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PYRAMIDAL OWNERSHIP STRUCTURE AND CASH FLOW WEDGE: EVIDENCE FROM FAMILY BUSINESS GROUPS OF PAKISTAN

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ABSTRACT

This study examines the ownership structure and cash flow wedge of ultimate controlling owners in firms affiliated with family business groups of Pakistan. The study uses unique handpicked data comprising a sample of 181 group affiliated, 112 stand-alone, 21 foreign, and 12 state owned non-financial firms listed on Pakistan Stock Exchange for a period of 2008-17. The study finds high degree of ownership concentration particularly in 53 family business groups. The study also finds that controlling shareholders own over 20 percent shareholdings in 60 percent of all sample firms and families own 50 percent or more shareholdings in 44 percent of group affiliated firms. The novel contribution of this study is to systematically identifying the ownership affiliation of all family business groups, developing the pyramidal ownership structure of prominent family businesses and finding the difference in voting and cash flow rights which creates significant wedge for controlling family owners. This has strong implications for regulators to ensure effective implementation of regulations as well as minority shareholders and dispersed investors for cognizant investment decision making.

1. INTRODUCTION

The principal-principal agency issues i.e., between controlling (majority) shareholders and minority shareholders are important in firms with significant concentrated ownership as their controlling shareholders can misuse their control rights (voting power) to expropriate resources (Shleifer and Vishny, 1997; Dharwadkar et al., 2000; Young et al., 2008). Earlier studies have found that concentrated ownership structures generally exist around the globe especially in East Asia (La Porta et al., 1999; Claessens et al., 2000). A business group usually comprises of two or more firms integrated with vertical or horizontal chain of ownership control. Family owned business groups exist in many emerging markets and they increase the system-wide problems associated with corporate governance. However, nature of corporate governance issues differs in accordance with various complex ownership structures of firms (La Porta et al., 1999; Claessens and Burcin, 2013). The concentration of ownership coupled with significant difference between control or voting rights (VR) and cash flow rights (CFR)[1] of controlling owners lead to Cash Flow Wedge or Cash Flow Leverage (CFL)[2] which ultimately encourages controlling owners to expropriate resources within group firms (Johnson et al., 2000; Bertrand et al., 2002). Resultantly, they are motivated to expropriate or transfer resources within group affiliated firms i.e., from the group firms with low level of CFR to group firms with high level of CFR of controlling owners. Consequently, the transfer of resources within business group firms negatively affects the interests of minority shareholders of group firms (La Porta et al., 1999; Claessens et al., 2000; Bertrand et al., 2002; Torres et al., 2017; Derouiche et al., 2018; Hussain and Safdar, 2018). Conversely, literature suggests that business groups also protect group firms from default by providing them resources in distress (Khanna and Palepu, 2000; Friedman et al.,

[1] Cash-flow rights refer to the direct or indirect equity ownership or percentage of shares of controlling shareholders in the firms related to a particular business group.
[2] 'Cash flow leverage' also known as 'wedge' is the ratio of VR to CFR of controlling owners in firms affiliated with a particular business group.

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2002). Kali and Sarkar (2011) state that in many countries, business groups dominate industrial activity of the private-sector businesses.

The concentrated ownership structures of business groups and the associated agency issues with respect to corporate governance have gained interest after the collapse of Enron, World Com and the Asian financial crisis of 1997-98. Consequent to global financial scandals, the development of corporate governance regulations like Cadbury's Report (1994) or the UK Combined Code and Sarbanes-Oxley Act (2002) are the important steps for protection of minority shareholders. Currently, the International Finance Corporation (IFC), under World Bank umbrella is promoting the corporate governance among member countries to protect minority shareholders. The growing awareness about rights of minority shareholders and investor protection have also stimulated the research related to concentrated ownership structures of business groups and the associated agency issues. Faccio et al., (2001) find that business groups in developing countries have significant concentration of ownership which encourage controlling shareholders to expropriate resources. However, business groups also facilitate weak firms of respective groups to avoid their bankruptcy through provision of necessary resources. Fan et al., (2011) highlight that business groups of emerging markets involve in various internal transfer activities which include physical assets, materials, labor and financial resources, and these activities cannot be monitored easily from outside. Almeida et al., (2015) find that financial resources have been shifted from firms operating with lower level of growth to firms undergoing high level of growth in a Chaebol (i.e. Korean business group). Pindado and Requejo (2015) argue that the controlling family business group structure has corresponding influence on the corporate performance. Torres et al., (2017) find that increase in separation of CFR and VR, decreases the performance of family business group firms because such diversion provides incentives to controlling family members to transfer resources for their own benefits. Derouiche et al., (2018) conclude that the use of internal funds for various investments increases significantly when majority shareholders have extra control rights in firms.

Although, Pakistan is a common law developing economy but its corporations are predominantly controlled by few families. These families control the businesses through cross-shareholding, interlocked-directorships and pyramids (Amjad, 1982; Cheema, 2003; Ashraf and Ghanni, 2004). In Pakistan, most of the firms are affiliated to various family business groups (Hussain and Safdar, 2018). Figure 1 below presents the industry wise ownership breakdown of non-financial listed firms as on 30 June 2017. As evident, high ownership concentration in control of few families exercising control on many business group firms suggests diversion of control and ownership rights. It may results in the corporate governance issues as suggested by Johnson et al., (2000) and La Porta et al., (1999, 2000), etc.

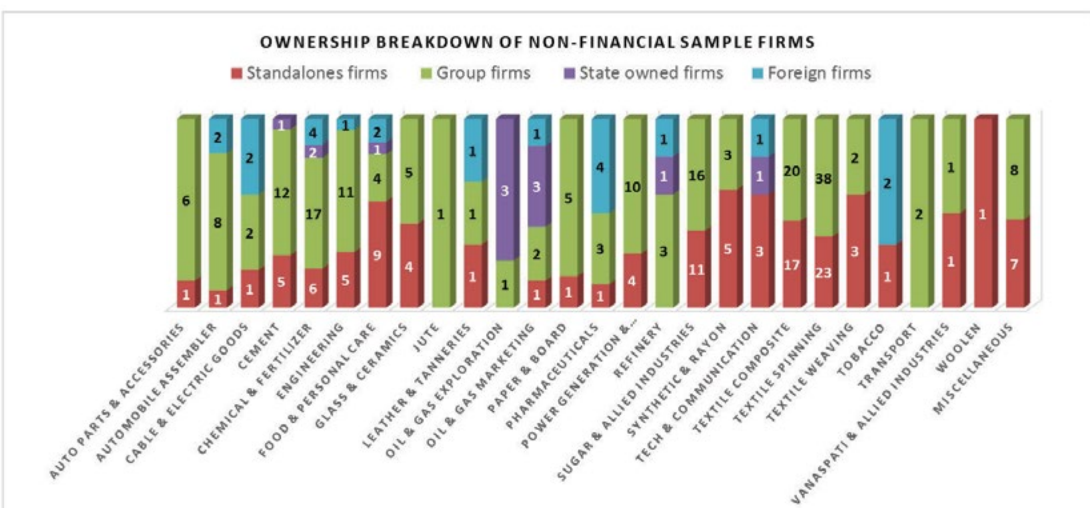

Figure 1: Ownership Breakdown of Non-Financial Sample Firms
Source: Author's Compilation (2019)

Despite a substantial research on corporate governance and ownership structures of business groups around the globe and high concentration of ownership in Pakistani group affiliated firms; the author has not found any comprehensive study about exact affiliation of all such firms, complete ownership structures of the prominent business groups and, measurement of VRs, CFRs and CFL of controlling owners in these group firms. Therefore, the purpose of this study is to construct and examine the ownership structures of prominent family business groups while identifying their group affiliation as well as measuring, and analyzing the VRs, CFRs and CFL of ultimate owners in these family business groups. The study has following novel contributions: first, it comprehensively identifies the ownership affiliation of all family business group firms, second, it constructs the pyramidal ownership structure of prominent family business groups and third, it measures and analyzes the VRs, CFRs and CFLs of controlling owners in these family business group firms. The study uses a unique handpicked dataset for a panel of 326 non-financial firms listed on Pakistan Stock Exchange (PSX) for a period of 2008-17.

The analysis of ownership structures shows that Pakistani corporations have high degree of concentration of ownership. The considerable difference in VR and CFR provides incentives to controlling shareholders (major owners) to transfer resources within group firms which has strong implications for various stakeholders. In this context, this study is organized as: The following section 2 describes the literature review as well as presents a brief historical background of Pakistani corporate legal system, regulatory institutions and comparative analysis of variants of code of corporate governance. The section 3 of the study explains the data and methodology. The section 4 constructs the ownership structure of various family business groups; analyses the VRs, CFRs and CFL of owners in family business group firms. Section 5 encompasses conclusion, recommendations, policy implications and future research.

2. LITERATURE REVIEW

Literature suggests that expropriation of resources through ownership structures of businesses may affects at both micro and macro-economic levels (Johnson et al., 2000; Mitton, 2002). Joh (2003) identifies an inverse relation between firm's profitability and the separation of CFR and VR of the majority owners. Lins (2003) examines firms related to 26 emerging markets and finds similar results. Lemmon and Lins (2003) report similar findings for the sample firms operated during the financial crises in East Asia. Baek et al., (2004) find that corporations with highly concentrated ownership have experienced substantial value loss during the financial crisis in Korea. Khanna and Yafeh (2007) conclude that business groups function similar to parasites who expropriate resources. Doidge et al., (2009) find that the firm's cross-listing likelihood has negative relationship with the VR and the divergence between VR and CFR of the majority shareholders. Lensink and Molen (2010) state that business group affiliation is mostly advantageous to firms having financial constraints. In small business groups of France, Hamelin (2011) observes a considerable correlation between the firm performance and separation of ownership from control. Briamonte et a., (2017) show consistency of the pyramidal groups on earning management and find significant divergence of CFR and VR in group firms related to pyramids structures. Recently, Derouiche et al., (2018) find that investment and cash flow sensitivity of French firms increases with the excess VR and decreases with the CFR of the controlling shareholder. They further explore that firms use significant intra-group funds for investments when controlling shareholders have excess VR.

In Pakistan, corporate governance has gained considerable interest of researchers in last decade. The study of Ashraf and Ghani (2004) shows that investors view business groups as a mechanism of expropriation of resources. Rais and Saeed (2005) find that the Code of Corporate Governance (2002) has enhanced the financial reporting and overall business environment. Javid and Iqbal (2010) find that ownership concentration has negative relation with standard of corporate governance practices. They conclude that Pakistani firms have more ownership concentration due to weak legal environment. The above mentioned literature shows that deviation of VR and CFR exists in concentrated ownership structures and it is an important measure of expropriation of resources. However, VR and CFR are difficult to calculate especially in a chain of pyramid ownership structure. Particularly, measurement of direct and indirect CFR requires the correct identification of firms' ownership relation and development of ownership structure which is an important focus of this study.

2.1 Development of Legal System, Regulatory Institutions and Corporate Sector in Pakistan

Historically, Pakistani corporations followed the English corporations in the Sub-continent. Upon independence of Pakistan on 14 August 1947, the Indian Companies Consolidation Act, 1913 was implemented as company law in Pakistan after some amendments. In 1949, it was further amended and renamed as the Companies Act, 1913. The establishment and governance of Pakistani companies remained under that Act till enforcement of the Companies Ordinance, 1984. Recently, the Companies Ordinance, 1984 has been amended and replaced with Companies Act, 2017 enforced on 30 May 2017. After independence, Pakistani corporations as well as corporate culture had faced inimitable challenges and opportunities to develop. The private and family oriented businesses had developed and flourished. By 1970s, considerable economic and industrial power was under the control of only 22 families (Rahman, 1998). By 1970, 44 monopoly houses (i.e., business groups' firms under particular families) had emerged who controlled about half of the assets (gross fixed) of the manufacturing sector of Pakistan (Amjad, 1982). Since, these business groups were mainly controlled by family members; therefore, separation of ownership (CFR) and control (VR) was nonexistent.

On 1st January 1972, Nationalization and Economic Reforms Order was promulgated by democratic federal government under which 31 key industrial units were nationalized. On 1st January 1974, the government further nationalized two petroleum companies, 10 shipping companies, 13 banks and more than a dozen insurance companies (Rahman, 1998). The nationalization of industrial and banking units resulted in loss of more than half of assets of about 42 percent (i.e.11 out of the 26) top monopoly houses. By 1977, the private industrial ownership had decreased massively; whereas, the large-scale manufacturing investment share of state had increased from 13 to 78 percent (Amjad, 1982). After about a decade, the government took initiatives to privatize the many state-owned industrial and banking sectors companies. Since 1990s, many firms have been privatized and process of privatization is still continuing under the Privatization Commission.

With respect to the regulatory institutions, the State Bank of Pakistan (SBP) is the primary regulator and supervisor of banking sector (i.e. commercial banks, microfinance banks, and development finance institutions etc.). The Prudential Regulations of the State Bank of Pakistan (SBP) directs all commercial banks and Development Finance Institution (DFIs) in the Pakistan to comply with the Code of Corporate Governance. Further, the federal government of Pakistan initially established the Corporate Law Authority (attached with the Ministry of Finance) to regulate the capital markets and corporate sector. Subsequently, it was succeeded by the Securities and Exchange Commission of Pakistan (SECP) on 1st January 1999. This institution is the primary regulator and controller of capital markets, insurance, non-financial, and all listed as well as non-listed non-banking financial companies. Although, the Pakistan Stock Exchange (PSX) is an independent public limited company; however, the SECP has certain authorities over it e.g. SECP examines the securities trading rules, supervises their operations and constitutes their board of directors under various rules and regulations.

2.2 Analysis of the Code of Corporate Governance (CCG)

Initially, SECP issued the Code of Corporate Governance (hereafter the Code) in 2002 in consultation with various stakeholders. It has been further amended in 2012 and 2017 respectively. The Code is a considered as set of 'best practices', compiled to guide, control, or direct the listed companies through a framework. The Code was formulated based upon the various corporate governance models and experiences (i.e. the reports by Cadbury Committee, 1992 (UK), the King's (South Africa), the Hampel Committee, 1998 (UK) and the OECD Principles of Corporate Governance, 1999) of the common law countries having traditions similar to Pakistan's. However, there remained many weaknesses and limitations in the Code. Moreover, the market initially showed reluctance to follow the Code in true letter and spirit. A number of companies were delisted post implementation of the Code. The researchers and relevant surveys highlighted several limitations of the Code and suggested to improve it in accordance with dynamic corporate standards. Consequently, the SECP has amended the Code in 2012 and 2017 after consultation with relevant stakeholders.

The salient of each variant of Code (CCG 2002, 2012 and 2017) and comparative analysis of relevant revisions are presented in the following Table 1. Although, the Code provides awareness to investors as well as requires companies to comply with the Code; however, the Code has 'no statutory force or penalty provisions' in case of non-compliance of the Code by the companies. Thus, the role of the Code is mainly advisory. The analysis shows that despite all these institutions and emphasis by the Code for independent directors, the ownership concentration still exists and firms have fewer independent directors on their boards. Javid and Iqbal (2010) find that ownership concentration in Pakistan has negative relationship with standard of corporate governance practices.

Table 1. Comparison of the Codes of Corporate Governance 2002, 2012 and 2017

Sr. No	Description	CCG 2002	CCG 2012	CCG 2017
1	Independent Director	Encouraged to have at least one independent director	One independent director is mandatory. However, one-third (1/3rd) of total board members are preferred	Two independent directors mandatory or 1/3rd of total board members (whichever is higher)
2	Criteria for independence of directors	Insufficient and scanty	Significantly explained	Further elaborated.
3	No. of directorships by a board member at a time	Not more than 10	Maximum 7 (except director of a listed subsidiary of a holding company)	Maximum 5 (except director of a listed subsidiary of a holding company).
4	Executive Directors	Including CEO, not greater than 3/4th of elected directors	Not greater than one-third (1/3rd) of elected board of directors (including CEO)	Not greater than one-third (1/3rd) of board of directors (including CEO)
5	Board training	Directors have to be trained by PICG	Directors have to be trained through any local or foreign institution meeting the criteria of SECP	Timeline mentioned for acquiring of required certification by board members
6	Board evaluation	No provision	Mechanism to place by April 2014 to perform annual performance evaluation of the board	Proper mechanism to conduct annual evaluation of the board's performance and board members as well as its committees.
7	Board chairman & CEO	Can be same person but it is preferred that he/she may be a non-executive director	The CEO and Chairman can't be same person (unless allowed by any other law).	The CEO and Chairman shouldn't be same person. No exemption by any other law given in CCG2012
8	Internal Audit Head	None	Specific qualification has been introduced. Internal Audit Head shall be removed with the recommendation of Chairman Audit Committee	Further clarified.
9	Board Committees	Audit Committee chairman is preferred to be non-executive director	Audit committee Chairman should be an independent director. Moreover, Chairman of the audit and board can't be same. CFO can't be Secretary of Audit committee. Human Resource & Remuneration Committees also introduced in CCG 2012.	Audit committed head must be an independent director and shouldn't be Chairman. HR & R committee should have at least one independent director.
10	Female Director	Not necessary	Not necessary	One female director is mandatory on Board of Directors
11	Review of Business Risk	No Provision	No Provision	Inclusion of responsibility of board to review business risk at least once in a year

Source: Author's Analysis and Compilation (2019)

Since, Pakistan has common law background; therefore, the overall legal system of the country is similar to the Anglo-American model. Whereas, its ownerships structure is highly concentrated contrary to the Anglo-American structure, i.e. dispersed ownership model (Berle and Means, 1932; Jensen and Meckling, 1976; Ibrahim, 2006). The ownership structure of leading firms in Pakistan is highly concentrated with family ownership (Hussain and Safdar, 2018). The controlling shareholders have sufficient VRs as well as prominent positions in company's management. As Figure 1 suggests, the major controlling shareholders are families, state and foreign multinationals. The former exercise their control through extensive pyramiding as analyzed in ensuing sections. This historical background of corporate sector and legal system of Pakistan coupled with specific cultural, social, economic, and political conditions are likely contributors of concentration of family ownership in Pakistan.

3. RESEARCH METHODOLOGY

3.1 Data

This study uses the data of 326 non-financial firms listed on Pakistan Stock Exchange (PSX) for a period of 2008 to 2017. The major reasons for the chosen time period is that it covers the data after execution of the Code, it has more likelihood for availability of required data, and it covers maximum number of firms during the course of study. The PSX is comprising of 557[3] listed companies with total market capitalization of 9,522,358 Million Rupees[4] as on 30 June 2017. These listed companies consist of 128 financial companies and 429 non-financial companies. The sample excludes all financial companies as the accounts of these companies are not directly comparable with that of non-financial companies. Resultantly, all remaining 429 non-financial companies have formed initial sample of study. However, due to non-availability of required data of several firms, the sample finally consists of a panel of 326 non-financial PSX listed companies (excluding the banks, modarabas, insurance, mutual funds and media) because the main focus of the study is family business group firms. Out of these 326 sample companies, 181 companies belong to various family business groups. Moreover, 112 firms are stand-alone (non-group), 12 firms are controlled by state and 21 companies have foreign majority shareholdings.

Overall, the market capitalization of sample firms encompasses about 97% of the total capitalization of non-financial firms listed on PSX. The sample consists of all non-financial companies comprising of PSX-100 Index[5]. Thus, sample size is true representative of companies listed on all PSX. The firms' corporate ownership data has been obtained from S & P Capital IQ data source and firm's annual financial statements. The details of group firms, private ownership and related party data is primarily accessed (hand-picked) from annual reports of listed firms. However, it is further confirmed from relevant websites and SECP as applicable. Due to non-availability of annual reports on relevant websites and accessible resources, annual accounts (in hard copies) of several firms were purchased from PSX for extraction of required data. The related party equities and ownership data (e.g. percentages of family, directors and executives) is basis of construction of ownership structures of business group firms as well as measurement of VR and CFR of owners.

3.2 Methodology

Literature (Bebchuk et al., 2000; Mustafa et al., 2017) suggests that the controllers of family business groups firms can exercise control through a single class share pyramid ownership structure. In a simple pyramid ownership structure which consists of only two companies, a majority shareholder owns a controlling shares in a holding company that, in turn, owns a controlling shares in an operating company in the business groups. In a pyramid ownership structure which consists of three tiers companies, the upper level holding company in that business group controls a middle-level company that in turn controls the lower level operating company. This control is exercised through wedge (cash-flow leverage), i.e., ratio of VR to CFR. Thus, it is important to develop the pyramidal ownership structures of family business groups in Pakistan as well as to measure the VR, CFR and CFL of the business groups.

In order to measure the VR and CFR, the methodologies of Bebchuk et al., (2000) and Orbay and Yurtoglu (2006) have been used as bench mark. The reason for choosing these methodologies are that initially, Bebchuk et al. (2000) have examined the various ways of separating control from CFR in pyramidal ownership, dual class equity, and cross-

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[3] SECP Annual Report, 2017, p-77.
[4] PSX Annual Report, 2017, p-103.
[5] PSX-100 Index is still known as KSE-100 Index despite integration of all three stock exchanges of country into single stock exchange, i.e., 'Pakistan Stock Exchange (PSX)'.

ownership structures. Whereas, Orbay and Yurtoglu (2006) have practically developed the pyramid ownerships structure of a business group and measured the VR and CFR of ultimate controlling owner in a business group, e.g., Çelik Halat A.Ş. (2001) of a developing economy, Turkey. The above mentioned ways permit a controlling shareholder or family business group owner to completely control a company while holding lesser CFR associated with firm's equity. In this regard, Bebchuk et al., (2000) has presented a simple mathematical model which proposes that "for any fraction α, however small, there is a pyramid that permits a controller to control a company's assets completely without holding more than α of the company's cash-flow rights" (Bebchuk et al., 2000, p. 5). With regard to examine the extent of separation of CFR and VR in a pyramid ownership structure, suppose there is a simple chain of firms in business group having $n \geq 2$ firms, in which the majority shareholder has ownership of a portion p_1 of the equity in firm 1; whereas, firm 1 has ownership of a portion p_2 of the equity in firm 2, and so on. As long as $p_i \geq 1/2$ (50 percent), i = 1,....,n, the controlling shareholder exercises direct control over the lower level firm's assets. Whereas, the controlling shareholder owns a small portion of CFR (Bebchuk et al., 2000). Mathematically, it is expressed as:

$$\alpha = (\prod_{i=1}^{n}) p_i \tag{1}$$

It shows that, by keeping the n larger, the following product can turn out to be sufficiently low as preferred.

$$(\prod_{i=1}^{n}) p_i \tag{2}$$

It reflects that if controlling or majority shareholder has 50 percent of VR at each tier of a pyramidal ownership structure, then $\alpha = (0.5)^n$. Suppose, there is a four-tier pyramid ownership structure with $p_i = 0.5$ at each tier. This product model shows that controlling owner can control the firm with only 6.25 percent of its CFR. It is a classic example of how swiftly pyramidal ownership structures separates equity (CFR) from control (VR) and provide opportunity to controlling owners to tunnel or expropriate resources within group firms. In section 4, initially ownership structures are developed followed by measurement of VRs, CFRs and CFLs by utilizing these methods. For this purpose, first group firms have been segregated and identified with respect to related party equities, pattern of shareholding and ownership data, i.e. percentages of family, directors and executives, and associated or related parties. Subsequently, ranking of firms within business groups has been carried out and pyramid ownership structures have been developed showing the flow of ownership control and percentages of direct and indirect ownership of firms, family or ultimate owner. Thereafter, VRs have been calculated by summing direct ownership control of family as per direct equity held by family, directors and CEO. Further, computation of CFRs is achieved through multiplying and summing over all related control chains of pyramid. Finally, ratio of VR to CFR is measured to find cash-flow leverage or wedge of ultimate owner (family) in business groups.

4. DATA ANALYSIS AND DISCUSSION

4.1 Corporate Affiliation and Ownership Structure of Firms

Pakistan has various types of companies including public listed, private, public unlisted, Single Member Company (SMC) and foreign companies, etc. As it is evident from the ownership and sectoral breakdown of sample companies presented earlier in Figure 1 that most of the companies are related to family business groups. The analysis shows that the group companies belong to various family controlled businesses integrated through chains of controls, pyramids, interlocked or multiple directorships. All the group and stand-alone sample firms are related to various 27 industries. The major industries with respect to the number of sample firms are textile, chemical & fertilizers, sugar, cement, engineering, food & personal care, power generation & distribution, automobiles and oil, gas & refinery, etc. Majority of the listed firms have larger capitalization and size. Further, the analysis of top shareholders with shareholding equal to or greater than 10, 20, 50 and 70 percent is presented in following Table 2. It shows that controlling shareholders own 10 percent or more top shareholdings in 86.8 percent (i.e. 283 in number) sample firms and 20 percent or more top shareholdings in 60.4 percent (i.e. 197 in number) sample firms. Whereas, out of 181 group firms; families have 10 percent or more top shareholdings in 87.3 percent group firms (i.e. 158 in number) and 20 percent or more top shareholdings in 61.9 percent group firms (i.e. 112 in number). The number of firms with 50 percent or more top shareholdings held by controlling owners is 61 firms. Among these 50 percent or more top shareholdings firms, group firms comprise of 44.3 percent.

Table 2. Number and Percentages of Top Shareholdings in Sample Firms

Description	Total Sample Firms	Number of Firms with top shareholdings				Percentage of firms with
		= or >10 %	= or >20 %	= or >50 %	= or >70 %	= or > 50 % top shareholdings
Groups	181	158	112	27	10	44.26
Standalone	112	93	55	13	4	21.31
Foreign	21	20	18	15	7	24.59
State	12	12	12	6	2	09.84
Total	326	283	197	61	23	100.00

Source: Author's Consolidation and Computation, (2019)

Further, Table 3 presents the details about family business groups and relevant ownership affiliation of PSX listed group firms. The analysis shows that 53 various family business groups exist in Pakistan as identified and arranged in Table 3 based on the ownership linkages, percentages of controlling owners and equity held by directors and related parties in listed firms. It further reflects that a business group consists of 2 to 9 public listed companies in Pakistan. On average, 4 listed companies are included in a business group. The largest business group with respect to number of listed firms in the sample is Dewan group. However, considering the net worth, privately owned firms and financial firms; Nishat business group is the largest. Many business groups also have private companies in their business groups; however, same are beyond the scope of this study due limited available information. Further analysis reveals that about 25 percent and 40 percent of group listed firms are affiliated to top 6 and 11 business groups respectively. Whereas, most of the groups have 2 to 4 listed firms in addition to ownership of related private group firms. The further analysis also shows that many business groups have diversified businesses. The possible reasons are risks mitigation, more business opportunities and profitability with broader skill sets in general and provision of necessary raw material, financial support and utilities for other related businesses and industries, e.g., same business groups have various units in textile composite, spinning, weaving and energy sectors, etc. It has been observed while analyzing the data that these related businesses provide them opportunities to conduct related party transactions (RPTs) such as cash payments and receipts, loans, loan guarantees, sales & purchase of assets, trade of goods & services and transactions with non-listed subsidiaries. The analysis shows that sample firms have conducted about four thousand five hundred RPTs during the period of just 2008-13. Interestingly, out of these RPTs, the listed group firms have conducted about 68 percent RPTs.

Although 'one-share, one-vote' principle for ownership structure is common around the world (La Pora et al., 1997, 1998); however, the SECP's laws allow listed companies to issue shares with different dividend rights as well as common shares with voting power (VRs), and common shares with more than one vote known as dual class shares. At present, Pakistan has negligible companies offering dual class shares. Most of the Pakistani companies' ownership structure is like a pyramid in which an ultimate controlling owner (generally a family) owns different companies through a chain of pyramidal ownership structure. This ownership structure is confirmed through construction of ownership structures of major business groups of Pakistan. This ownership construction is based on percentages of the directors and executives' equity, and related parties shares in the firms. The information regarding 100 percent ownership of private companies of the group is supplemented from the latest information provided on websites of group companies as well as accessible from SECP.

Table 3. Family Business Groups and Ownership affiliation of PSX Listed Firms

Sr.No.	Business Group	No of Listed Firms	PAKISTAN STOCK EXCHANGE LISTED FIRMS (SYMBOL NAMES)								
1	DEWAN	9	DCL	DFML	DFSM	DKTM	DMTM	DSFL	DWSM	DWTM	DWAE
2	CRESCENT	8	CCM	CFL	CRTM	CSAP	JUBS	STML	SURC	SML	
3	SAIGOL	8	KOHE	KOHP	KOIL	KTML	MLCF	PAEL	SSML	KML	
4	BIBOJEE	7	BCML	GAMON	GHNI	GHNL	GTYR	JDMT	PMRS		
5	DAWOOD	7	DAWH	DLL	EFERT	EFOODS	ENGRO	EPCL	EPQL		
6	NISHAT	7	DGKC	LPL	NCL	NCPL	NML	NPL	PKGP		
7	ARIF HABIB	6	ASL	FATIMA	JVDC	POWER	THCCL	AHCL			
8	JS	6	AABS	AGL	DADX	PIBTL	PICT	ANL			
9	ATTOCK	5	ACPL	APL	ATRL	NRL	POL				
10	HOUSE OF HABIB	5	AGIL	DYNO	INDU	STCL	THALL				
11	IBL	5	IBLHL	INKL	SEARL	UBDL	UDPL				
12	GHANI	4	GAIL	GGL	GHGL	GVGL					
13	LAKSON	4	CEPB	COLG	MERIT	CLOV					
14	SAIF	4	KOHTM	SAIF	SPWL	KOHC					
15	SITARA	4	SEL	SITC	SPL	ICL					
16	MISC	4	ADAMS	AKGL	HMIM	JKSM					
17	CHINOY	3	PCAL	INIL	ISL						
18	COLONY	3	CTM	COST	COTT						
19	FAZAL	3	REWM	FZCM	FAEL						
20	GHULAM FAROOQ	3	CHCC	CPPL	MIRKS						
21	HABIB	3	HABSM	HAL	BPBL						
22	HASHOO	3	EXIDE	LMSM	PSEL						
23	MILLAT	3	BCL	BWHL	MTL						
24	NAGINA	3	ELSM	NAGC	PRWM						
25	SAPPHIRE	3	RCML	SAPT	SFL						
26	SERVICE	3	SERT	SRVI	SERF						
27	SHIRAZI	3	ATBA	ATLH	HCAR						
28	TATA	3	ILTM	SALT	TATM						
29	UMER	3	BHAT	BTL	FASM						
30	YOUNUS	3	LUCK	GADT	ICI						
31	ALNOOR	2	ALNRS	SHSML							
32	ARSHAD	2	AEL	IDSM							

33	ASIM	2	JATM	ASTM
34	BAWANY	2	BAPL	FRSM
35	BESTWAY	2	BTL	BWCL
36	CHAKWAL	2	CWSM	KOSM
37	DATA	2	DAAG	DATM
38	DESCON	2	DOL	ALTN
39	DIAMOND	2	DIIL	SHCI
40	FECTO	2	BAFS	FECTC
41	FEROZ	2	FEROZ	FML
42	HALA	2	HAEL	POML
43	HASCOL	2	HASCOL	PRL
44	HUSEIN	2	SHDT	SRSM
45	IMPERIAL	2	EMCO	ICCT
46	INDUS	2	IDYM	SUTM
47	MAQBOOL	2	AWTX	MQTM
48	MONOO	2	OML	OLSM
49	NIMIR	2	NICL	NRSL
50	NOON	2	NONS	NOPK
51	PACKAGES	2	PKGS	TRIPF
52	SHAHTAJ	2	SHJS	STJT
53	TREET	2	TREET	ZIL
	Total	181		

Source: Author's own compilation, analysis and computation (2019) based upon ownership information about listed firms as on 30 Jun 17.

Among these business groups, the two prominent business groups are Dewan Group and Nishat (i.e. Mian M. Mansha) group. The pyramidal ownership structures of these business groups have been manually constructed based on available ownership information. Their pyramidal ownership structures with identification of ultimate owners are analysed and shown in the following Figures 2 and 3. Further, VRs, CFRs and CFLs or cash flow wedges are computed in Appendix A and presented with analysis in the following sub-sections.

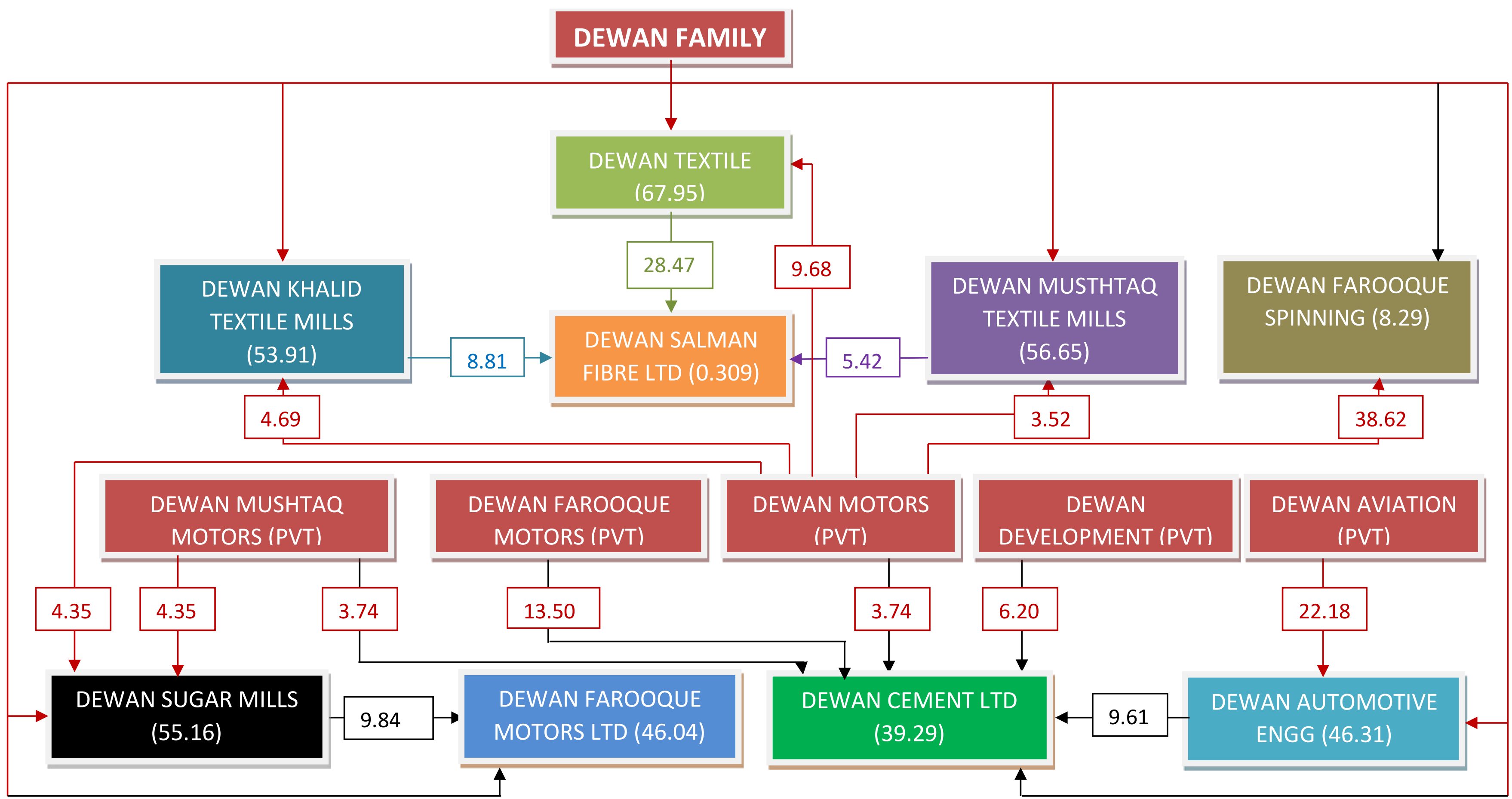

Figure 2: Pyramid Ownership Structure of Dewan Business Group

Source: Author's Analysis and Compilation (2019). All numerical values are in percentage shareholdings as on 30 June 2017

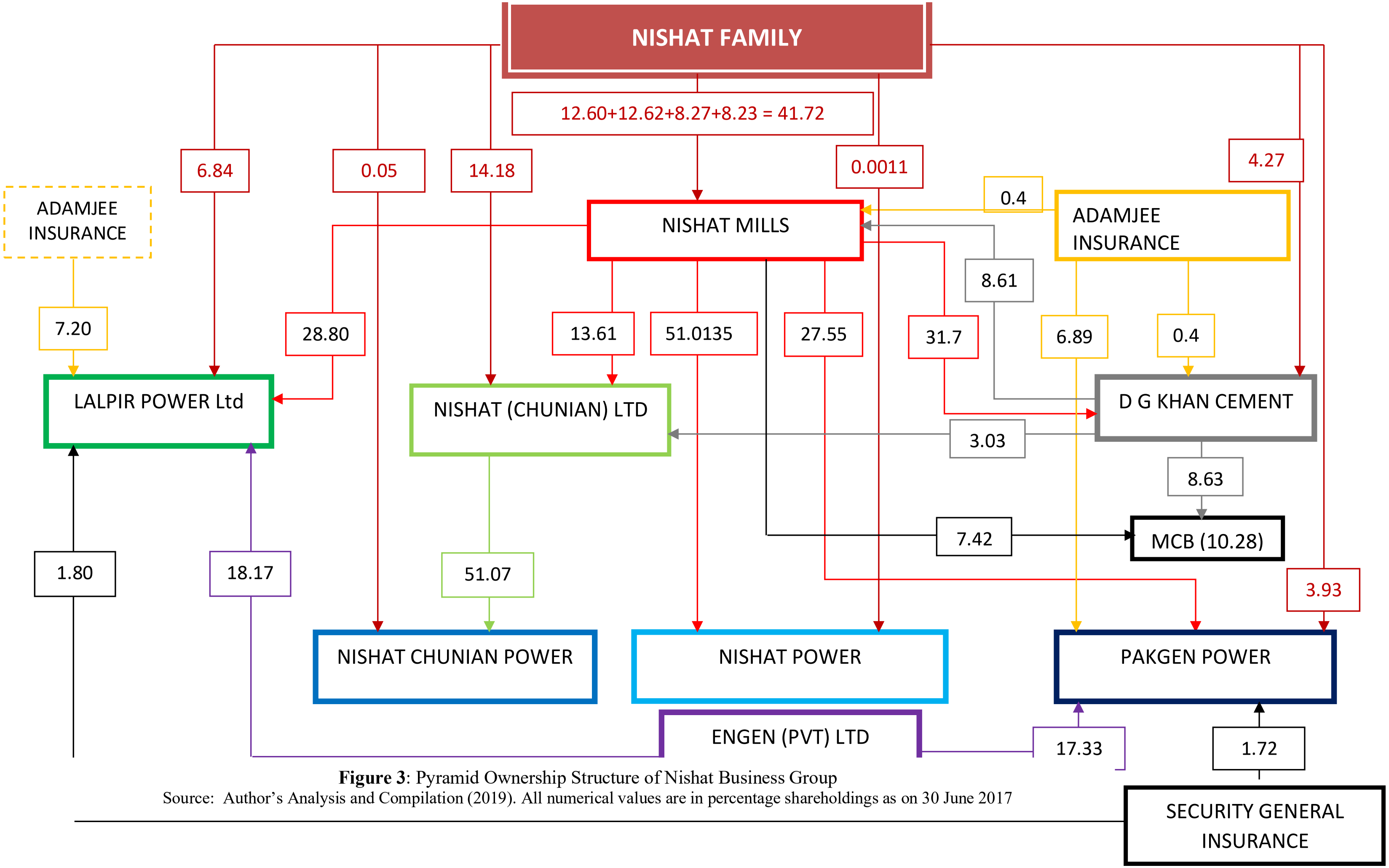

Figure 3: Pyramid Ownership Structure of Nishat Business Group

Source: Author's Analysis and Compilation (2019). All numerical values are in percentage shareholdings as on 30 June 2017

4.1.1 Pyramid Ownership Structure of Dewan Family Business Group

The ownership structure of a Dewan family business group as displayed in Figure 2 has been manually constructed. Its analysis shows that the largest shareholder of the Dewan Textile Ltd is the Dewan family which controls 67.95 percent of its shares. The Dewan Textile being the largest shareholder owns 28.47 percent shares of Dewan Salman Fiber Ltd. The family also owns 53.91 percent shares of Dewan Khalid Textiles Mills, 56.65 percent shares of Dewan Mushtaq Textile Mills Ltd and 8.29 percent shares of Dewan Farooque Spinning Ltd. Further, Dewan Khalid Textiles Mills and Dewan Mushtaq Textile Mills Ltd own 8.81 and 5.42 percent shares of Dewan Salman Fiber Ltd respectively. The analysis of Dewan Salman Fiber Ltd shows that the ultimate owner of the Dewan Salman Fiber Ltd is the Dewan family through a chain of pyramid as shown in Figure 2. The analysis of Figure 2 and Table 4 shows that Dewan family's VR in Dewan Salman Fiber Ltd are 38.13 percent, whereas, CFR are just 27.66 percent. Similarly, the Dewan family's VR and CFR in Dewan Farooque Motors Ltd are 55.88 and 46.51 percent respectively. Whereas, the VR and CFR of Dewan family's in Dewan Cement Ltd are 76.08 and 67.46 percent respectively. The detailed calculation and examination of these VR and CFR are presented in Appendix A-I.

Table 4. Dewan Family's Voting Rights and Cash Flow Rights in Group Firms

Firm	VR (%)	CFR (%)	Cash Flow Wedge (VR/CFR)
Dewan Salman Fiber Ltd	38.13	27.66	1.38
Dewan Farooque Motors Ltd	55.88	46.51	1.20
Dewan Cement Ltd	76.08	67.46	1.13

Source: Author's own analysis and computation (2019) based upon ownership information about group firms as on 30 Jun 17.

Further, analysis of the ratios of VR and CFR in Table 4 also shows that cash flow leverage (i.e., VR / CFR or wedge) is greater in Dewan Salman Fiber Ltd (i.e., 1.38) as compared to wedges of Dewan Farooque Motors Ltd (i.e., 1.20) and Dewan Cement Ltd (i.e., 1.13). Thus, in this business group, controlling shareholder (i.e., Dewan family) has incentive to transfer resources from Dewan Salman Fiber to other high CFR firms of the group as suggested by literature discussed earlier.

4.1.2 Pyramid Ownership of Nishat Family Business Group

The ownership structure of a Nishat family business group as displayed in Figure 3 has also been manually constructed in a similar way. Its analysis shows that the largest shareholder of the Nishat Mills is the Nishat family (Mian M Mansha & family) which controls 41.72 percent of its shares. The Nishat Mills being the largest shareholder owns 51.01percent shares of Nishat Power, 28.80 percent shares of Lalpir Power, 31.70 percent shares of DG Khan Cement, 27.55 percent shares of Pakgen Power, and 13.61 percent shares of Nishat (Chunian) Ltd. The family also directly owns the 14.18 percent shares of Nishat (Chunian) Ltd which further owns 51.07 percent shares of Nishat Chunian Power. The analysis of Nishat Chunain Power illustrates that the ultimate owner of the Nishat Chunain Power is the Mian M Mansha (Nishat) family through a chain of pyramid as shown in Figure 3. Furthermore, the analysis of Figure 3 and Table 5 shows that Nishat family's VR in Nishat Chunian Power are 51.12 percent, whereas CFR are just 10.82 percent. Similarly, the Nishat family's VR and CFR in Nishat Power are 51.01 and 25.88 percent respectively. Likewise, the Nishat family's VR and CFR in Nishat (Chunian) Ltd are 30.82 and 21.08 respectively. Whereas, the VR and CFR of Nishat family's in Nishat Mills are 50.73 and 42.09 percent respectively. The detailed calculation and examination of these VR and CFR are presented in Appendix A-II.

Finally, analysis of the ratios of VR to CFR in Table 5 reflects that wedge is greater in Nishat Chunian Power (i.e., 4.72) as compared to wedges of Nishat Power (i.e., 1.97), Nishat (Chunian) Ltd (i.e., 1.46) and Nishat Mills (i.e., 1.21). Thus, in this business group, controlling shareholder has also incentive to transfer resources from low CFR firm i.e. Nishat Chunian Power to other high CFR firms of the group.

Table 5. Nishat Family's Voting Rights and Cash Flow Rights in Group Firms

Firm	VR (%)	CFR (%)	Cash Flow Wedge (VR/CFR)
Nishat Chunian Power	51.12	10.82	4.72
Nishat Power	51.01	25.88	1.97
Nishat (Chunian) Ltd	30.82	21.08	1.46
Nishat Mills	50.73	42.09	1.21

Source: Author's own analysis and computation (2019) based upon ownership information about group firms as on 30 Jun 17.

5. CONCLUSION

The aim and novel contribution of this study is that it is first ever study which identifies the ownership linkages and relations of all non-financial listed sample firms affiliated with particular family business groups. Further, it comprehensively constructs the ownership structures of prominent family business groups and measures the voting rights, cash flow rights and cash flow leverages or wedges of ultimate owners in these family owned business groups. Although, the analysis of Code of Corporate Governance 2002 (as amended in 2012 and 2017) shows improvement with latest amendment; however, despite such improvements in CCG, the legal protection of minority shareholders through stringent enforcement of laws is still required by regulators. The development and analysis of ownership structures of sample firms shows that Pakistani corporations have high degree of concentration of ownership. The study finds that in sample firms, controlling shareholders own about 87 percent of firms with 10 percent or more shareholding and 60 percent of firms with 20 percent or more shareholding. Most of the firms are related to 53 diversified business groups controlled by families. The number of listed firms in each business groups is ranging from 2 to 9. On average, a business group has 4 listed firms besides associated private firms. In 62 percent of business group firms, families own 20 percent or more top shareholdings. In whole sample with 50 percent or more top shareholdings firms, the group firms comprise of 44.26 percent. The market capitalization of sample firms is about 97 percent and all non-financial sample firms are part of KSE-100 Index which shows the relevance of sample.

The examination of corporate ownership reveals that most of the Pakistani family business groups are like complex pyramid ownership structures (i.e., a chain of ownership where a family or a particular firm controls a firm, which further sequentially controls the other firms in that chain and so on). Many directors of the firms have interlocked or more than one directorships in group firms. Dual class shares are not prominent and 'one share-one vote' principal is more prevalent. After constructing the pyramid structures of family business group firms and computation of VR and CFR; the significant difference of VR and CFR has been observed in family business groups firms. This divergence of VR and CFR ranges from 2-4 times more in high CFR firms as compared to low CFR firms. This difference in VR and CFR i.e., cash flow leverage or wedge may provide incentives to controlling shareholders to transfer resources within group affiliated firms. The results are consistent with literature (Johnson et al., 2000; La Porta et al., 1999, 2000).

6. LIMITATIONS AND FUTURE RESEARCH

The major limitation of this study are: First, though identification, grouping and ranking of group firms is carried out as per their family ownership; however, the construction of pyramidal ownership structures is carried out for the two major and prominent groups, i.e. Nishat group, and Dewan group. Second, the construction of pyramidal ownership structure is based on cross sectional ownership as on 30 June 2017 as per availability of data. Third, the examination of expropriation (tunneling) or propping due to significant divergence of VR and CFR is beyond the scope of this study; however, same can be under taken with some strategic costs variables in a follow-up study. Further, future research can construct ownership pyramids of all business group firms as well as find the relationship of cash flow leverage, independent directors, extent of related party transactions and profitability of firms. The study has implications for investors, researchers and policy makers. In order to prevent the transfer of resources which affect minority shareholders; the policy makers need to focus on protection of minority shareholders by introducing punitive or statutory powers in the code of corporate governance and relevant laws. Further, there is a need to enhance the independent directors and ownership of minority shareholders while putting certain ceiling on family ownership and number of family or related board members. The role of unrelated institutional investors is also need to be enhanced by the regulators. The study also provides a comprehensive corporate ownership affiliation and analysis of ownership structure of group firms to researchers and minority shareholders to facilitate them in carrying out future research and taking conscious investment decisions respectively.

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APPENDIX A: COMPUTATION AND EXAMINATION OF VOTING RIGHTS, CASH FLOW RIGHTS AND CASH FLOW WEDGE

A-1. Details of VR, CFR and Cash-Flow Wedge of Dewan Family Business Group

The pyramidal ownership structure of a Dewan family business group is displayed in Figure 2. The examination of Dewan Salman Fiber Ltd shows that the ultimate owner of the Dewan Salman Fiber Ltd is the family through a chain of pyramid. The VR of the Dewan family in Dewan Salman Fiber Ltd are 38.131 percent. This value is the sum of percentages shares of director and family equity (0.309%) and the ownership of Dewan Textile Ltd (28.47%), Dewan Khalid Textiles Mills (8.81%) and Dewan Mushtaq Textile Mills Ltd (5.42%) in Dewan Salman Fiber Ltd respectively. Thus, VR in Dewan Salman Fiber Ltd are:

$$VR = 0.309\% + 28.47\% + 8.81\% + 5.42\% = 38.13\% \quad (1)$$

Whereas, the CFR of Dewan family in Dewan Salman Fiber Ltd is just 27.66%. The computation of CFR has arrived through multiplying and then summing over all related control chains of pyramid as presented below:

$$CFR = 0.309 + (8.81 \times 0.5391) + (5.42 \times 0.5665) + ((28.47 \times 0.6795) + 0.968 \times (0.6795 \times 0.2847)) = 27.66\% \quad (2)$$

Whereas, the Ratio of VR to CFR (wedge) of family in Dewan Salman Fiber is:

$$Wedge = 38.13 / 27.66\% = 1.38 \quad (3)$$

Similarly, the VR and CFR of family in Dewan Farooque Motors Ltd are computed as under:

$$VR = 46.04 + 9.84 = 55.88\% \quad (4)$$

$$CFR = 46.04 + 9.84 \times (0.5516 \times (0.0435 + 0.0435)) = 46.51\% \quad (5)$$

Whereas, the cash flow leverage (wedge) of family in Dewan Farooque Motors Ltd is:

$$Wedge = 55.88 / 46.51 = 1.20 \quad (6)$$

Similarly, the VR and CFR of family in Dewan Cement Ltd are computed as under:

$$VR = 39.29 + 3.74 + 13.50 + 3.74 + 6.20 + 9.61 = 76.08\% \quad (7)$$

$$CFR = 39.29 + 3.74 + 13.50 + 3.74 + 6.20 + 9.61 \times (0.4631 \times 0.2218) = 67.46\% \quad (8)$$

Whereas, the Ratio of VR to CFR of family in Dewan Cement is:

$$Wedge = 76.08 / 67.46 = 1.13 \quad (9)$$

A-2. Details of VR, CFR and Cash Flow Wedge of Nishat Family Business Group

The ownership structure of a Nishat family business group is displayed in Figure 3. The analysis of Nishat Chunain Power elucidates that the ultimate owner of the Nishat Chunain Power is the Mian M Mansha (Nishat) family through a chain of pyramid as shown in Figure 3. The control or voting rights of the Mian M Mansha family in Nishat Chunain Power are 51.12 percent. Thus, VR in Nishat Chunian Power are computed as under:

$$VR = 0.05\% + 51.07\,\% = 51.12\% \tag{10}$$

Whereas, the CFR of Nishat family in Nishat Chunian Power is just 10.82 %. The computation of CFR has arrived through multiplying and then summing over all related control chains of pyramid as presented below:

$$CFR = 0.05 + (51.07 \times 0.1418) + (51.07) \times ((0.1361 \times (0.4172 + 0.004 + 0.0861)) = 0.05 + 7.2417 + 3.526 = 10.82\% \tag{11}$$

Whereas, the Ratio of VR to CFR of family in Nishat Chunian Power is:

$$Wedge = 51.12 \,/\, 10.82 = 4.72 \tag{12}$$

Similarly, VR and CFR of family in Nishat Power are computed as under:

$$VR = 0.001\% + 51.0135\,\% = 51.0145\% \tag{13}$$

$$CFR = 0.001 + (51.0135 \times (0.4172 + 0.004 + 0.0861)) = 25.88\% \tag{14}$$

Whereas, the Ratio of VR to CFR of family in Nishat Power is:

$$Wedge = 51.0145 \,/\, 25.88 = 1.97 \tag{15}$$

Similarly, VR and CFR of family in Nishat (Chunian) Ltd are computed as under:

$$VR = 14.18\,\% + 13.61\,\% + 3.03\,\% = 30.82\% \tag{16}$$

$$CFR = 14.18 + 13.61 \times (0.4172 + 0.004 + 0.0861) = 21.08\% \tag{17}$$

Whereas, the Ratio of VR to CFR (cash flow leverage or wedge) is:

$$Wedge = 30.82 \,/\, 21.084 = 1.46 \tag{18}$$

Finally, VR and CFR of family in Nishat Mills are computed as under:

$$VR = 41.72\,\% + 0.40\,\% + 8.61\,\% = 50.73\% \tag{19}$$

$$CFR = 41.72 + (8.61 \times 0.0427) + 0.4 = 42.09\% \tag{20}$$

Whereas, the Ratio of VR to CFR (wedge) of the family in Nishat Mills is:

$$Wedge = 50.73 \,/\, 42.09 = 1.21 \tag{21}$$