. This result is also consistent with previous research by Mandala et al. (2018) that found a positive association between independent non-executive director and firm performance calculated by ROA. This view is also supported by various researchers that high independency of independent non-executive director are positively related to firm performance calculated by ROA (Shaukat & Trojanowski, 2018; H. Zhou et al., 2018).

Similarly, Firm performance also has a significant negative relationship with both FD and FO at less than 10%. It found a negative relationship of FD with significant effect on firm performance. This negative relation might be due to poor managerial talent; low expertise of family members as director can result in difficulties in entering new markets and taking new investment opportunities. Inappropriate selection of family members as director will directly or indirectly affect firm performance (Bloom & Van Reenen, 2007; Gulbrandsen, 2005, 2009). In other words, family directorship acts in its own private interests instead of the company interest, to the detriment of minority shareholders which will result in lower firm performance (J.-T. Wei et al., 2018). This negative effect of family director with firm performance is also consistent with the findings by Morck et al. (1988) and Morck and Yeung (2003) showing that a family director negatively affects firm performance. This finding can be attributed to the possibility that outside directors may lose their jobs if they contradict top management decisions that serve their interest in Pakistani family-owned firms (Mahmood et al., 2018). The negative effect of family ownership with firm performance is consistent with the findings of researchers like

Mohan and Chandramohan (2018), Owusu and Weir (2018), Dyck and Zingales (2004), Lehmann and Weigand (2000), Z Chen and Cheung (2000), Mudambi and Nicosia (1998), Leech and Leahy (1991), and McConnell and Servaes (1990) who found a negative and significant effect of ownership concentration on firm value. This result shows that higher ownership concentration could induce the prioritization of self-interest by large shareholders and the consequent expropriation of firm resources (i.e. wealth) through RPTs resulting in decreased firm performance (Bona-Sanchez et al., 2017). However, the ROA trend in Model 1 significantly decreased from Year 2005 to Year 2009 and then significantly increased from Year 2010 to Year 2014.

Moderation effect of RPTs Other with IDI, FD and FO of Model 1b

Column (2) of Model 1b of Panel A shows the interaction or moderation variable RPTs Other with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Other) has significant coefficients with FD (-0.123), and FO (–0.021). Hence, the interaction variable RPTs Other significantly and negatively moderates the relationship between FD and firm performance at less than 10%. The RPTs Other also significantly and negatively moderates the relationship between FO and firm performance at less than 1%. Finally, RPTs Other has no moderating effect on the relationship between IDI and firm performance.

Panel B of Table 5.16 shows Model 2a and Model 2b without and with the moderation variable (i.e., RPTs Other) in Columns (1) and (2), respectively. Column (1) of Model 2a describes the relationship without the moderation of interaction variable (i.e., RPTs Other) between the ROE and the independent variables (RPTs Other, IDI, FD and FO). The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 2a. The RPTs Other in Column (1) of Model 2a has

significant coefficients of -0.515. Hence, firm performance has a significant negative relationship with RPTs Other at less than 10%. The CG variables (i.e., IDI, FD, and FO) in Column (1) of Model 2a are significant with coefficients of 0.006, -0.546 and -0.055, respectively. Thus, firm performance has a significant positive relationship with IDI at less than 10%. Firm performance also has significant negative relationships with both FD and FO at less than 10%. However, the ROE trend in Model 2 insignificantly decreased from Year 2005 to Year 2008 except Year 2006 and then notably significant increased from Year 2009 ton Year 2014.

Column (2) of Model 2b of Panel B shows the relationship between the ROE and the independent variables (RPTs Other, IDI, FD and FO) with the moderation of RPTs Other. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 2b. The RPTs Other in Column (2) of Model 2b is significant with coefficients of -0.585. Therefore, firm performance has a significant negative relationship with RPTs Other at less than 10%. Furthermore, RPTs other based transactions i.e. ordinary shares, dividends, donations, interests, investments, purchase of assets, sale of assets, employee benefits, lease, loans, and advance payments have negative effect on firm performance. This is consistent with findings of various researchers who have empirically proven the existence of tunneling in family-owned firms and also found that negative RPTs have negative effect on the family-owned firm performance (K. H. Bae et al., 2002; J. S. Baek et al., 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone, et al., 2000; Lins, 2003). Thus, major shareholders in Pakistani family-owned firms transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. This is also consistent with similar concept of tunneling in which the controlling shareholder has strong incentive to tunnel (transfer) resources from low to

high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders (Bertrand et al., 2002). Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. Transferring resources becomes costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and health of firms (K. H. Bae et al., 2002; Riyanto & Toolsema, 2008; Toolsema, 2004). Negative RPTs is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

The CG variables (i.e., IDI, FD, and FO) in Column (2) of Model 2b are significant with coefficients of 0.637, -0.737 and -0.849 respectively. Hence, firm performance has a significant positive relationship with IDI at less than 10%. The result is consistent with the monitoring hypothesis of agency theory, which holds that the presence of a larger proportion of INEDs in the board adds value to the firm by providing the firm with independent decisions and judgments (Cadbury Report, 1992; Chhaochharia and Grinstein, 2009), playing an important role in the board as a source of experience, monitoring services, reputation and expert knowledge (Pathan et al., 2007). This is consistent with result of researcher like Dehaene et al. (2001) who found the evidence that significant positive relationship between the number of external directors and return on equity (ROE). This is also consistent with previous research like Shaukat and Trojanowski (2018) who found a positive association between independent non-executive director and firm performance calculated by ROE. Firm performance also has a

significant negative relationship with FD and FO at less than 5% and 10% respectively. Similar context in Pakistani family-owned firms, it is consistent with researchers that outside directors accept every decision of Major shareholder for their self-interest. While the negative effect of family ownership with firm performance is consistent with the findings of researchers who found a negative and significant effect of ownership concentration on firm value. In the Pakistani context, such result is consistent with researchers who showed that concentrated ownership structure has a negative relationship with firm performance calculated by ROE. However, the ROE trend in Model 2 insignificantly decreased from Year 2005 to Year 2007 except Year 2006 and then significantly increased from Year 2009 to Year 2014.

Moderation effect of RPTs Other with IDI, FD and FO of Model 2b

Column (2) of Model 2b of Panel B shows the interaction or moderation variable RPTs Benefit with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Benefit) has significant coefficients with IDI (0.035) and FO (–0.045). Hence, the interaction variable RPTs Other significantly and positively moderates the relationship between IDI and firm performance at less than 5%. Conversely, the RPTs Other also significantly and negatively moderates the relationship between FO and firm performance at less than 5%. Finally, RPTs Other has no moderating effect on the relationship between FD and firm performance.

Panel C of Table 5.16 shows Model 3a and 3b without and with the moderation variable (i.e., RPTs Other) in Columns (1) and (2), respectively. Column (1) of Model 3a describes the relationship without the moderation of interaction variable (i.e., RPTs Other) between the Tobin's Q and the independent variables (RPTs Other, IDI, FD and FO). The control variables are firm Size, profit margin, leverage, age of firm, industry

type and year as employed in Model 3a. The RPTs Other in Column (1) of Model 3a has significant coefficients of -0.088. Hence, firm performance has a significant negative relationship with RPTs Other at less than 10%. The CG variables (i.e., IDI, FD, and FO) in Column (1) of Model 3 are significant with coefficients of 0.018, -0.260 and -0.013, respectively. Thus, firm performance has a significant positive relationship with IDI at less than 10%. Firm performance also has significant negative relationships with FD and FO at less than 10%. However, the Tobin's Q trend in Model 3 insignificantly decreased from Year 2005 to Year 2008 and then notably increased from Year 2010 to Year 2014.

Column (2) of Model 3b of Panel C shows the relationship between the Tobin's Q and the independent variables (RPTs Other, IDI, FD, FO) with the moderation of RPTs Benefit. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 3b. The RPTs Other in Column (2) of Model 3b is significant with coefficients of -0.707. Therefore, firm performance has a significant negative relationship with RPTs Other at less than 10%. Furthermore, RPTs other based transactions i.e. ordinary shares, dividends, donations, interests, investments, purchase of assets, sale of assets, employee benefits, lease, loans, and advance payments have negative effect on firm performance. This is consistent with findings of various researchers who have empirically proven the existence of tunneling in family-owned firms and also found that negative RPTs have negative effect on the family-owned firm performance (K. H. Bae et al., 2002; J. S. Baek et al., 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone, et al., 2000; Lins, 2003). Thus, major shareholders in Pakistani family-owned firms transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. This is also consistent with similar concept of tunneling in which the controlling shareholder has strong incentive to tunnel (transfer) resources from low to

high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders (Bertrand et al., 2002). Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. Transferring resources becomes costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and health of firms (K. H. Bae et al., 2002; Riyanto & Toolsema, 2008; Toolsema, 2004). Negative RPTs is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

The CG variables (i.e., IDI, FD, and FO) in Column (2) of Model 3b are significant with coefficients of 0.122, -0.531 and -0.319 respectively. Hence, firm performance has a significant positive relationship with IDI at less than 10%. This is also consistent with previous researchers like S. Singh et al. (2018), Bhat et al. (2018b), Hassan et al. (2017) and U. Bashir et al. (2018) that found a positive association between independent non-executive director and firm performance calculated by Tobin's Q. Firm performance also has a significant negative relationship with FD and FO at less than 10% and 5% respectively. It found a negative significant relationship of family directorship with firm performance (Anderson & Reeb, 2004; Bodnaruk et al., 2017; Ghosh, 2007; Mishra et al., 2001; Pandey et al., 2015; Rouyer, 2016). Similar context in Pakistani family-owned firms, it is consistent with researchers that outside directors accept every decision of top management for saving their self-interest (Azmat, 2014; Qaiser Rafique & Al Mamun, 2015; Yasser, Mamun, & Rodrigs, 2017) . While the negative effect of

family ownership with firm performance calculated by Tobin's Q is consistent with the findings of researchers who found a negative and significant effect of ownership concentration on firm performance (Al-Ghamdi & Rhodes, 2015; K. Lee & Barnes, 2017; T. Lee & Chu, 2015; Mehboob et al., 2015a). In the Pakistani context, such result is consistent with researchers who showed that concentrated ownership structure has a negative relationship with firm performance calculated by Tobin's Q (Y. Ali et al., 2015a; Javaid & Saboor, 2015; Nazir & Afza, 2018; Yasser, Mamun, & Seamer, 2017). However, the Tobin's Q trend in Model 3 significantly decreased from Year 2005 to Year 2009 and then notably increased from Year 2010 to Year 2014.

Moderation effect of RPTs Other with IDI, FD and FO of Model 3b

Column (2) of Model 3b of Panel C shows the interaction or moderation variable RPTs Other with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Benefit) has significant coefficients with FD (–0.097), and FO (–0.019). Hence, the interaction variable RPTs Other significantly and negatively moderates the relationship between FD and firm performance at less than 10%. The RPTs Other also significantly and negatively moderates the relationship between FO and firm performance at less than 5%. Finally, RPTs Other has no moderating effect on the relationship between IDI and firm performance.

5.14.6 Regression without and with all interaction/ Moderator variable i.e. RPTs Benefit, RPTs Expense and RPTs Other by using GMM

In this section the robustness test results are verified by analyzing return i.e. ROA, ROE and Tobin's Q with corporate governance variables i.e. IDI, FD and FO along with interaction variable (i.e., RPTs Benefit, RPTs Expense and RPTs Other). Table 5.17 shows the result of Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b

by using GMM Panel data technique (Two step) without and with all Moderating or Interaction variables i.e. RPTs Benefit, RPTs Expense and RPTs Other. The Detail of variables used in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b are shown in Table 5.17.

Model 1a of Panel A show that Firm performance is a function of CG, RPTs i.e. RPTs Benefit, RPTs Expense and RPTs Other and control variables. Model 1a and Model 1b of Panel A are shown below without and with the interaction variables (i.e., RPTs Benefit, RPTs Expense and RPTs Other) respectively. Firm performance without interaction variables i.e. RPTs Benefit, RPTs Expense and RPTs Other.

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, firm performance with interaction variables i.e. RPTs Benefit, RPTs Expense and RPTs Other.

$$ROA_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Similarly, Model 2a and Model 2b of Panel B show that firm performance is a function of CG, RPTs i.e. RPTs Benefit, RPTs Expense and RPTs Other and control variables. Model 2a and Model 2b of Panel B are shown below without and with the interaction variables (i.e., RPTs Benefit, RPTs Expense and RPTs Other) respectively. Firm performance without interaction variables i.e. RPTs Benefit, RPTs Expense and RPTs Other.

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, firm performance with interaction variables i.e. RPTs Benefit, RPTs Expense and RPTs Other.

$$ROE_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Similarly, Model 3a and Model 3b of Panel C show that firm performance is a function of CG, RPTs i.e. RPTs Benefit, RPTs Expense and RPTs Other and control variables. Model 3a and Model 3b of Panel C are shown below without and with the interaction variables (i.e., RPTs Benefit, RPTs Expense and RPTs Other) respectively. Firm performance without interaction variables i.e. RPTs Benefit, RPTs Expense and RPTs Other.

$$Q_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right)$$

Similarly, firm performance with interaction variables i.e. RPTs Benefit, RPTs Expense and RPTs Other.

$$Q_{it}=\left(\frac{\delta y}{\delta x1}\frac{\delta y}{\delta x1}------\frac{\delta y}{\delta xk}\right) y$$

Table 5.17: Related party transactions, corporate governance and firm performance without and with interaction variable i.e. RPTs Benefit, RPTs Expense and RPTs Other using GMM

	Panel A		Panel B		Panel C	
	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b
	roa	roa	roe	roe	Q	Q
L.roa/ L.roe/ L.Q	0.419***	0.420***	0.378***	0.375***	0.400***	0.401***
	(0.021)	(0.022)	(0.029)	(0.031)	(0.019)	(0.020)
RPT (benefit)	0.259*	0.186*	0.146**	0.829**	0.024*	0.219**
	(1.043)	(5.203)	(2.964)	(15.492)	(0.971)	(4.797)
RPT (expense)	-0.246**	-0.273**	-0.238**	-0.185**	-0.221*	-0.269*
	(0.132)	(1.249)	(0.439)	(3.392)	(0.136)	(1.204)
RPT (other)	-0.138*	-0.409**	-0.506*	-0.708**	-0.080*	-0.927*
	(0.213)	(1.585)	(0.556)	(4.164)	(0.213)	(1.513)
INED index (IDI)	0.012***	0.899**	0.006**	0.496*	0.017**	0.057**
	(0.022)	(0.533)	(0.055)	(1.115)	(0.021)	(0.499)
Family Director (FD)	-0.236**	-0.974**	-0.478*	-0.550**	-0.235*	-0.500**
	(0.170)	(0.976)	(0.550)	(0.256)	(0.164)	(3.791)
Family Ownership (FO)	-0.018*	0.582***	-0.058**	-0.223***	-0.012**	-0.526***
	(0.013)	(0.370)	(0.036)	(1.004)	(0.012)	(0.350)
Profit Margin (PM)	0.255**	0.135***	0.778*	0.624***	0.189**	0.078***
	(0.507)	(0.469)	(0.448)	(0.611)	(0.510)	(0.473)
Firm size (FS)	-0.394***	-0.584***	-1.873**	-2.359**	-0.580***	-0.786***
	(0.896)	(0.831)	(0.913)	(1.161)	(0.899)	(0.835)
Leverage (Lev)	0.080***	0.469***	-1.043***	-0.517***	0.239***	0.609***
	(1.639)	(1.516)	(1.456)	(1.973)	(1.649)	(1.528)
Age of Firm (Age)	-0.000***	0.002***	-0.031***	-0.013***	-0.004***	-0.003***
	(0.013)	(0.013)	(0.033)	(0.032)	(0.013)	(0.013)
Industry type	0.256**	0.136***	0.779*	0.625***	0.187**	0.076***
	(0.503)	(0.464)	(0.449)	(0.612)	(0.511)	(0.471)
Year(2005	-0.681*	-0.606	-0.939	-1.154	-1.148***	-0.853*
	(0.496)	(0.511)	(1.084)	(1.063)	(0.427)	(0.489)
Year(2006)	-0.482*	-0.534	-1.511	-2.177**	-1.027**	-0796*
	(0.473)	(0.489)	(1.072)	(1.058)	(0.442)	(0.477)
Year(2007)	-0.299*	-0.287	-0.921	-0.570	-0.882**	-0.599*
	(0.496)	(0.509)	(1.184)	(1.161)	(0.423)	(0.483)
Year(2008)	-0.165*	-0.194	0.312*	0.197*	-0.707*	-0.507*
	(0.496)	(0.519)	(1.312)	(1.339)	(0.427)	(0.508)
Year(2009)	0.362*	0.355*	0.316***	0.804**	-0.291*	-0.060*
	(0.555)	(0.563)	(1.139)	(1.159)	(0.390)	(0.537)
Year(2010)	0.826*	0.770*	0.193**	0.876**	0.207*	0.375*
	(0.517)	(0.529)	(1.296)	(1.279)	(0.400)	(0.493)
Year(2011)	0.652*	0.689*	0.366**	0.201**	0.024*	0.246*
	(0.485)	(0.481)	(1.108)	(1.101)	(0.372)	(0.463)
Year(2012)	1.009*	0.980*	0.579***	0.128**	0.479*	0.607*
	(0.571)	(0.567)	(1.303)	(1.280)	(0.362)	(0.526)
Year(20013)	0.522*	0.393*	0.768*	0.252*	0.368*	0.171*
	(0.481)	(0.470)	(1.249)	(1.197)	(0.422)	(0.441)
Year(2014)	0.412*	0.592*	0.768*	0.252*	0.259*	0.368*
	(0.281)	(0.241)	(1.249)	(1.197)	(0.451)	(0.321)
RPT (benefit) X IDI		-0.058*		-0.187**		-0.063*
		(0.039)		(0.095)		(0.036)
RPT (benefit) X FD		0.512***		0.116***		0.506***
		(0.295)		(0.924)		(0.281)
RPT (benefit) X FO		-0.005*		-0.099		-0.002*
		(0.025)		(0.074)		(0.023)
RPT (expense) X IDI		-0.007*		0.087**		-0.011**
		(0.013)		(0.041)		(0.012)
RPT (expense) X FD		-0.062*		-0.211*		-0.049*
		(0.064)		(0.187)		(0.061)
RPT (expense) X FO		-0.006		0.000		-0.008
		(0.006)		(0.021)		(0.006)
RPT (other) X IDI		0.002		0.041**		0.001*
		(0.014)		(0.035)		(0.014)
RPT (other) X FD		-0.141*		-0.202		-0.119
		(0.082)		(0.214)		(0.079)
RPT (other) X FO		-0.025***		-0.044**		-0.021***
		(0.008)		(0.021)		(0.008)
Cons	1.629	17.139	3.570	2.612	1.769	2.984
	(14.823)	(71.184)	(45.938)	(203.213)	(13.905)	(65.759)

Note: This table shows the GMM regression of Model 1, Model 2 and Model 3 where dependent variable is roa= Return on asset, roe= Return on equity, Q= Tobin's Q, while independent variables are IDI=Independent non-executive director index, FD= Family Directorship, FO= Family Ownership, RPTs Benefit= rpt benefit based transactions; RPTs Expense= rpt expense based transactions; RPTs Other= RPT other based transactions; Moderating variables are RPTs Benefit, RPTs Expense and RPTs Other; control variables are PM= Profit Margin, FS= Firm size, Lev= leverage of firm, Age= Age of firm, Industry type and year * p<0.1;**p<0.05; ***p<0.01

Table 5.17 shows the results of Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b by using the GMM panel data technique (two-step) without all moderating or interaction variables (i.e., RPTs Benefit, RPTs Expense, and RPTs Other). Details of the variables used in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b are shown in Table 5.17.

Panel A of Table 5.17 shows Model 1a and Model 1b without and with the moderation variables (i.e., RPTs Benefit, RPTs Expense, and RPTs Other) in Columns (1) and (2), respectively. Column (1) of Model 1a describes the relationship without the moderation of interaction variables (i.e., RPTs Benefit, RPTs Expense, and RPTs Other) between the ROA and the independent variables (RPTs Benefit, RPTs Expense, RPTs Other, IDI, FD and FO). The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 1a. The RPTs Benefit, RPTs Expense, and RPTs Other in Column (1) of Model 1a have significant coefficients of 0.259, –0.246, and –0.138, respectively. Hence, firm performance has a significant positive relationship with RPTs Benefit at less than 10%. By contrast, firm performance has significantly negative relationships with RPTs Expense and RPTs Other at less than 5% and 10%, respectively. The CG variables (i.e., IDI, FD, and FO) in Column (1) of Model 1 are significant with coefficients of 0.012, –0.236, and –0.018, respectively. Thus, firm performance has a significant positive relationship with IDI at less than 1%. Firm performance also has significant negative relationships with FD and FO at 5% and 10%, respectively. However, the ROA trend in Model 1a significantly decreased from Year 2005 to Year 2008 and then significantly increased from 2009 to 2014.

Column (2) of Model 1b of Panel A shows the relationship between the ROA and the independent variables (RPTs Benefit, RPTs Expense, RPTs Other, IDI, FD and FO)

with the moderation of RPTs Benefit, RPTs Expense, and RPTs Other. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 1b. The RPTs Benefit, RPTs Expense, and RPTs Other in Column (2) of Model 1b are significant with coefficients of 0.186, -0.273, and -0.409 respectively. Therefore, firm performance has a significant positive relationship with RPTs Benefit-based at less than 10%. Furthermore, RPTs benefit-based transactions i.e. bonus, convertible, and right issue shares have positive effect on the family-owned firm performance. This is consistent with researchers like Gonenc and Hermes (2008), Q. Liu and Lu (2007), G. S. Bae et al. (2008), Q. Liu and Lu (2007), G. S. Bae et al. (2008), Guo and Ma (2009) and Chauhan, Dey, et al. (2016) who found that the use of offering cash rights share issues show that major shareholders prop up funds in family-owned firms. They further found that positive RPTs have positive effect on the firm performance. This is also consistent to similar concept of propping in which major shareholder take decision internally for firm in their financial distress position (Gonenc & Hermes, 2008). With propping, money is transferred from profitable firms to those who are facing financial difficulties. Moreover, majority owners may also bring their private resources to firms to keep them from bankruptcy (Friedman et al., 2003).

By contrast, Firm performance also has significant negative relationships with RPTs expense based at less than 5%. Further, RPTs expense-based transactions i.e. organizational expenditure, insurance, royalty payments, and other expenses have negative effect on firm performance. This is consistent with findings of various researchers who have empirically proven the existence of tunneling in family-owned firms and also found that negative RPTs have negative effect on the family-owned firm performance (K. H. Bae et al., 2002; J. S. Baek et al., 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone,

et al., 2000; Lins, 2003). Thus, major shareholders in Pakistani family-owned firms transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. This is also consistent with similar concept of tunneling in which the controlling shareholder has strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders (Bertrand et al., 2002). Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. Transferring resources becomes costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and health of firms (K. H. Bae et al., 2002; Riyanto & Toolsema, 2008; Toolsema, 2004). Negative RPTs is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

Similarly, firm performance has a significant negative relationship with RPTs other based at less than 10%. Furthermore, RPTs other based transactions i.e. ordinary shares, dividends, donations, interests, investments, purchase of assets, sale of assets, employee benefits, lease, loans, and advance payments have negative effect on firm performance. This is consistent with findings of various researchers who have empirically proven the existence of tunneling in family-owned firms and also found that negative RPTs have negative effect on the family-owned firm performance (K. H. Bae et al., 2002; J. S. Baek et al., 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone, et al., 2000; Lins, 2003). Thus, major

shareholders in Pakistani family-owned firms transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. This is also consistent with similar concept of tunneling in which the controlling shareholder has strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders (Bertrand et al., 2002). Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. Transferring resources becomes costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and health of firms (K. H. Bae et al., 2002; Riyanto & Toolsema, 2008; Toolsema, 2004). Negative RPTs is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

The CG variables (i.e., IDI, FD, and FO) in Column (2) of Model 1b are significant with coefficients of 0.899, –0.974, and –0.582 respectively. Hence, firm performance has a significant positive relationship with IDI at less than 5%. This outcome is consistent with the findings of J. W. Byrd and Hickman (1992), Kaplan and Minton (1994) and Conyon and He (2011) and Erkens et al. (2012) who found that appointing outside independent non-executive directors into the board improves the financial performance of firms. This result is also consistent with previous research by Mandala et al. (2018) that found a positive association between independent non-executive director and firm performance calculated by ROA. This view is also supported by various researchers that high independency of independent non-executive director are positively

related to firm performance calculated by ROA (Shaukat & Trojanowski, 2018; H. Zhou et al., 2018). Firm performance also has a significant negative relationship with FD and FO at less than 5% and 1%, respectively. It found a negative relationship of FD with significant effect on firm performance. This negative relation might be due to poor managerial talent; low expertise of family members as director can result in difficulties in entering new markets and taking new investment opportunities. Inappropriate selection of family members as director will directly or indirectly affect firm performance (Bloom & Van Reenen, 2007; Gulbrandsen, 2005, 2009). In other words, family directorship acts in its own private interests instead of the company interest, to the detriment of minority shareholders which will result in lower firm performance (J.-T. Wei et al., 2018). This negative effect of family director with firm performance is also consistent with the findings by Morck et al. (1988) and Morck and Yeung (2003) showing that a family director negatively affects firm performance. This finding can be attributed to the possibility that outside directors may lose their jobs if they contradict top management decisions that serve their interest in Pakistani family-owned firms (Mahmood et al., 2018).

Similarly, the negative effect of family ownership with firm performance is consistent with the findings of researchers like Mohan and Chandramohan (2018), Owusu and Weir (2018), Dyck and Zingales (2004), Lehmann and Weigand (2000), Z Chen and Cheung (2000), Mudambi and Nicosia (1998), Leech and Leahy (1991), and McConnell and Servaes (1990) who found a negative and significant effect of ownership concentration on firm value. This result shows that higher ownership concentration could induce the prioritization of self-interest by large shareholders and the consequent expropriation of firm resources (i.e. wealth) through RPTs resulting in decreased firm

performance (Bona-Sanchez et al., 2017). However, the ROA trend in Model 1b insignificantly decreased from Year 2005 to Year 2008, and then significantly increased from Year 2009 to Year 2014.

Moderation effect of RPTs Benefit with IDI, FD and FO of Model 1b

Column (2) of Model 1b of Panel A shows the interaction or moderation variable RPTs Benefit with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Benefit) has significant coefficients with IDI (–0.058), FD (0.512), and FO (–0.005). Hence, the interaction variable RPTs Benefit significantly and negatively moderates the relationship between IDI and firm performance at less than 10%. Similarly, the RPTs Benefit also significantly and negatively moderates the relationship between FO and firm performance at less than 10%. Conversely, RPTs Benefit significantly and positively moderates the relationship between FD and firm performance at less than 1%.

Moderation effect of RPTs Expense with IDI, FD and FO of Model 1b

Column (2) of Model 1b of Panel A exhibits the interaction or moderation variable RPTs Expense with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Expense) is significantly correlated with IDI (-0.007) and FD (–0.062). Hence, the interaction variable RPTs Expense significantly and positively moderates the relationship between IDI and firm performance at less than 10%. The RPTs Expense significantly and negatively moderates the relationship between FD and firm performance at less than 10%. Finally, RPTs Benefit has no moderating effect on the relationship between FO and firm performance.

Moderation effect of RPTs Other with IDI, FD and FO of Model 1b

Column (2) of Model 1b of Panel A shows the interaction or moderation variable RPTs Other with IDI, FD and FO. The interaction or moderation variable (i.e., RPTs Other) is significantly correlated with FD (–0.141) and FO (–0.025). Thus, the interaction variable RPTs Other significantly and negatively moderates the relationship between FD and firm performance at less than 10%. The RPTs Other also significantly and negatively moderates the relationship between FO and firm performance at less than 1%. Finally, RPTs Other has no moderating effect on the relationship between IDI and firm performance.

Panel B of Table 5.17 shows Model 2a and Model 2b without and with moderation variables (i.e. RPTs Benefit, RPTs Expense, and RPTs Other) in Columns (1) and (2), respectively. Column (1) of Model 2a indicates the relationship between the ROE and the independent variables (RPTs Benefit, RPTs Expense, RPTs Other, IDI, FD and FO) without the moderation of RPTs Benefit, RPTs Expense, and RPTs Other. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 2a. The RPTs Benefit, RPTs Expense, and RPTs Other in Column (1) of Model 2a have significant coefficients of 0.146, -0.238, and –0.506, respectively. Hence, firm performance has a significant positive relationship with RPTs Benefit at less than 5%. While, Firm performance also has a significant negative relationship with RPTs Expense and RPTs Other at less than 5% and 10% respectively. The CG variables (IDI, FD, and FO) of Column (1) of Model 2a have significant coefficients of 0.006, –0.478, and –0.058, respectively. Therefore, firm performance has a significant positive relationship with IDI at less than 5%. Firm performance also has significant negative relationships with FD and FO at 10% and 5%, respectively. However, the ROE trend of Model 2a insignificantly decreased from Year 2005 to Year 2007 and then significantly increased from Year 2008 to Year 2014.

Column (2) of Model 2b of Panel B presents the relationship between the ROE and the independent variables (RPTs Benefit, RPTs Expense, RPTs Other, IDI, FD and FO) with the moderation of RPTs Benefit, RPTs Expense, and RPTs Other. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 2b. The RPTs Benefit, RPTs Expense, and RPTs Other in Column (1) of Model 2b are significant with coefficients of 0.829, -0.185, and -0.708, respectively. Therefore, firm performance has a significant positive relationship with RPTs Benefit at less than 5%. Furthermore, RPTs benefit-based transactions i.e. bonus, convertible, and right issue shares have positive effect on the family-owned firm performance. This is consistent with researchers like Gonenc and Hermes (2008), Q. Liu and Lu (2007), G. S. Bae et al. (2008), Q. Liu and Lu (2007), G. S. Bae et al. (2008), Guo and Ma (2009) and Chauhan, Dey, et al. (2016) who found that the use of offering cash rights share issues show that major shareholders prop up funds in family-owned firms. They further found that positive RPTs have positive effect on the firm performance. This is also consistent to similar concept of propping in which major shareholder take decision internally for firm in their financial distress position (Gonenc & Hermes, 2008). With propping, money is transferred from profitable firms to those who are facing financial difficulties. Moreover, majority owners may also bring their private resources to firms to keep them from bankruptcy (Friedman et al., 2003).

By contrast, Firm performance also has significant negative relationships with RPTs expense based at less than 5%. Further, RPTs expense-based transactions i.e. organizational expenditure, insurance, royalty payments, and other expenses have negative effect on firm performance. This is consistent with findings of various researchers who have empirically proven the existence of tunneling in family-owned

firms and also found that negative RPTs have negative effect on the family-owned firm performance (K. H. Bae et al., 2002; J. S. Baek et al., 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone, et al., 2000; Lins, 2003). Thus, major shareholders in Pakistani family-owned firms transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. This is also consistent with similar concept of tunneling in which the controlling shareholder has strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders (Bertrand et al., 2002). Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. Transferring resources becomes costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and health of firms (K. H. Bae et al., 2002; Riyanto & Toolsema, 2008; Toolsema, 2004). Negative RPTs is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

Similarly, firm performance has a significant negative relationship with RPTs other based at less than 5%. Furthermore, RPTs other based transactions i.e. ordinary shares, dividends, donations, interests, investments, purchase of assets, sale of assets, employee benefits, lease, loans, and advance payments have negative effect on firm performance. This is consistent with findings of various researchers who have empirically proven the existence of tunneling in family-owned firms and also found that negative RPTs have

negative effect on the family-owned firm performance (K. H. Bae et al., 2002; J. S. Baek et al., 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone, et al., 2000; Lins, 2003). Thus, major shareholders in Pakistani family-owned firms transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. This is also consistent with similar concept of tunneling in which the controlling shareholder has strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders (Bertrand et al., 2002). Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. Transferring resources becomes costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and health of firms (K. H. Bae et al., 2002), (Toolsema, 2004), (Riyanto & Toolsema, 2008). Negative RPTs is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

The CG variables (IDI, FD, and FO) in Column (2) of Model 2b are significant with coefficients of 0.496, –0.550, and –0.223, respectively. Thus, firm performance has a significant positive relationship with IDI at less than 10%. The result is consistent with the monitoring hypothesis of agency theory, which holds that the presence of a larger proportion of INEDs in the board adds value to the firm by providing the firm with independent decisions and judgments (Cadbury Report, 1992; Chhaochharia and Grinstein, 2009), playing an important role in the board as a source of experience,

monitoring services, reputation and expert knowledge (Pathan et al., 2007). This is consistent with result of researcher like Dehaene et al. (2001) who found the evidence that significant positive relationship between the number of external directors and return on equity (ROE). This is also consistent with previous research like Shaukat and Trojanowski (2018) who found a positive association between independent non-executive director and firm performance calculated by ROE. Firm performance also has a significant negative relationship with FD and FO at less than 1%. Similar context in Pakistani family-owned firms, it is consistent with researchers that outside directors accept every decision of Major shareholder for their self-interest. While the negative effect of family ownership with firm performance is consistent with the findings of researchers who found a negative and significant effect of ownership concentration on firm value. In the Pakistani context, such result is consistent with researchers who showed that concentrated ownership structure has a negative relationship with firm performance calculated by ROE. However, the ROE trend of Model 2b insignificantly decreased from Year 2005 to Year 2007 and then significantly increased from Year 2008 to 2014.

Moderating effect of RPTs Benefit with IDI, FD, and FO of Model 2b

Column (2) of Model 2b of Panel B shows the interaction or moderation variable RPTs Benefit with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Benefit) is significantly correlated with IDI (–0.187) and FD (0.116). Hence, RPTs Benefit significantly and negatively moderates the relationship between IDI and firm performance at less than 5%. Moreover, RPTs Benefit significantly and positively moderates the relationship between FD and firm performance at less than 1%. Finally, RPTs Benefit has no moderating effect on the relationship between FO and firm performance at less than 1%.

Moderating effect of RPTs Expense with IDI, FD, and FO of Model 2b

Column (2) of Model 2b of Panel B exhibits the interaction or moderation variable RPTs Expense with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Expense) is significantly correlated with IDI (0.087) and FD (–0.211). Hence, RPTs Expense significantly and positively moderates the relationship between IDI and firm performance at less than 5%. In addition, RPTs Benefit significantly and negatively moderates the relationship between FD and firm performance at less than 10%. Finally, RPTs Benefit has no moderating effect on the relationship between FO and firm performance.

Moderating effect of RPTs Other with IDI, FD and FO of Model 2b

Column (2) of Model 2b of Panel B presents the interaction or moderation variable RPTs Other with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Other) is significantly correlated with IDI (0.041) and FO (–0.044). Hence, RPTs Other significantly and positively moderates the relationship between IDI and firm performance at less than 5%. Additionally, RPTs Other significantly and negatively moderates the relationship between FO and firm performance at less than 1%. Finally, RPTs Benefit has no moderating effect on the relationship between FD and firm performance.

Panel C of Table 5.17 shows Model 3a and Model 3b without and with the moderation variables (i.e., RPTs Benefit, RPTs Expense and RPTs Other) in Columns (1) and (2) respectively. Column (1) of Model 3a describes the relationship between Tobin's Q and the independent variables (RPTs Benefit, RPTs Expense, RPTs Other, IDI, FD and FO) without the moderation of RPTs Benefit, RPTs Expense, and RPTs Other. The control variables are firm Size, profit margin, leverage, age of firm, industry type and

year as employed in Model 3a. Moreover, the RPTs Benefit, RPTs Expense, and RPTs Other in Column (1) of Model 3a are significant with coefficients of 0.024, –0.221, and –0.080 respectively. Therefore, firm performance has a significant positive relationship with RPTs Benefit at less than 10%. While, firm performance also has significant negative relationships with RPTs Expense and RPTs Other at less than 10%. The CG variables (IDI, FD, and FO) in Column (1) of Model 3a are significant with coefficients of 0.017, –0.235, and –0.012, respectively. Thus, firm performance has a significant positive relationship with IDI at less than 5%. Firm performance also has significant negative relationships with FD and FO at 10% and 5%, respectively. However, the trend in Tobin's Q of Model 3a significantly decreased from Year 2005 to Year 2009 and then significantly increased from 2010 to Year 2014.

Column (2) of Model 3b of Panel C shows the relationship between Tobin's Q and the independent variables (RPTs Benefit, RPTs Expense, RPTs Other, IDI, FD and FO) with the moderation of RPTs Other. The control variables are firm Size, profit margin, leverage, age of firm, industry type and year as employed in Model 3b. The RPTs Benefit, RPTs Expense, and RPTs Other in Column (2) of Model 3a are significant, with coefficients of 0.219, -0.269 and -0.927 respectively. Thus, firm performance has a significant positive relationship with RPTs Benefit at less than 5%. Furthermore, RPTs benefit-based transactions i.e. bonus, convertible, and right issue shares have positive effect on the family-owned firm performance. This is consistent with researchers like Gonenc and Hermes (2008), Q. Liu and Lu (2007), G. S. Bae et al. (2008), Q. Liu and Lu (2007), G. S. Bae et al. (2008), Guo and Ma (2009) and Chauhan, Dey, et al. (2016) who found that the use of offering cash rights share issues show that major shareholders prop up funds in family-owned firms. They further found that positive RPTs have positive effect on the firm performance. This is also consistent to similar concept of propping in

which major shareholder take decision internally for firm in their financial distress position (Gonenc & Hermes, 2008). With propping, money is transferred from profitable firms to those who are facing financial difficulties. Moreover, majority owners may also bring their private resources to firms to keep them from bankruptcy (Friedman et al., 2003).

By contrast, Firm performance also has significant negative relationships with RPTs expense based at less than 10%. Further, RPTs expense-based transactions i.e. organizational expenditure, insurance, royalty payments, and other expenses have negative effect on firm performance. This is consistent with findings of various researchers who have empirically proven the existence of tunneling in family-owned firms and also found that negative RPTs have negative effect on the family-owned firm performance (K. H. Bae et al., 2002; J. S. Baek et al., 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone, et al., 2000; Lins, 2003). Thus, major shareholders in Pakistani family-owned firms transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. This is also consistent with similar concept of tunneling in which the controlling shareholder has strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders (Bertrand et al., 2002). Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. Transferring resources becomes costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and

health of firms (K. H. Bae et al., 2002; Riyanto & Toolsema, 2008; Toolsema, 2004). Negative RPTs is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

Similarly, firm performance has a significant negative relationship with RPTs other based at less than 10%. Furthermore, RPTs other based transactions i.e. ordinary shares, dividends, donations, interests, investments, purchase of assets, sale of assets, employee benefits, lease, loans, and advance payments have negative effect on firm performance. This is consistent with findings of various researchers who have empirically proven the existence of tunneling in family-owned firms and also found that negative RPTs have negative effect on the family-owned firm performance (K. H. Bae et al., 2002; J. S. Baek et al., 2006; Bertrand et al., 2002; Bigelli & Mengoli, 1999; Y.-L. Cheung et al., 2006; Claessens et al., 2002; S. Johnson, Boone, et al., 2000; Lins, 2003). Thus, major shareholders in Pakistani family-owned firms transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. This is also consistent with similar concept of tunneling in which the controlling shareholder has strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders (Bertrand et al., 2002). Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. Transferring resources becomes costly not only for the minority shareholders, but rather it also reduce the transparency of the entire economy, present the manipulated accounting figures and make it difficult to check the actual performance and health of firms (K. H. Bae et al., 2002; Riyanto & Toolsema, 2008;

Toolsema, 2004). Negative RPTs is useful for the ultimate owners as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains (Welford, 2007).

The CG variables (IDI, FD, and FO) in Column (2) of Model 3b are significant with coefficients of 0.057, –0.500, and –0.526, respectively. Hence, firm performance has a significant positive relationship with IDI at less than 5%. This is also consistent with previous researchers like S. Singh et al. (2018), Bhat et al. (2018b), Hassan et al. (2017) and U. Bashir et al. (2018) that found a positive association between independent non-executive director and firm performance calculated by Tobin's Q. Firm performance also has significant negative relationships with FD and FO at less than 5% and 1%, respectively. It found a negative significant relationship of family directorship with firm performance (Anderson & Reeb, 2004; Bodnaruk et al., 2017; Ghosh, 2007; Mishra et al., 2001; Pandey et al., 2015; Rouyer, 2016). Similar context in Pakistani family-owned firms, it is consistent with researchers that outside directors accept every decision of top management for saving their self-interest (Azmat, 2014; Qaiser Rafique & Al Mamun, 2015; Yasser, Mamun, & Rodrigs, 2017) . While the negative effect of family ownership with firm performance calculated by Tobin's Q is consistent with the findings of researchers who found a negative and significant effect of ownership concentration on firm performance (Al-Ghamdi & Rhodes, 2015; K. Lee & Barnes, 2017; T. Lee & Chu, 2015; Mehboob et al., 2015a). In the Pakistani context, such result is consistent with researchers who showed that concentrated ownership structure has a negative relationship with firm performance calculated by Tobin's Q (Y. Ali et al., 2015a; Javaid & Saboor, 2015; Nazir & Afza, 2018; Yasser, Mamun, & Seamer, 2017). However, the trend in Tobin's Q of Model 3a significantly decreased from Year 2005 to Year 2009 and then significantly increased from 2010 to Year 2014.

Moderating effect of RPTs Benefit with IDI, FD, and FO of Model 3b

Column (2) of Model 3b of Panel C demonstrates the interaction or moderation variable RPTs Benefit with IDI, FD, and FO. The interaction or moderation variable (i.e. RPTs Benefit) is significantly correlated with IDI (-0.063) and FD (–0.506). Thus, RPTs Benefit significantly and negatively moderates the relationship between IDI and firm performance at less than 10%. Moreover, RPTs Benefit significantly and negatively moderates the relationship between FD and firm performance at less than 1%. Finally, RPTs Benefit has no moderating effect on the relationship between FO and firm performance.

Moderating effect of RPTs Expense with IDI, FD and FO of Model 3b

Column (2) of Model 3b of Panel C shows the interaction or moderation variable RPTs Expense with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Expense) is significantly correlated with IDI (–0.011) and FD (–0.049). Thus, RPTs Expense significantly and negatively moderates the relationship between IDI and firm performance at less than 5%. Additionally, RPTs Expense significantly and negatively moderates the relationship between FD and firm performance at less than 10%. Finally, RPTs Expense has no moderating effect on the relationship between FO and firm performance.

Moderating effect of RPTs Other with IDI, FD and FO of Model 3b

Column (2) of Model 3b of Panel C presents the interaction or moderation variable RPTs Other with IDI, FD, and FO. The interaction or moderation variable (i.e., RPTs Other) is significantly correlated with IDI (0.001) and FO (–0.021). Thus, RPTs Other significantly and positively moderates the relationship between IDI and firm performance

at less than 10%. The RPTs Other also significantly and negatively moderates the relationship between FO and firm performance at less than 1%. Finally, RPTs Other has no moderating effect on the relationship between FD and firm performance.

5.15 Conclusion

This chapter explains the overall research results, such as the descriptive statistics and correlation, as well as the development of the independent non-executive director index. This study has utilized the Random Effect Method and Fixed Effect Method, including the test of heteroskedasticity among independent variables (without and with the interaction variable i.e. RPTs). There were problems of endogeneity, heteroscedasticity (HSK) and auto correlation with using of Random Effect Method and Fixed Effect Method. Furthermore, this study utilized Generalized Method of Moments (GMM) method to overcome the problems of endogeneity, heteroscedasticity (HSK) and auto correlation. There are issues of insignificance of various corporate governance (CG) variables like IDI, FD FO and RPTs in various Models like Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b when conducting Random Effect Method and Fixed Effect Method. In order to overcome these problems of insignificant of most variables, this study has further examined all CG variables in Generalized Method of Moments (GMM). Post-estimation specification tests have been performed to check Endogeniety by using Generalized Method of Moments (GMM). All post-estimation specification tests strongly support the validity of the Models of Generalised Method of Moments(GMM). Therefore, this study mainly focuses on results of Generalized Method of Moments (GMM). The outcomes of the GMM regression are shown, along with the autocorrelation test in first difference for all independent variables without and with the interaction variable i.e. RPTs. The robustness tests are also performed in various regression by using different variables i.e. industry adjusted return (ROA, ROE and

Tobin's Q), Abnormal RPTs, RPTs Benefit-based, RPTs Expense-based and RPTs Other-based. This study has categorized all RPTs in three types i.e. RPTs Benefit-based, RPTs Expense-based and RPTs Other-based. This categorization of RPTs has empirically tested. It is one of main contribution of the study. This chapter also examined the relationship of these results with the tested hypotheses. The next chapter provides an overview of the findings, the resulting policy implications, the contribution and the limitation of the research, and the areas for future research.

CHAPTER 6: SUMMARY AND CONCUSION

6.1 Introduction

This chapter provides the conclusions drawn from the research findings presented in the prior chapter. The rest of Chapter 6 is organized as follows. Section 6.2 discusses the overview of the findings based on the research objectives. Section 6.3 shows the contributions of this research. Section 6.4 presents the policy recommendation. Section 6.5 explores the limitations of the research and examines the areas for future research, and Section 6.6 concludes the entire study.

6.2 Summary of the findings

The following sections summarize the findings based on the present research objectives.

6.2.1 Research Objective 1: To examine the effect of RPTs on firm performance

The first objective is to study the influence of RPTs on firm performance as calculated through ROA, ROE, and Tobin's Q in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a, and Model 3b using GMM. Accordingly, RPTs are found to have a significant negative relationship with firm performance in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b. This finding is consistent with that by Gordon et al. (2004a), Cheung et al. (2006), A. C. H. Lei and Song (2008), Gallery et al. (2008), Chen et al. (2009), Cheung et al. (2009), Aharony et al. (2010), S. Munir (2010), Ge et al. (2010), S. a. Munir and Gul (2010), Kohlbeck and Mayhew (2010), Aswadi Abdul Wahab et al. (2011), Yeh and Su (2012), and Ryngaert and Thomas (2012) who found a negative association between RPTs and firm performance.

6.2.2 Research Objective 2: To examine the effect of IDI on firm performance

The second research objective is to examine the effect of IDI on the performance of family-owned Pakistani firms. Based on the regression results, IDI has a significant positive relationship with firm performance (i.e. ROA, ROE, and Tobin's Q) in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a, and Model 3b using GMM. The IDI in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b also has significant positive relationships with firm performance (Javaid & Saboor, 2015). These relationships are significant as most of family-owned firms have low independence. In addition, most decisions are made by major shareholders, and the interest of minority shareholders is exploited through RPTs (Abdullah et al., 2011; A Khan & Awan, 2012). These results are also consistent with that of Shaukat and Trojanowski (2018), H. Zhou et al. (2018) Chen and Jaggi (2000), Cheng and Courtenay (2006), R. D. Morris and Gray (2007), and R. Morris et al. (2012) who identified the positive association between the ratio of independent non-executive directors and firm performance.

6.2.3 Research Objective 3: To examine the effect of FD on firm performance

The third research objective is to investigate the effect of FD on the performance of family-owned Pakistani firms. Based on the regression results, FD has significant negative relationships with firm performance (i.e., ROA, ROE, and Tobin's Q) in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b using GMM. The FD in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b has significant negative relationships with firm performance. These results consistent with that of Morck et al. (1988), W. Ali et al. (2016) and J.-T. Wei et al. (2018) who found the negative association between the effects of the directorship of family-owned firms and firm performance. It has further found that improper selection, poor managerial talent and low expertise of Family Director decrease firm performance. However, this finding is

inconsistent with that of Nicholls and Ahmed (1995), Barontini and Caprio (2006), Chang et al. (2003), Joh (2003) and Carney and Gedajlovic (2002) who revealed a positive relationship between FD and firm performance.

6.2.4 Research objective 4: To examine the effect of FO on firm performance

The fourth research objective is to examine the effect of FO on firm performance of family-owned Pakistani firms. Based on the regression results, FO has significant negative relationships with firm performance (i.e. ROA, ROE, and Tobin's Q) in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a, and Model 3b using GMM. The FO in Model 1a, Model 1b, Model 2a, Model 2b, Model 3a and Model 3b has significant negative relationships with firm performance. This outcome is consistent with those by Leech and Leahy (1991), Mudambi and Nicosia (1998), Lehmann and Weigand (2000), and Z Chen and Cheung (2000) who determined a negative and significant effect of ownership concentration on firm performance.

6.2.5 Research Objective 5: To examine the moderating effect of RPTs on the relationship between CG mechanisms (i.e., independent non-executive director, FD, and FO) and firm performance

The fifth objective is to investigate the moderating effect of RPTs on the relationship between CG mechanisms (i.e., IDI, FD, and FO) and firm performance as calculated through ROA, ROE, and Tobin's Q in Model 1b, Model 2b and Model 3b using GMM. The RPTs are proven to significantly and negatively moderate the relationship between IDI and firm performance in Models 1b and Model 3b at less than 10%. Moreover, RPTs significantly and positively moderate the relationship between IDI and firm performance in Model 2b at less than 10%. In Model 1b, RPTs negatively moderate the relationship of FD and firm performance at less 10%, whereas, in Models 2b and

Model 3b RPTs have no moderating role between FD and firm performance. Finally, RPTs significantly and negatively moderate the relationship between FO and firm performance in Models 1b and Model 3b at less than 5%. Moreover, RPTs significantly and negatively moderate the relationship between FO and firm performance in Model 3b at less than 1%.

6.3 Research contribution

This study contributes to the body of literature in six distinct areas. First, it extends the usefulness of Agency theory types (II) and conflict-of-interest transactions in supporting the underlying nature of Related Party Transactions (RPTs). The two primary views on Related Party Transactions in the present literature which can result in either positive or negative impact on interest of minority shareholders and investors. This study has confirmed both Agency theory types (II) and the conflict-of-interest transactions (Gordon et al. 2004a; 2004b; Kohlbeck & Mayhew 2004) that major shareholder of family-owned firm exploit the interest of minority shareholder through transfer of resources. Such Transfer has done through certain RPTs. These RPTs were categorized into different types of Related Party Transactions and it has impacts on firm performance. Furthermore, it also adopts a different approach to categorized RPTs. Consistent with the observations of numerous researchers like Gordon et al. (2004), Y.-L. Cheung et al. (2006), A. C. H. Lei and Song (2008), Y.-L. Cheung, Jing, et al. (2009), M. Kohlbeck and Mayhew (2010), Jian and Wong (2010), Ryngaert and Thomas (2012), Srinivasan (2013) and M. P. Williams and Taylor (2014), this study have categorized types of RPTs, an obvious demarcation in terms of the impact of different types of RPTs on firm performance has been shown in this study. Therefore, this study has categorized the RPTs between controlling shareholder companies and subsidiaries and classified them into 12 different types of RPTs in Pakistani family-owned firms, which are further sub-

categorized. This categorization has done on basis of content analysis and previous literature. Detailed categorization is shown in Appendix A. In addition, two types of RPTs, namely, benefit-based and expense-based transactions, have been ignored or remain undiscovered. This study further contributes by identifying these types of RPTs. Meanwhile, 10 other types of RPTs have been categorized (i.e., other types of RPTs) and discussed by various researchers along with their implications. First category of RPTs is Benefit-based RPTs. This types of RPTs has further analyzed and have positive effect on the family owned firm performance. Benefit-based RPTs includes bonus, convertible, and right issue shares. RPTs benefit-based transactions. This is consistent to similar concept of propping in which major shareholder take decision internally for firm in their financial distress position. Similarly, second category of RPTs is RPTs expense-based. This types of RPTs expense-based transactions has further analyzed and have negative effect on firm performance. RPTs expense-based, includes organizational expenditure, insurance, royalty payments, and other expenses. This is consistent to similar concept of tunneling in family-owned firms in which major shareholders transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. The major shareholders have strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exist for that indirect controlling owner, thus making her wealthier on the cost of minority shareholders. Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. While, third category of RPTs is RPTs other based. This type of RPTs other based has further analyzed and have negative effect on firm performance. RPTs other based include ordinary shares, dividends, donations, interests, investments, purchase of assets, sale of assets, employee benefits, lease, loans, and advance payments. This is consistent to similar concept of transaction

cost concept and tunneling in which major shareholders transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. The controlling shareholder use mechanism of negative RPTs as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains.

Second, numerous researchers have examined the role of CG mechanism (i.e., internal and external) with firm performance (A Agrawal & Knoeber, 2012; Azeez, 2015; Baysinger & Butler, 1985; J.-K. Kang & Shivdasani, 1995). Furthermore, various researchers have investigated RPTs in relation to firm performance in term of return on asset (ROA) (Aswadi Abdul Wahab et al., 2011; Y.-L. Cheung, Jing, et al., 2009; Ryngaert & Thomas, 2012). Related Party Transactions have a significant impact on firm performance. This is consistent with a situation where an equilibrium condition exists whereby investors price protect against the potential effects of related party transactions (Jensen & Meckling 1976). As firm performance is calculated by Accounting based measure i.e. ROA and ROE, there is probability of concealment that affect the firm performance. Related Party Transactions themselves are noted as a mechanism for firm performance (T. Wong & Jian, 2003a). These results initially seem to be at likelihoods with findings from Wahab et al. (2011). They have found significant negative relationship between Related Party Transactions and firm performance. However, the current study has also measured firm performance in term of return on equity in addition to Tobin's Q which is market-based performance. Upon a detailed analysis of the firm performance with accounting base i.e. ROA and ROE and Market base i.e. Tobin's Q, it has found the significant relationship between RPTs and firm performance that has high significant economic impact. When translated into economic terms, the negative relationship with Related Party Transactions resulted in a mere -1.014% decrease to ROA (Wahab et al., 2011). Similarly, the current study also empirically tests the effect of the moderating role

of RPTs on the relationship between CG mechanism (i.e. independent non-executive director independency, FD, and FO) and firm performance measured by ROA, ROE and Tobin's Q; this relationship prevails in family-owned firms in Pakistan where major shareholders expropriate resources through abusive RPTs (A Agrawal & Knoeber, 2012; Azeez, 2015; Baysinger & Butler, 1985; J.-K. Kang & Shivdasani, 1995).

Third, this study further contributes to the literature by minimizing instances in which major shareholders exploit the interest of minority shareholders in family-owned firms in Pakistan. Exploitation of interest occurs through the high concentration of FO (i.e., agency theory; Type II), and conflict of interest between major and minority shareholders (M. C. Jensen & Meckling, 1976) and their views (Gordon et al., 2004) on this conflict between major shareholder and minority shareholder. The study shows empirically that RPTs have negative effect on firm performance. The firm performance decreases due this transfer. High ownership concentration and negative RPTs decrease the firm performance of Pakistani family-owned firm. In a family owned firms having high concentration of ownership, this would indicate exploitation of minority shareholder by major shareholder through tunneling RPTs. This study contributes by focusing good Governance mechanisms such as the board of directors including independent non-executive directors are nominated by the major shareholder that take decision for their own interest. It also contributes the importance of disclosure and attention of Security and Exchange of Pakistan (SECP) and Karachi Stock Exchange (KSE), to the significance of having low Independent non-executive director. The results show empirically that had negatively significant coefficients of RPTs inferred that investors low price or give a valuation discount to a firm merely due to the presence of tunneling RPTs. The primary cause for the valuation discount by the market is relative importance of the RPTs. This view is consistent with the view that RPTs negatively effect on the firm performance

(Gordon et al. 2004a; Wahab et al. 2011). It is also conceivable that the value of the RPTs represents the economic loss suffered by the minority shareholder of family-owned firm (Ryngaert & Thomas 2007). Further, it has investigated the relationship between family directorship and firm performance that need establishing principles and characteristics of a strong governance system of Pakistani family-owned firm. The results showed in this study are empirical evidence that encouraging good corporate governance can restrain the negative effects of family directorship. This can provide the necessary balance, seeing that this study also provides empirical evidence of the negative effects of family directorship on firm performance of the family owned firm.

Fourth, the study develops an index of independent non-executive directors (IDI) that examines the effect of firm performance in family-owned firms. Most studies have attributed the independent non-executive director in terms of composition and financial expertise in family-owned firms. However, this study added one more dimension to the non-executive independent non-executive director (i.e., tenure). Tenure is one of most important factors that affect the independency of independent non-executive director (INED). Family- owned firms with independent non-executive director having high tenure. They are not independent non-executive director. Controlling shareholder of Family-owned firm use that independent non-executive as rubber stamp for their most decision that exploit resources of minority shareholder. The final index consists of three attributes of non-executive independent non-executive directors, namely, composition, financial expertise, and tenure. The independent non-executive director plays a key role in mitigating the resource transfer by major shareholders in family-owned firms. The monitoring function of Independent non-executive directors (INED) brings independence and oversight to the firm (Fama 1980; Fama & Jensen 1983). Kohlbeck and Mayhew (2004) observed that stronger board independence lowered the probability of RPTs.

Board independence has been found to be effective in reducing the negative effects of RPTs in the context of transfer pricing (Lo, Wong, & Firth 2010). Independent non-executive directors (INED) was found to have a significant positive relationship with the firm performance that mitigate the transfer of resources through certain RPTs. In this case, independent non-executive directors (INED) improve the monitoring role of the board of directors (Haniffa & Hudaib 2006). This augurs for better corporate governance as a variety of skills, experiences, knowledge and expertise can be had with a larger board (Anum Mohd Ghazali, 2010). Independent non-executive directors (INED) also may have increased capability to check management as the number of directors increases (Sulong & Noor 2008). This higher level of supervision may contribute to the positive effect of independent non-executive directors (INED) on firm performance. This is showing the critical role the board that plays in good corporate governance system and its relationship with RPTs. The role of independent non-executive directors (INED) includes critical issues. The independency of INED must be especially examined based on the above three mentioned dimensions because most family-owned firms in Pakistan fall in the lowest level of IDI (Figure 5.1 and Appendix C). An independent non-executive director (INED) is mainly responsible of mitigating abusive RPTs. This study empirically explores the effect of IDI with other variables, namely, family directorship and Family Ownership on firm performance.

Fifth, the study has implication for prospective investors and other stakeholders because RPTs results in real valuation discounts and premiums to prospective investors and other stakeholders. The effect of RPTs is significant and affects all stakeholders. This study gives empirical evidence to the problem of major shareholder and minority shareholder conflict. High ownership concentration is a common feature of firms in this

region, including Pakistan that increase the power of major shareholders to expropriate the minority shareholder. In Pakistani family owned firms (i.e. highly concentration of ownership) would maximize the power of controlling shareholder for exploitation of the minority shareholders. This conflict between major shareholder and minority shareholder arises due to high concentrated shareholding. The effect of this conflict is the controlling shareholder expropriating the resources through RPTs at expense of minority shareholder. Consistent with prior research like Juliarto et al. (2013) that tunnelling is a serious problem in developing countries and there is a strong association between family ownership and tunnelling RPTs. The results of this study show that expropriation is a real threat for minority shareholders. On closer examination, this can be broken down into the negative impact of tunnelling RPTs on firm performance. This negative effect of RPTs serves to inform the investing public, company management and boards of directors on the potential implications of engaging in RPTs. These negative nature of RPTs represent condition to exist whereby investors price protect against the potential costs or benefits of RPTs (Jensen & Meckling 1976). This means that investors would assign a lower market value to a firm engaging in RPTs (M. Kohlbeck & Mayhew, 2010). In this study it has shown empirically that investors would assign a lower market valuation to a firm engaging in RPTs. The value relevance of RPTs and the relevant market valuation also serve as a guide for the management of any corporation intending to engage in RPTs. That is, the board of directors may utilize empirical evidence such as that presented in this study to justify or calculate the true cost of RPTs to incorporate potential upside or downside to firm valuation as a result of undertaking the said RPT.

Sixth, compared with previous research which have focused on data from various countries and diversified firm portfolio, this study focuses on one country with data from family-owned firms listed on the stock market. These firms are involved in the transfer

of resources through RPTs and exploit the interest of minority shareholder. Hence, the current study contributes by focusing on the importance of disclosure for CG mechanisms, such as the level of independency of the director, FD, and FO in family-owned firms, to the regulatory authority, SECP. The SECP emphasizes the significance of disclosure in CG codes.

6.4 Policy Recommendation

As corporate governance and ownership concentration has a significant impact on the relationship between RP transactions and firm valuation, future regulation should look into this area. A key focus of this study would suggest is the Pakistani Code of Corporate Governance (PCCG). Five recommendations are contained within, namely:

1. The findings of this study focus on the regulatory authority attention toward the importance of disclosure requirements to increase transparency on the study of the CG as this study was conducted after the implementation of the CG Codes of the SECP in 2002.
2. The SECP and all stock exchanges should be required to modify their regulations to ensure that the financial statements of firms for the last five years is easily accessible from their websites and may be found in the historical data of respective stock exchanges.
3. The SECP and the KSE should hold a survey to form the official and authentic list and ranking of family-owned firms ranked each year according to the cash flow rights of the controlling family. This survey will improve the data repository for investors and researchers and enhance CG.
4. The results also direct the attention of the regulatory authority, the SECP, to the significance of having INEDs on boards by developing IDI in three dimensions, i.e.,

composition, financial expertise, and tenure. The board size of family-owned firms shows a low proportion of INEDs. This low ratio is a crucial issue for the SECP to increase autonomy in boards by selecting directors from outside the firm. These independent non-executive directors should have financial expertise to mitigate transfer-pricing policy and all RPTs that are not priced toward the advantage of major shareholders. Family-owned firms that do not adhere to the CG codes should be strictly dealt with. Therefore, the CG code should be reviewed in terms of the tenure of independent non-executive directors to ensure that its implementation remains true to its letter and spirit. This situation could enhance transparency and increase the confidence of minority shareholders. The board should undertake an assessment of its independent non-executive directors annually and the tenure of an independent non-executive director should not exceed a cumulative term of nine years. Upon completion of the nine years, an independent non-executive director may continue to serve on the board subject to the director's re-designation as a non-independent non-executive director. the board must justify and seek shareholders' approval in the event it retains as an independent non-executive director, a person who has served in that capacity for more than nine years.

5. Researchers, scholars, and analysts should be encouraged and guided to continue further research to determine the other aspects of RPTs.

6.5 Limitations of the research

The identification of group firms is the primary limitation of this research as no clear information and data are available to identify which firm belongs to which group. Therefore, family-owned firms were identified using information on their websites or by verifying the directorship of listed firms. Considering that the same directors are on many firms, these firms were placed under one group. The other limitations are as follows:

1. Limited reliability of accounting figures and insufficient disclosures of some firms;
2. Limited sample of business groups and stand-alone firms, which might vary once all KSE-listed business groups, firms, and stand-alone firms are considered;
3. Although extreme care was employed in obtaining the values of all the variables, this report is not meant to provide exhaustive information on firm performance in Pakistan because of the data being secondary. The accuracy or completeness of the information in this report cannot be verified;
4. Limited number of variables were utilized in the models, and other variables were also presented to test for the significance of the models.
5. Finally, the same study can be enhanced further by increasing the categories of the independent variables with less ranges.

Future research on independent non-executive director, FD, FO structure, and RPTs might include all KSE-listed group and non-group firms. This study can be expanded by comparing family-owned firms with stand-alone and multinational firms. In addition, multiple sectors could be included to determine whether the comparison adds value or to identify the effect of RPTs across geographical boundaries of the state. The latter can also show the effect of RPTs on the performance of the SOEs. Such enterprises are generally more complex, and its minority shareholders' rights are protected for political reasons.

Future studies can determine the existence and measurement of the RPTs in components, i.e., asset and equity RPTs in merger and acquisitions. This can also measure the impact of RPTs on stock prices and on the overall economy of a country. Moreover, the exact sources of RPTs can be determined by considering off balance sheets and RPTs. More performance measures for the firms can be used in addition to ROA, ROE, and

Tobin's Q to examine the effect of CG mechanisms and RPTs. Subsequent researchers can also examine all firms listed on the stock market belonging to the 47 family-owned firms operating in the country. This approach would generate accurate results on the nature of family-owned Pakistani firms.

6.6 Conclusion

This study empirically examined the impact of IDI, FD, and FO on firm performance and found the moderation of RPTs (that prevail in family-owned firms in Pakistan) between CG mechanisms and firm performance. This research analyzed the panel data of 150 family-owned firms listed on the KSE from 2004 to 2014 through Stata Software Version 14. The dynamic framework was designed with CG mechanisms (i.e., IDI, FD, and FO) as the independent variables. Firm performance as a dependent variable was calculated through ROA, ROE, and Tobin's Q employed in Model 1a, Model 1b, Model 2a, Models 2b, Model 3a and Models 3b, respectively, with the moderator variable RPTs between CG mechanism (i.e., IDI, FD, and FO) and firm performance. In all six Models (i.e., Model 1a, Model 1b, Model 2a, Models 2b, Model 3a and Models 3b), control variables included firm Size, profit margin, leverage, age of firm, industry type and year. This study employed the following analysis methods: Random Effect Method and Fixed Effect Method, including the test of heteroskedasticity among independent variables (without and with the interaction variable i.e. RPTs). There were problems of endogeneity, heteroscedasticity (HSK) and auto correlation with using of Random Effect Method and Fixed Effect Method. Furthermore, this study utilized Generalized Method of Moments method (GMM) to overcome the problems of endogeneity, heteroscedasticity (HSK) and auto correlation. Robustness checks were also performed by introducing new moderating variables of RPTs through categorization (i.e., RPTs Benefit-based, RPTs Expense-based, and RPTs Other-based). First category of this study

is Benefit-based RPTs, includes bonus, convertible, and right issue shares. RPTs benefit-based transactions have positive effect on the family-owned firm performance. This is consistent to similar concept of propping in which major shareholder take decision internally for firm in their financial distress position. With propping, money is transferred from profitable firms to those who are facing financial difficulties. Similarly, second category of this study is RPTs expense-based, includes organizational expenditure, insurance, royalty payments, and other expenses. RPTs expense-based transactions have negative effect on firm performance. This is consistent to similar concept of tunneling in family-owned firms in which major shareholders transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. The major shareholders has strong incentive to tunnel (transfer) resources from low to high ranking firms in a family-owned firms where more cash flow rights exists for that indirect controlling owner, thus making her more wealthy on the cost of minority shareholders. Therefore, negative RPTs can have adverse consequences for minority shareholders and economy because it is a serious barrier to financial development as outside shareholders will be generally less benefited from their shareholding. Similarly, third category of this study is RPTs other based, include ordinary shares, dividends, donations, interests, investments, purchase of assets, sale of assets, employee benefits, lease, loans, and advance payments. RPTs other-based transactions have negative effect on firm performance. This is consistent to similar concept of transaction cost concept and tunneling in which major shareholders transfer the resources of firm and exploit the interest of minority shareholder through negative RPTs. The controlling shareholder use mechanism of negative RPTs as they are able to use their control rights in order to extract money from the firms in the pyramid for their own gains. This research developed an IDI crucial for mitigating RPTs which major shareholders use to exploit the interest of minority shareholders. The relationship between IDI and firm performance was also assessed. Results of this study may focus the attention

of the regulatory authority, SECP, toward the disclosure requirements as this study found that most family-owned firms fell in the low IDI level. This low value indicates the decreased autonomy of independent non-executive directors, that is, more than 90% of family-owned firms in the low IDI category. The IDI results suggest that the autonomy of independent non-executive directors in family-owned firms is low. The findings also indicate important issues for the attention of the SECP regarding the importance of the autonomy of independent non-executive directors. This research proved that CG variables, particularly the IDI, have a positive relationship with firm performance. Thus, family-owned Pakistani firms have a low ratio of IDI on the board of directors. The CG in Pakistan indicates the low or poor protection of minority shareholders. This weak CG in family-owned firms creates opportunities for major shareholders to expropriate resources through RPTs. The RPTs were also found to have a significant negative relationship with firm performance. Consistent with the conflict-of-interest transaction between major and the minority shareholders (Gordon et al., 2004), agency theory Type (II) (Jensen and Meckling, 1976), and Berle and Means' model (1932), this outcome indicates a potentially harmful effect against the interest of minority shareholders. In addition, CG mechanisms (i.e., FD and FO) have a significant negative relationship with firm performance. The moderating role of RPTs was also analyzed between CG mechanisms (i.e., IDI, FD, and FO) and firm performance. In Model 1b, RPTs negatively moderate the relationships of IDI, FD, and FO with firm performance, as measured through ROA. In Model 2b, RPTs positively moderate the relationship between IDI and firm performance, as measured through ROE. The RPTs also negatively moderate the relationship between FO and firm performance. Furthermore, RPTs have no moderating role on the relationship between FD and firm performance. However, in Model 3b, RPTs negatively moderate the relationship of IDI and FO with firm performance, as measured through Tobin's Q. Finally, RPTs have no moderating role on the relationship between

FD and firm performance. So, this study found empirically that Family ownership has negative effect on firm performance. Similarly, RPTs has also negative effect on firm performance of Pakistani family-owned firms. Moderating role of RPTS also decrease firm performance. As the relationship between IDI and firm performance are also decreased. This shows that that IDI of most family-owned firms fell in the low level of IDI. This low value shows the lower level of independent non-executive directors, almost more than 90% of family-owned firms fall in the lower IDI level. This lower level focus the attention of the regulatory authority, SECP, toward the disclosure requirements for family owned firms about proportion of independent non-executive director.

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