Dividend Payouts: Majority Control and Rent Extraction

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ABSTRACT

In Eurasia, Turkey has a "crony" capitalist system with majority control and business groups (BGs) in the hands of a few families. These business groups are often organised around a holding company. Turkey has adapted French civil law which offers a good setting to understand the dividend policies of majority controlled companies dealing with the principal-principal conflict in a weak investor protection setting. We analyse the dividend payouts of family controlled Borsa Istanbul companies, which are affiliated to holding and non-holding BGs. We use a panel data random-effects Tobit estimation methodology for a period of eight years (2010-2017). We investigate and quantify the effects of several control-enhancing mechanisms (CEMs) on dividend payouts. We use precise quantitative proxies for CEMs to measure the divergence between control and ownership rights. Supporting the rent extraction hypothesis, holding business group companies have lower dividend payouts as the divergence between control and ownership rights widens and the pyramid wedge increases. However, controlling foreign-family coalitions in holding business group companies curb the rent extraction problem by having a positive effect on the dividend payouts. Overall, for family controlled holding BG companies, the effects of company-specific financial control variables on dividend payouts are stronger than the effects of CEMs. For family controlled non-holding BG companies, there is no empirical support for either the rent extraction or the reputation building hypotheses. The company-specific financial control variables are the main determinants of dividend payouts for family controlled non-holding BG companies.

The empirical findings of this study have implications such as higher expropriation risk for minority shareholders, portfolio managers and investors of family controlled holding BG companies in a low investor protection setting. The results show that there is a need for further policy actions to strengthen the rights of minority shareholders to limit rent extraction by the controlling families.

Keywords: dividend, holding, ownership, rent extraction, reputation building

ÖZ

Avrasya Türkiye'de aileler tarafından kontrol edilen şirket topluluklarının domine ettiği kapitalist bir sistem vardır. Şirket toplulukları genellikle holding şirketler altında toplanmıştır. Türkiye'de, azınlık hissadar haklarının zayıf olduğu Fransız hukuk sistemi adapte edilmiştir. Bu nedenle Türkiye, kontrol erkine sahip hissadar-azınlık hissadar çıkar çatışmasının bulunduğu ve azınlık haklarının zayıf olduğu bir sistemde temettü politikalarını incelemek için çok uygundur.

Çalışma, Borsa İstanbul'da işlem gören şirket topluluklarına ait aile şirketlerini incelemektedir. Çalışmada, 2010-2017 yıllarını kapsayan panel veri seti kullanılmıştır. Ekonometrik analiz için "rassal etkiler Tobit metodundan" yararlanılmıştır. Çalışmada, holding şirket topluluklarına ait aile şirketlerinin ve şirketler topluluğunda holding bulunmayan aile şirketlerinin temettü politikaları analiz edilmiştir. Kontrol mekanizmaları için sayısal temsili değişkenler kullanılarak, kontrol erkine sahip hissadar-azınlık hissadar çıkar çatışmasına yol açan mülkiyet-kontrol ayrımı ölçülmüştür. Yapılan emprik analiz sonucunda, holding aracılığı ile yönetilen aile şirketlerinde mülkiyet-kontrol ayrımı ve kontrol-oy hakkı ayrımı arttıkça küçük hissedarların daha fazla sömürüldüğü tespit edilmiştir. Bu şirketlerde yabancı-aile ortaklığının sorunu azalttığı tesbit edilmiştir. Fakat, genel olarak holding aracılığı ile yönetilen aile şirketlerinde şirketlere ait finansal değişkenlerin daha etkili olduğu saptanmıştır. Holding aracılığı ile yönetilmeyen aile şirketlerinde ise kontrol mekanizmalarının etkisi olmadığı, sadece şirketlere ait finansal değişkenlerin etkili olduğu tespit edilmiştir.

Bu çalışmanın emprik sonuçları holding aracılığı ile yönetilen şirketlerde küçük hissedarların sömürülme riskinin olduğunu göstermiştir. Bu çalışmanın küçük yatırımcılara ve portföy yöneticilerine yatırımlarında, yol göstermesi beklenmektedir. Sonuçlar ayrıca küçük hissadarların haklarının güçlendirilmesi ve aileler tarafından yönetilen şirketlerde sömürünün sınırlandırılması için politika geliştirilmesini ve eyleme konulmasına ihtiyaç olduğunu göstermektedir.

Anahtar Kelimeler: fayda sağlama, holding, itibar yaratma, sahiplik, temettü

DEDICATION

To My Family

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AGE	Age
ALKA	Alkim Kağıt Sanayi ve Ticaret A.Ş
ALKİM	Alkim Alkali Kimya Sanayi
BGs	Business Groups
BIST	Borsa Istanbul
C	Control Rights
CEMs	Control Enhancing Mechanisms
CMB	Capital Market Board
C/O	Total Wedge
C/V	Pyramid Wedge
DIV/EARN	Dividend Payout Ratio
FB	Family Members in Board
FDUMMY	Foreign Dummy
GR	Growth Opportunities
HOL	Holding Dummy
IND	Industry Dummies
LEVER	Leverage Ratio
LINK	Link Bilgisayar A.Ş
Min	Minimum
Max	Maximum
M&M	Miller and Modigliani
NB	Board Size
O	Ownership Rights

OLS   Ordinary Least Squares

ROA   Return on Assets

SD   Standard Deviation

SIZE   Size

V   Voting Rights

V/O   Dual Share Wedge

YEAR   Year Dummies

Chapter 1

INTRODUCTION

1.1 Background

Dividend policy is one of the most important corporate finance decisions that affect the value of a company. Therefore, it is very important for the managers, investors and the shareholders of a company. The managers should decide whether to pay or not to pay dividends and find the optimal level of dividends to maximise the current value of their shares (Lease et al., 1999). Even though, there are many theories and empirical research about dividend policy, the 'puzzle' is still not completely explained.

Accordingly, dividend policy has attracted the attention of many researchers. Corporate finance literature tries to answer the questions why firms pay dividends and what affects the amount of dividends. Miller and Modigliani (1961) proposed that in perfect capital markets, dividend policy has no effect on the market value of a company. They argue that, in perfect capital markets investors are indifferent between capital gains and dividends. In their model, Miller and Modigliani (1961) assume that there are no market imperfections such as information asymmetries between insiders and investors, agency costs, transaction costs and tax differentials. Further research show that in markets which are full of frictions, dividend policy affects the market value of companies. The *bird-in-the-hand hypothesis* states that investors prefer dividends today to future capital gains which are not certain

(Gordon, 1963). Therefore dividends have positive effect on the market value of companies and can increase the wealth of the shareholders.

In their dividend irrelevance theory, M&M assumed that all market participants have equal access to information. However, in the real world there is asymmetric information between insiders and investors. Insiders have valuable information about present and future prospects of a company that are not available to outsiders. Therefore, for the correct valuation of companies, managers use dividends as a tool to convey useful information about their company to shareholders. This is called the *signalling hypothesis* (Lintner, 1956; Bhattacharya, 1979; John & Willams, 1985; Miller & Rock, 1985). Lintner (1956) argued that managers set a target dividend ratio that maintains capital investments and growth in the long term. Because of their information content, managers do not increase dividends if they cannot be maintained by future earnings. This is called the *dividend smoothing hypothesis*.

In the presence of tax differentials, dividends can decrease the company value. The *tax preference theory* propose that when dividend tax is greater than the capital gains tax, investors prefer none dividend or low dividend paying shares (Brennan, 1970; Elton & Gruber, 1970; Litzenberger & Ramaswamy, 1979). In contrast, the *tax clientele effect hypothesis*, proposed by Miller and Modigliani (1961), Black and Scholes (1974) and Miller and Scholes (1978), argue that dividends can be attractive for some individuals and institutional investors who are in low tax brackets or tax-exempt.

In their perfect capital market, M&M assumed that there is not conflict of interest between the principals and agents of companies. However, this assumption is only

valid when there is no separation between management and ownership. The interests of managers are not always the same with the interests of the shareholders. *Agency cost theory* suggests that, an appropriate dividend policy reduces free cash flow available for managers which can be used to pursue their own interests (Rozeff, 1982; Easterbrook, 1984). In addition, dividend payments forces management to visit external capital markets to raise funds for new projects. The close monitoring of investors ensure that managers use company resources in the best possible way (Easterbrook, 1984).

The ownership structure of a company affects its dividend policy. Researchers mostly explain the dividend behaviour of companies by the agency costs resulting from the conflict of interest between the managers and the shareholders (Agency problem I) (Rozeff, 1982; Easterbrook, 1984; Jensen, 1986). However, widely held company type is prevalent only in common law countries (La Porta, Lopez-De-Silanes, & Shleifer, 1999). For example, La porta et al. (1999) examine the ownership structures of large companies in 27 countries. They find that most of the companies are controlled by families or by the state. In companies with concentrated ownership, the agency costs are as a result of conflict of interest between the controlling shareholders and the minority shareholders. This is known as the Agency problem II. In the presence of controlling shareholders, the expropriation of minority shareholders can be a severe agency problem. Possibility of expropriation increases as the divergence between the controlling and cashflow rights increases (Faccio, Lang, & Young, 2001). Additionally, business group affiliation increases the expropriation concerns of minority shareholders by the controlling shareholders (Faccio et al., 2001).

Another factor affecting the dividend policies of companies is the level of investor protection. La Porta, Lopez-de-Silanes, Shleifer and Vishny (2000) show that level of minority shareholder protection has a positive effect on dividend payouts of companies. They find that dividend payouts are higher in common law countries where shareholder protection is higher than the civil law countries.

In particular, there is a lack of research investigating the dividend behaviour of countries with crony capitalist system. In Eastern Europe, countries implemented mass privatization programs during their transition process to a market-based economy, which is commonly regarded as a transition to a "crony" capitalist system. The transition process resulted in majority control of large shareholders (outsiders), company managers and workers (Bennedsen & Nielsen, 2010). In Eurasia, Turkey experienced a slow transition process to a "crony" capitalist system. The resulting ownership structure is majority control, similar to the ones in Eastern Europe. Individuals with political connections, entrepreneurial expertise and capital were successful in taking over many state companies, which resulted in the formation of diversified business groups in the hands of a few families as majority controllers (Yurtoglu, 2000). In Turkey, companies are affiliated to business groups which are controlled by families. Usually business groups (BGs) are collected under a holding company which is a control entity. In both holding and non-holding BG companies, families use control enhancing mechanisms (CEMs) to control business group companies. Besides, Turkey has adapted French civil law and characterised by weak minority shareholder protection. Accordingly, it offers a good setting to understand the dividend policies of majority controlled companies dealing with the conflict of

interest between majority shareholders and minority shareholders (Agency Problem II) in a weak investor protection setting.

1.2 Motivation

In Turkey, the transition process to a "crony" capitalist system resulted in the majority control of families. Approximately 79% of companies traded on the Borsa Istanbul (BIST) are family controlled (Yurtoglu 2000, 2003). Moreover, BIST companies are typically affiliated to family controlled BGs, which are typically grouped under the umbrella of a financial holding company serving as an intermediary control entity.   In particular, CEMs such as pyramid structure and dual class shares result in divergence between control and ownership (cash flow) rights which enable the families to control a group of companies by injecting less family capital (Morck & Yeung, 2003) . In such ownership structures, family controlled companies can expropriate minority shareholders, especially in countries that have low investor protection (e.g., Liu & Magnan, 2011; Pindado, Requejo, & de la Torre, 2012). Holding business groups with their coherent structure and centralised control makes it more favourable for controlling families to expropriate minority shareholders.

In this study, we aim to determine whether there is a difference in the dividend payouts of family controlled holding and non-holding BG companies. Specifically, we examine the dividend payouts of family controlled companies in both holding and non-holding BGs operating in Turkey, which is classified as a Eurasian emerging market with weak minority shareholder protection settings (World Economic Forum, 2017). We investigate the effect of CEMs on the dividend policies of holding and non-holding business groups. In the dividend literature, studies tend to use dummy

variables instead of quantifying the pyramid wedge and dual share wedge to differentiate their respective effects on dividend payouts (e.g., Pindado et al., 2012; (Amoako-Adu, Baulkaran, & Smith, 2014; Gonzalez et al., 2014). However, in this study, the first in the dividend literature in a weak investor protection setting, we precisely decompose the control-ownership wedge into a pyramid wedge and a dual share wedge to differentiate their respective effects on dividend payouts.

1.3 Objectives

Our objective is to empirically explore whether controlling families use dividends for rent extraction or for reputation building by examining the effects of several quantified control-enhancing mechanisms (CEMs) on dividend payouts. Within the frameworks of rent extraction and reputation building hypotheses, we focus on the question of whether holding BG companies behave differently in terms of their dividend payouts than non-holding BG companies. Following the pioneer studies by Faccio et al. (2001), and La Porta et al. (2000), specifically, we use the control-ownership wedge to measure the likelihood of rent extraction. However, Faccio et al. (2001) stress that "Since the O/C [the ownership-control wedge] ratio might fail to reflect this threat [expropriation] fully, our regressions are biased toward finding insignificant results" (p. 57). We go one step further and analyse the likelihood of rent extraction by decomposing the ownership control wedge into its components, namely pyramid wedge and dual share wedge. For the decomposition, we benefit from the framework of Villalonga and Amit (2009) that is used for testing the value effects of CEMs for family controlled U.S. companies. This study is the first in the dividend literature in a weak investor protection setting to precisely decompose the control-ownership wedge into a pyramid wedge and a dual share wedge to differentiate their respective effects on dividend payouts.

1.4 Thesis Structure

The remainder of the thesis is structured as follows:

In Chapter 2, we provide the theoretical background and literature review. First we discuss the theory of the firm. This is followed by the hypotheses and literature focusing on the conflict of interest between majority shareholders and minority shareholders (Agency problem II). These include the rent extraction hypothesis, the reputation building (substitution hypothesis) and the outcome hypothesis. Second, we present other dividend hypotheses and literature such as the dividend stability hypothesis, pecking order theory, the trade-off theory, life cycle theory, the free cash flow theory, the tax preference hypothesis and the tax clientele effect hypothesis.

Chapter 3 provides information about Turkish business groups and the holding control structure. Then it presents the hypotheses. This is followed by description of the data used in empirical analysis, the methodology and the model of the study. Finally, CEM explanatory variables are explained in detail.

In Chapter 4, we present the empirical results. First, we provide the descriptive statistics and the Pearson's correlation matrix. Second we present the results of random Tobit regression analyses for holding and non-holding business group companies. In the last section we provide the robustness results.

In Chapter 5 we conclude by summarising our findings, and stating research limitations. We also provide policy implications and future directions for research[1].

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[1] Some of the results of this study is published in Journal of Business Economics and Management, 2018 Volume 19 Issue 4, 648-672. https://doi.org/10.3846/jbem.2018.6808

Chapter 2

THEORETICAL BACKGROUND AND LITERATURE REVIEW

In Miller and Modigliani's frictionless world with perfect information, no taxation and no effect on company investments, dividend policy does not affect the market value of companies (Miller & Modigliani, 1961). However, in the real world of conflicts of interests, taxes and asymmetric information, companies use dividend policy to mitigate these problems. Particularly, in determining the dividend policy, corporate governance plays a vital role. The corporate governance literature typically focuses on two types of agency problems within the framework of agency theory. The first (Agency Problem I) is the classical principal-agent conflict, that is, especially a concern in companies with a dispersed ownership structure (Jensen & Meckling, 1976). Concentrated control results in a second type of agency cost (Agency Problem II) that results from conflicts of interests between controlling shareholders and minority shareholders.

In the following sections, firstly, we discuss the theory of the firm. Secondly, hypotheses and the literature focusing on the Agency Problem II of agency theory since it is prevalent in markets with weak investor protection settings, such as those in Eurasia and Eastern Europe. Lastly, the other relevant dividend hypotheses and literature are discussed.

2.1 Theory of the Firm

Jensen and Meckling (1976) referred to a company as a "black box" where individual participants have different objectives. They explain the theory of the firm by a combination of property rights and agency costs. Property rights are individuals' rights. Property rights, specified by the contracts, are important because they have implications for the behaviours of owners and the managers in a company. In a company, both the owners and the managers want to maximize their utility. This results in the conflict of interest between two parties, and agency costs arises. Jensen and Meckling (1976) explain agency costs as a total of monitoring expenditures by the principal, bonding expenditures by the agent and the residual loss.

Agency costs arise when a company is not wholly owned by the owner-manager. As the owner-manager's equity falls, the fraction of benefits he receives from the outcomes of the company declines. This encourages the owner-manager to use company resources as perquisites. In order to avoid this, minority shareholders incur monitoring costs. Besides, as the manager's ownership claims declines, his incentive to find new investment opportunities falls. In that case, the manager avoids the effort and stress of new profitable investments. Jensen and Meckling (1976) explain this situation as a source of on-the job utility for the manager but a lower company value than it otherwise could be.

By monitoring methods such as auditing, formal control systems, budget restrictions and establishment of incentive compensation systems, the behaviour of owner manager for capturing non-pecuniary benefits can be altered (Jensen & Meckling, 1976). But this has a cost which reduces the current value of future cash flows of the

company. When minority shareholders decide to buy the shares of a company, they discount the value of the shares by the cost of monitoring.

Suppose, it is possible for the minority shareholders to make monitoring expenditures and reduce the owner-manager's consumption of non-pecuniary benefits, for the owner- manager to go under such a contract, the value of the company should rise with the monitoring activities. The new value should be such that the owner-manager's utility will increase.

Jensen and Meckling (1976) also analyse the bonding costs. Bonding costs are expenditures that are incurred by the owner- manager as a result of contractual guarantees such as auditing by a public accountant and limitations on the owner-manager's decision making power. The manager incurs bonding costs as long as the net increase in his wealth is more than the forgiven perquisites.

Jensen and Meckling (1976) states that the size of the agency costs depends on the monitoring costs, the level non-pecuniary benefits that a manager is willing to obtain and the availability of potential managers. They suggest that, the difference between the value of a 100 percent owner manager owned company and the value of a less than 100 percent owned company is the measure of the agency costs. Although there are agency costs associated with widely distributed ownership structure, and alternative investment opportunities are available for the individuals, people insist on buying the shares of widely distributed companies. Jensen and Meckling (1976) explain this as a puzzle.

Raising debt is also associated with monitoring and bonding costs. Bondholders include various covenants in the indenture provisions. While these covenants limit the actions of the managers, which reduces the value of costs, covenants result in other costs such as cost of enforcing covenants and reduced profitability of a company. Another agency cost of debt is bankruptcy and reorganization costs. Jensen and Meckling (1976) argue that it is the owner-manager who bears all the wealth effects of the agency costs, and receives the gains from reducing them. That is why there is a limit to debt financing. So, what is the optimum level of outside financing? Jensen and Meckling (1976) state that the optimal level of outside financing is at the point where the combination of debt and equity minimizes the total agency costs. Owner-manager demands outside financing because he does not prefer to invest all of his wealth in a single firm. The cost of diversification is the agency cost of equity and debt.

Fama (1980) suggests that the "property rights" literature fails to explain the modern, large company in which management and ownership are separate. Fama (1980) argues that the two functions, management and risk bearing, should be separated. Shareholders are the risk bearers who are able to diversify their risk by investing in different companies. Managers of a company are paid for their human capital. The rent of their capital depends on the success and failure of the company. In an efficient market, the price of an asset is a valuable signal in revaluation of the company's management.

Within a company, managers monitor each other, and the managers at the top are monitored by the board of directors. Since the ownership is diversified, board of directors controls the top management. As long as there is a competition between the

top managers, they will try their best to give good signals about the performance of the company. But the top management, having gained the control of the board, may prefer to work together and expropriate shareholders. This problem can be solved by outside directors in the board who are also disciplined by the pricing of their performance in the market.

Previous literature attributes the disciplining mechanism mainly to shareholders, the assistance of managerial labour markets, and to the possibility of takeovers (Alchian & Demsetz, 1972). According to Jensen and Meckling (1976) control of management is the responsibility of risk bearers, namely the shareholders. In contrast, Fama (1980) argues that in widely distributed companies, managerial discipline is a result of managerial labour markets which are present within and outside of the companies.

Rozeff (1982) states that, in addition to the bonding costs, monitoring costs and auditing costs, dividends can be used to mitigate the agency costs. Although cash dividends are accompanied by raising external capital which requires transaction costs, minority shareholders find it desirable. Because, in external financing they can observe the conditions at which new funds are raised, and they are able to identify the suppliers of new funds. In this way, they are able to obtain information about the evaluation of the market for the investment programs of the management. Accordingly, they decide whether to retain their investment in this company or not (Rozeff, 1982).

Rozeff (1982) establishes a model to determine the optimal dividend payout. He suggests that the optimal dividend policy should be such that, the sum of the decline in agency costs and the corresponding increase in transaction costs is minimised by

an increase in the dividend payout. Rozeff (1982) explains this with an example: If there are two companies with equal amount of investment opportunities but different level of leverage, then their dividend payout ratios will differ. The firm with higher leverage needs more external financing and its transaction costs increases. Other things being equal, the firm with higher leverage chooses to pay lower dividends compared to the other firm with lower leverage (Rozeff, 1982). Rozeff (1982) finds supporting empirical evidence for his model. The author shows that minority shareholders demand higher dividend payouts as the fraction of common shares they own increases. They also find that as the number of shareholders increases higher dividend payouts are paid. Rozeff's (1982) analysis shows that investment opportunities are inversely related with the dividend payout ratio. Besides, Rozeff (1982) concludes that other things being equal, high beta (high operating and high financial leverage) companies need costly external financing and they have lower dividend payout ratios.

Demsetz (1983) is another author who discusses the effects of separation of ownership and control on a company. According to Demsetz (1983), the owner-manager is ready to accept lower take home compensation because he consumes on the job amenities which increase his utility. When he hires a manager, he expects the manager to accept higher reduction in take home compensation for the use of on the job amenities. So, when ownership and control are separated, there are two opposing forces in a company. The first is the reduction of on-the-job-consumption below levels that would be obtained by the owner-manager, and the second is the increase in the monitoring costs of management to avoid the use of on the job amenities.

Demsetz (1983) disagrees with the profit maximising company model of economic theory. He argues that an owner manager who consume on the job may not be motivated only by the search for profit. So, publicly held company structure should not be criticized for favouring on-the-job- consumption. Demsetz (1983) argues that specialization in ownership and management raises the utility of individuals who have funds to invest and those who have managerial skills to sell. According to Demsetz (1983) monitoring costs are present both in owner–managed companies, and in companies with diffused ownership. In choosing the form of business organisation, the owners must concentrate on the degree of monitoring costs that will arise. They should evaluate whether higher monitoring costs are accompanied by a reduction in other costs that makes higher monitoring costs worth bearing or not.

Demsetz (1983) suggests that studies that investigate the relationship between ownership structure and the performance of shares ignore the fact that managers own the stocks of their companies. In companies with diffused ownership, managers' income is correlated with the performance of stocks. Because of this, the interests of owners and managers do not diverge. Demsetz (1983) argues that in a company with diffused ownership, management's shareholdings, stock based managerial income, and size of shares of minority shareholders interlinks the owners' and managers' interests. He also argues that in a world of self- interests, owners hire only the managers who serve to their interests.

In his prominent article " Two agency-cost explanation of dividends", Easterbrook (1984) explains how dividends are used as a method to eliminate the conflict of interest between managers and the investors. According to Easterbrook (1984) dividends exist because they affect the financing policies of companies, and induce

companies to raise new capital by issuing new securities. When companies need external financing constantly, the managers are continuously monitored by the investors. The providers of funds ask for a price reduction for the compensation of agency costs. Managers who need external financing have incentives to reduce agency costs to collect the highest price for the new issued securities. In this way, both the monitoring problem and risk aversion problem are reduced. Besides, dividends are useful in making risk adjustments between different kinds of investors. With profitable new projects, the earnings of companies increase, and the creditors have more security than before. If companies distribute dividends, new debt is raised, and debt to equity ratio is restored (Easterbrook, 1984).

2.2 Corporate Governance Effects

In their classic 'The Modern Corporation and Private Property', Berle and Means (1932) draw attention to the prevalence of widely held companies in United States which are controlled by the managers. This explanation of a company is also supported after nearly five decades by Jensen and Meckling (1976) and Grossman and Hart (1980). In this respect, researchers mostly explained the dividend behaviour of companies by the agency costs resulting from the conflict of interest between the managers and the shareholders (Agency problem I) (Rozeff, 1982; Easterbrook, 1984; Jensen, 1986). However, widely held company type is prevalent only in common law countries such as United States, Canada, United Kingdom and Australia (La Porta et al., 1999). Most of the companies around the world are controlled by families or by the state (La porta et al., 1999). Shleifer and Vishny (1997) and Claessens, Djankov and Lang (2000) find that widely held companies are not common in South America and in East Asia respectively. However, empirical research shows that family control is dominant in publicly traded companies around

the world. In Western Europe it is 44.29% (Faccio & Lang, 2007). In East Asia, it is 38% (Faccio et al., 2001), while in the US, 33% of S&P 500 companies are controlled by families (Anderson & Reeb, 2003). These findings show that, the agency costs arising from the principal-agent conflict do not explain the dividend behaviour of most of the companies around the world.

When companies are controlled by large shareholders, Agency Problem I is not a concern any more (La Porta et al., 1999). Large shareholders closely monitor the actions of managers. The main concern is the expropriation of minority shareholders by the controlling shareholders (Shleifer & Vishny, 1997). La Porta et al. (1998) state that severity of agency problems changes with respect to different levels of investor protection. They argue that corporate law and legal environment protect minority shareholders against expropriation. Extend of minority shareholder protection differs across the world. In wealthy common law countries such as the United States and the United Kingdom, laws provide effective protection of minority shareholders whereas in civil law countries, especially in the French civil law countries, protection of minority shareholders by the law is very weak (La Porta et al., 1998). La Porta et al. (2000) show that in common law countries where investor protection is higher, companies pay higher dividend payouts compared to those of civil law countries. They also stress that agency problems are one of the most important determinants of dividend policy. In common law countries where shareholder protection is higher, dividend payouts are observed more compared to those in civil law countries.

2.2.1 The Rent Extraction Hypothesis

When large shareholders control a company, they tend to extract private benefits from minority shareholders' wealth (e.g., Shleifer & Vishny, 1997; Faccio et al., 2001; Villalonga & Amit, 2006; Bena & Hanousek, 2008). As the divergence between control and cashflow rights of controlling family widens, the likelihood of expropriation increases (Faccio et al., 2001). Gugler and Yurtoglu (2003) analyse the effect of dividend change announcements and dividend payouts in Germany. They show that dividends are indicators of conflict of interest between large and minority shareholders, and majority control reduces dividend payout. Bena and Hanousek (2008) investigate the medium and large privatised companies traded in Prague Stock Exchange and find that large shareholders extract rents from minority shareholders. The study also finds that the presence of a significant minority shareholder prevents rent extraction by increasing the dividend payout ratio. Mancinelli and Ozkan (2006) report a negative relationship between ownership concentration and dividend payouts in listed Italian companies. Similarly, Harada and Nguyen (2011) find the same relationship for listed companies in Japan. Casado et al. (2016) investigate the listed non-financial Swiss companies. They find that in companies with multiple large shareholders, governance mechanisms and shareholder protection are improved to mitigate the rent extraction by the other large shareholders. They also show that improvement in governance mechanisms and shareholder protection is more when the large shareholders are not fiduciary but beneficiary. Gonzalez et al. (2017) study six Latin American countries and find evidence for the monitoring role of a second large shareholder. In the case that ownership is concentrated and the largest shareholder is an individual, fewer dividends are paid to extract rent from minority shareholders (Gonzalez et al., 2017). Another study by Tran, Alphonse and Nguyen

(2017) examines the effect of global financial crises on dividend policy and finds that the impacts of shareholder and creditor rights on dividend policy are lower in the post-crisis period. Tran et al. (2017) show that when the shareholder rights are stronger, creditor expropriation is more severe and vice versa.

When the controlling shareholders are families, the possibility of expropriation is higher (Villalonga & Amit, 2006). Wei et al (2011) investigate 1486 Chinese A-share listed companies and find that companies controlled by families have lower dividend payouts than the companies controlled by other large shareholders. Another study by Aguenaou, Farooq and Di (2013) studied companies listed on Casablanca Stock Exchange which are characterised by family ownership. They show that there is a negative relationship between the level of dividends distributed and the family ownership. Gonzalez et al. (2014) studied the effect of family involvement on dividend policy. They analyse 458 closely held Colombian companies. Their results show that family involvement in management does not have a significant effect on the dividend policy. However, when families control the companies through a pyramid structure, dividend policy is affected negatively. Disproportionate board representation by family members affects dividend policy positively. In his study of publicly listed Indonesian companies, Setia-Atmaja (2016) shows that dividend payouts are negatively affected by the family control supporting the rent extraction hypothesis.

Companies affiliated to BGs experience a value discount because of the agency costs that may arise due to managers' entrenchment and the expropriation of minority shareholders (Faccio et al., 2001). In an insider system of corporate governance such as the one in Turkey, there are few listed companies that have concentrated control

(Demirag & Serter, 2003). In this system, rent extraction by the controlling shareholder can be a severe agency problem (Agency Problem II), and the rent extraction hypothesis predicts that controlling families prefer to pay lower dividends to keep company resources under their control. Family members can have top managerial positions and board seats, and pay themselves extreme salaries (Shleifer & Vishny 1997). Additionally, they can misuse company resources by investing in non-profitable projects that only benefit themselves (Anderson & Reeb, 2003) or tunnelling resources to affiliated companies in which they have greater ownership rights. Within BGs, typical examples of expropriation are arm's length transactions, loans at favourable rates, cash retention through dividend policy, asset transfers, and ownership dilution among minority shareholders (La Porta et al., 2000).

2.2.2 The Reputation Building (Substitution) Hypothesis

Contrary to the predictions of the rent extraction hypothesis, families can also use dividends as a mechanism to build reputation. The reputation building hypothesis predicts higher dividend payments to alleviate minority shareholders' expropriation concerns (La Porta et al., 2000). In countries with weak shareholder protection minority shareholders do not have enough power to press for dividends. In such countries companies distribute dividends to reduce the possibility of rent extraction and to establish a good reputation (La Porta et al., 2000). High concentration of control by the largest shareholders erodes company reputation, and minority shareholders demand higher returns to supply capital (Faccio et al., 2001). Hence, dividend policy is used to alleviate expropriation concerns. Faccio et al. (2001) analyse the dividend behaviour of five Western Europe and nine East Asian countries in which concentrated control and group affiliation are abundant. They use ownership (cash flow) to control rights ratio (O/C) as a measure of expropriation by

the controlling shareholders. They find that companies that are "tightly affiliated" to a BG pay higher dividends to alleviate the concerns about expropriation and to lower the cost of external financing. In companies that are "loosely affiliated" to a BG, investors are less alert to possibility of rent extraction by the controlling shareholders and press less for dividends. Therefore, in "loosely affiliated" BG companies, lower dividends are paid as the divergence between ownership and control rights of the controlling shareholder widens.

Setia-Atmaja, Tanewski, and Skully (2009) show that Australian family companies have higher dividend payout ratios, higher leverage and lower level of board independence than non-family companies. Even though Australia has a strong investor protection system, they find that family companies use dividends and debt as a substitute for low board independence supporting the reputation building hypothesis. De Cesari (2012) examine the listed non-financial Italian companies and show that share of cash dividends in total payout (i.e., cash dividends plus repurchases) increases as the wedge between control and cash flow rights of the controlling shareholder widens. There is also empirical evidence that companies in emerging countries with weak investor protection have higher dividend payouts for enhancing reputation irrespective of the company risk (Boţoc & Pirtea, 2014). Another study finds that as the stake of founding families increases, companies tend to have higher dividend payouts to create a reputation for the fair treatment of minority shareholders (Isakov & Weisskopf, 2015). Kuo (2017) examines the listed Tai companies that are characterised by concentrated ownership. Kuo (2017) finds that when the separation between voting and cashflow rights of the controlling shareholder is high and when the CEO is affiliated with the controlling shareholder,

companies use dividends to build reputation. In contrast, Baker, Kilincarslan and Arsal (2018) survey managers of Borsa Istanbul companies on dividend policy and find that BIST companies do not use dividends for reputation building.

2.2.3 The Outcome Hypothesis

The outcome hypothesis, an alternative explanation in the literature, predicts that due to the pressure exerted by minority shareholders, dividend payouts are higher in countries with strong shareholder protection (La Porta et al., 2000; Jiraporn & Ning, 2006). Further, the outcome hypothesis predicts that in countries with strong shareholder protection, shareholders should accept lower dividend payouts in high growth companies whereas in low growth companies, dividend payouts should be higher not to allow wasteful investments. In contrast, in countries with weak shareholder protection such a relationship between dividend payouts and growth opportunities is not expected (La Porta et al., 2000). La Porta et al. (2000) examine a heterogenous sample of 33 countries having different levels of minority shareholder rights and find support for the outcome hypothesis. Adjaoud and Ben-Amar (2010) study the listed Canadian companies that have concentrated ownership in a strong shareholder protection system. At the company level, they find a positive relationship between corporate governance quality and dividend payouts supporting the outcome hypothesis. Jiraporn, J.C Kim and Y.S Kim (2011) study the effect of overall quality of corporate governance on dividend policy. They find that companies with better corporate governance quality have higher propensity to pay dividends and larger dividends. Their results are consistent with the outcome hypothesis. Shareholders of companies with good governance quality are able to press for dividends. Byrne and O'Connor (2012) show that creditor rights are more important than shareholder rights in determining the dividend policy and find empirical support for the outcome

hypothesis in countries with strong creditor rights. However, in countries with weak creditor rights, companies pay out lower dividends regardless of the strength of shareholder rights. Liljeblom and Maury (2016) investigate a sample of Russian listed companies over the period 1998-2003. They find that there is a significant increase in dividend payouts in relation to improvements in legal shareholder protection. They also show that, companies reporting according to US GAAP, which lowers the likelihood of earnings manipulation, have lower dividend payouts. Recently, Adjaoud and Hermassi (2017) investigate the effect of board composition, board independence and CEO duality, which are corporate governance mechanisms, on dividend policy. They examine Canadian listed companies on the Toronto Stock Exchange over the period 2008-2011. They find that board composition, board independence and CEO duality affect dividend payouts and the likelihood of paying dividends significantly. The results show that dividend policy is a device used by the management to mitigate expropriation.

2.3 Dividend Stability, Capital Structure, Life-cycle, Free Cash Flow and Tax Effects

Investors prefer dividends to counter market imperfections and information asymmetry (Lintner, 1962; Gordon, 1963). In his prominent article, Lintner (1956) finds that companies determine a target dividend payout ratio that allows them to continue their capital investments and growth in the long term. In addition, Lintner shows that managers pursue stable dividend policies and avoid unsustainable dividend increases. Insiders have access to superior information compared to outsiders. Companies pay dividends or increase dividends when they have favourable information to convey. Hence, in the light of Lintner's findings, investors gain insights about a company's future earnings from dividend announcements (i.e., the

signalling effect). Investors (outsiders) react to dividend changes and managers smooth dividends over time to avoid stock price volatility (Lintner, 1956). Bulan and Hull (2013) analyse the effect of financial covenant violation on dividends. In line with the pioneering findings in Lintner's (1956) study, they show that managers are reluctant to cut dividends until they are forced to do so by the creditors. Benavides, Berggrun, and Perafan (2016) investigate the relationship between governance and dividend adjustments. They find that companies in countries with better governance scores smooth their dividends more.

Capital structure also affects dividend policy. The two important theories of capital structure, namely pecking order theory and trade-off theory, have opposite predictions on dividend policy. Pecking order theory of capital structure introduced by Myers (1984) and Myers and Majluf (1984) state that, companies that need financing for new investments prefer to use first internal funds, then debt financing and finally equity financing. According to pecking order theory, in order to prevent external financing and to use internally generated funds, companies reduce the amount of dividend payments. Subsequently, pecking order theory argues that there is a negative relationship between leverage and dividends. The trade- off theory states that, companies set a target debt ratio and move towards this target gradually (Myers, 1984; Fama & French, 2002). An increase in leverage leads to an increase in financial distress. This results in a lower company value. Therefore highly leveraged companies restrict dividend payments. However, companies that are less prone to financial distress can borrow more and benefit from the tax advantage of debt financing. Therefore, trade off theory predicts a positive relationship between leverage and dividends. Alzahrani and Lasfer (2012) find empirical results

supporting the pecking order theory in 24 OECD countries, whereas Botoc and Pirtea (2014) find empirical results supporting the trade-off theory in 16 emerging countries.

The life-cycle theory argues that the costs of paying dividends decrease and the benefits of paying dividends increase as companies become more mature (H. DeAngelo, L. DeAngelo, & Stulz, 2006). Brockman and Unlu (2011) find cross-country empirical evidence supporting the life-cycle theory. Similarly, Coulton and Ruddock (2011) report that Australian companies' payout policies can be explained by the life-cycle theory. Thanatawee (2011) study the listed Thai companies and find empirical evidence supporting both the life-cycle and the free cash flow theories. The free cash flow theory argues that companies should pay out excess cash flows as dividends since managers tend to use excess cash flows for their private benefits and tend to overinvest in pursuit of building an empire of companies (Jensen, 1986). In support of the overinvestment argument, Chen, Yong, and Xiaodong (2016) show that the overinvestments of the listed non-financial Chinese companies are related to the current free cash flow, and as the free cash flow increases, the overinvestment urge gets higher. Iturriaga and Crisóstomo (2010) show that, companies use dividends as a disciplinary mechanism to reduce excess cash under the control of managers. Karpavičius and Yu (2017) investigate the non-financial U.S. companies, and find companies that have institutional owners are closely monitored and hence, have lower leverage and lower dividend payouts.

In his prominent "The Dividend Puzzle" article, Black (1976) raises the question of why companies keep paying dividends even though dividend taxation is higher than capital gains taxation. The tax preference hypothesis argues that if capital gains taxes

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are lower than dividend income taxes, investors may prefer companies that have no dividends or low dividend payouts (Brennan, 1970; Elton & Gruber, 1970; Litzenberger & Ramaswamy, 1979). The tax clientele effect hypothesis argues that investors choose between high and low dividend paying shares depending on their tax positions (Miller & Modigliani, 1961). Desai and Jin (2011) find that institutional investors that do not prefer dividends due to higher taxation are less likely to invest in dividend paying companies and companies care about their investors' tax preferences when deciding on their payout policies. In another study, Dahlquist, Robertsson, and Rydqvist (2014) investigate the Swedish stock market companies. They find that tax neutral investors, investment funds and partnerships behave in line with the tax clientele hypothesis whereas businesses and individuals do not. Jacob and Michaely (2017) examine the dividend tax responsiveness and how it is affected by agency issues and conflicting objectives among shareholders. They find that taxation is the most influential effect but agency conflicts reduce its impact significantly. In contrast, Moortgat, Annaert, and Deloof (2017) examine the listed Belgian firms during a long sample period (1838-2018) and find that the impact of changes in investor protection and taxation on dividend policy is very limited.

The above literature reveals that the dividend puzzle has not been solved yet. Since M&M's (1961) dividend irrelevance propositions, many researchers tried to explain the dividend policies of companies by developing number of theories. Many empirical research were conducted focusing on the dividend policy of companies in different business settings, with different ownership structures but it seems that there is a need for further research to fully explain the dividend policies of companies.

Chapter 3

TURKISH BUSINESS SETTINGS, HYPOTHESES AND

DATA AND METHODOLOGY

This chapter includes five sections. In the first section, we explain the business settings in Turkey, starting from the early years of the Republic. Then, we develop the hypotheses. In the third and the forth sections, we describe the data and the methodology. Finally, CEMs which are used in the analysis are explained in detail.

3.1 Turkish Business Settings

State-business relations had played a very important role in shaping the business environment in Turkey (Heper, 1991). Ottoman Empire was dependent on agriculture and on foreign capital. This was inherited by the Modern Turkey. Manufacturing industries were not established until 1920s. In those years manufacturing activities were not distributed around the country but clustered in the West part of Turkey. In these industries the number of employees was limited and very old technology was used in production. These show that companies were producing only for regional markets (Kepenek & Yentürk, 1996).

In early years of the Republic, particularly during 1930s, state control in several key industries had been significant. Most of the enterprises were state owned. State was active in light industries, in heavy industries and transport. Private sector was active in non-strategic industrial sectors, agriculture and commerce. In this period domestic demand was satisfied by domestic production. The most successful industries were

the textile industry, sugar production and iron and steel industries (Kepenek & Yenturk, 1996). Due to the lack of capital at the individual level, the state had been responsible for allocating resources to the private sector. So, it was the government who was establishing and controlling the economic life. The enterprises under the control and management of state were not successful in generating sufficient amount of economic growth and income.

In post-war years until 1980s, Turkish economy faced several problems. Economic policies and performance was not fast enough to catch up with the changes in economy. During this period, Turkish government faced balance of payments deficits in every decade which were covered by short term external financing. In 1960s import substitution policies were consciously put into action. Starting in late 1940s state intervention was relaxed a bit, and more space was provided to private sector. But state had retained the leading role. Private sector was induced to act in line with the public targets. Since the state intervention led to legal and bureaucratic system to act as the subordinate of governments' political objectives, both legal and bureaucratic system changed in parallel with a change in the government (Heper, 1991). Bugra (1994) argues that in such a system it is not possible to maintain a stable, effective policy network that is required for correct economic reforms.

The import substitution program lasted successfully until 1970s. During this period, state owned enterprises continued to lead the economic activity, but private sector was getting stronger. Benefits of import substitution program have lasted until the transition from manufacturing of light consumer goods to intermediary and capital goods. Since the domestic market was small, enterprises could not achieve

economies of scale. Besides, production became import dependent. Furthermore, Turkish lira was overvalued affecting the exports negatively (Kjellstrom, 1990).

In order to overcome the crises faced at the end of 1970s, Turkish government implemented various structural policy changes. In early 1980s, there was a major economic policy change from import substitution to an export-led program. After a massive devaluation of currency crawling peg was adapted as the currency regime. This was accompanied by tight fiscal and monetary policies. In this program there was liberalisation of the capital market which led to creation of Capital Market Board in 1982, and reorganisation of Istanbul Stock Exchange Market in 1986. The structural change in economic policy also included transfer of state owned enterprises to private sector. In 1984, when state had decided to privatize certain industries, individuals with political connections, entrepreneurial expertise and capital had been successful in taking over many state companies. This had resulted in the formation of diversified BGs in the hands of a few families (Bugra, 1994).

Heper (1991) and Bugra (1994) explain business groups as a consequence of investments made by one family or coalition of families. Yurtoglu, (2000, 2003) finds that approximately 79% of companies traded in Borsa Istanbul (BIST) are family controlled. This shows that family control is strikingly higher in Turkey than in other countries. Families keep business group companies as a coherent structure. Within this structure, families are able to shift staff and funds when needed. In developing economies such as Turkey, intermediaries in the capital, labour and product markets are not efficient or are not sufficiently common (Khanna & Palepu, 2000). BG-affiliated companies can benefit from internal mechanisms, which is an outcome of business groups, that can substitute for these inefficient and insufficient

markets (Khanna & Yafeh, 2010). Internal capital markets can be used to transfer capital among the affiliated BG companies (Friedman, Johnson, & Mitton, 2003), and such managerial decisions can potentially hurt minority shareholders' interests. In particular, because access to external capital markets has been limited, BGs in Turkey have used internal mechanisms to supply capital to affiliated BG companies with financial deficits (Yurtoglu, 2000). Additionally, Adaoglu (2000) finds that Borsa Istanbul companies follow unstable dividend policies. Hence, this can be interpreted as an indirect evidence that managers of Borsa Istanbul companies do not consider the signalling effects in determining their dividend policy but consider the effects of dividend payments on internal financing that has a vital importance in a country of limited capital sources and access.

Typically, BGs in Turkey are organized around a holding company. Yurtoglu (2003) finds that 80% of the direct owners of the Turkish companies are holdings. A holding company is defined as an entity which does not produce any goods or services itself. It owns the shares of other companies to control them. A holding company is controlled by a family or by a coalition of families which owns the shares of other companies forming a pyramidal structure (Demirag & Serter 2003; Yurtoglu 2003). Holding companies allow families to maintain centralized control over BG companies' activities and resources. The holding control structure provides many advantages to BGs in Turkey. In the 1960s, change in the taxation system made holding BGs very attractive. Revenues from BG companies were tax exempt for holding companies until 1986. Subsequently, taxes were imposed on these revenues, but holdings pay taxes on revenues in the following year, which is an important advantage for Turkish holding companies operating in an inflationary

macroeconomic environment. Holding companies can also allocate costs and benefits among BG companies to minimize their tax burden (Bugra, 1994; Yurtoglu, 2000). BG companies collected under a holding company encourage the formation of a capital unification which creates an internal capital market (Akca, 1998). By using BG companies' internal capital sources, this capital unification produces lower financial costs (Ipekci, 2000).

However, expropriation mechanisms are stronger in holding BGs than in non-holding BGs because the centralized control in holding BGs creates a stronger internal capital market and reduces their need for external financing, which results in less monitoring by financial institutions (Easterbook, 1984; Rozeff, 1982). This facilitates expropriation by controlling families, especially in the presence of CEMs. Many cases of corruption, insider trading, share dilution, asset stripping and market manipulation in Turkish holding BGs were reported in the 1990s and 2000s (Ararat & Ugur, 2003; IIF, 2005; Yurtoglu, 2003). Investors faced several corporate and government scandals. These scandals include wealth transfers to the pockets of controlling family members, favourable loans and illegal cash transfers to BG companies from banks that were ultimately controlled by the same family. As a result of political corruption, there were several cases of wealth transfers from state controlled banks to companies.

In 2003 major economic and structural reforms were implemented in Turkey. The Capital Market Board (CMB) published its Corporate Governance Principles in this year. The aim was to improve the transparency and disclosure practices in Turkey so that minority shareholders right would be stronger. These principles included first, the equal treatment of minority shareholders in issues like obtaining information,

right to join the general shareholder's meeting, right to vote. Second, it included principles related to disclosure and transparency to establish information policies in companies for shareholders. Third, there are principles related with the companies' relations with the stakeholders such as the workers of the companies', creditors, customers, suppliers, institutions, non-governmental institutions, the government and the potential investors. Lastly, the principles include issues related with the functions, duties, obligations, operations and the structure of board of directors. It was recommended that the number of executive board members should not be more than two third of the board members and there should be two independent board members. Unfortunately, companies listed in the BIST were very slow in application of the CMB Principles. The main reason for this was the dominance of family controlled companies in the BIST who were unwilling to adopt the new principles that might limit their control over the companies (IIF, 2005; Caliskan & Icke, 2011). In 2011, CMB of Turkey issued new set of governance principles for the BIST companies. These principles were mandatory. Starting from 30 June 2012 it is required at least one third of the board of directors should be independent members and regardless of the board size there should be at least two independent members (Berispek, 2012). Ararat, Orbay and Yurtoglu (2010) analyse the board compositions of BIST companies and establish that the independent board members are typically retired and are not actively engaged in business activities making them ineffective as a monitoring mechanism. Ararat (2010) also states that the independent members are always nominated by the controlling family. Even though new regulations in 2011 and 2012 have been implemented defining the number and the requirements for being an independent board member, these new regulations do not equally cover all

companies listed in BIST, but it is still regarded as a step forward (Ararat and Yurtoglu 2012).

3.2 Hypotheses

The separation between control and ownership rights is a result of CEMs, such as pyramid structure and dual class shares. Turkey is a French civil law country characterised by minority shareholder protection. Turkish law does not prohibit issuance of shares with different voting rights. Companies are allowed to issue non-voting shares or shares with multiple voting rights. The controlling shareholders are allowed to have higher control rights than the cashflow rights by means of a pyramid structure (Demirag & Serter, 2003). Consequently, Turkish families use pyramid structure and dual class shares to control companies in BGs (Demirag & Serter 2003; Yurtoglu, 2003)[2]. In BGs with a pyramid structure, rent extraction concerns are expected to be higher than in those without a pyramid structure (Bertrand, Mehta, & Mullainathan, 2002; Johnson et al., 2000). In a pyramid structure, voting rights of minority shareholders are dispersed among large number of BG companies, and control is concentrated in the hands of ultimate owner at the top of the pyramid (Goto, 1982). Pyramid structure favours expropriation of minority shareholders by tunnelling. By tunnelling controlling families can transfer assets or profits to the affiliated companies in which they have higher ownership rights (Johnson et al., 2000). Dual class shares assign higher voting rights to one class of shares, and studies show that dual class shares allow controlling shareholders to have private benefits of control which would not be possible with single class shares (Correia Da Silva, Goergen, & Renneboog, 2004; Gompers, Ishii, & Metrick, 2010; Masulis, Wang, & Xie, 2009).

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[2] We find that only 2 of 141 family controlled companies have direct cross shareholding which is another CEM.

Since Turkey is a civil law country, and it is characterised by a weak shareholder protection setting (Mitton, 2004; Boţoc & Pirtea, 2014), minority shareholders are not powerful enough to extract dividends (La Porta et al., 2000). Therefore, the outcome hypothesis is unlikely to explain the dividend payout behaviour of family controlled Borsa Istanbul companies. Considering the weak shareholder protection setting, stronger expropriation mechanisms and stronger internal capital markets for holding BG companies, we hypothesize that:

Hypotheses: There is a negative relationship between CEMs (i.e., the total (control-ownership) wedge, the pyramid wedge, and the dual share wedge) and dividend payout for holding BG companies and vice-versa for non-holding BG companies.

In other words, the rent extraction hypothesis is more likely to hold for holding BG companies, while the reputation building mechanism is more likely to hold for non-holding BG companies.

3.3 Data

We examine all companies listed on the BIST National Market during the 2010-2017 period. We exclude financial sector companies such as banks, insurance companies, pension funds, investment trusts as well as the utility and sport club companies, which are subject to different regulations and accounting standards. After these exclusions, we limit our data with non-financial and non-regulated companies. Our sample covers the 2010-2017 period which corresponds to 2009-2016 fiscal years. In Turkey, companies distribute dividends in the year following the fiscal period. Even though it is legally possible to distribute dividends during the fiscal year, Turkish companies do not prefer to do so and none of the companies in our sample distributes dividends during the fiscal year. The period for the analysis starts in 2009 because annual reports prior to this date (2009)[3] are not comprehensive. Moreover, in 2009, a regulation change abolished mandatory dividend payments for public companies (Adaoglu 2000, 2008). We hand-collect data on ownership structure from annual financial reports and notes and the attendance/voting lists[4] of general shareholders' meetings published in the Public Disclosure Platform (PDP) (https://www.kap.org.tr) and company websites. All market and financial statement data are collected from StockGround® database program (https://equityrt.com.tr).

Subsequently, we identify the family controlled BG companies at the ultimate level. Following Faccio et al.'s (2001) definition of BG, a company is classified as a

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[3] In line with the disclosure requirements of Borsa Istanbul and Capital Markets Board of Turkey, all traded companies are legally required to disclose their electronically signed public information through the World Wide Web based Public Disclosure Platform which has become operational since mid-2009

[4] Ararat (2010, p. 5) states that the types of privileges for different classes of shares can be detected, but the ownership of these privileged shares are not "selfevident". Therefore, we go ahead and check the voting/attendance lists of general shareholdings' meetings and identify the owners of these privileged shares as well as ordinary shares. The privileged shares are always under the control of the ultimate owner.

"business group company" if one of the following criteria holds: i) The company is controlled by a shareholder through pyramiding; ii) the company controls another company in the sample; iii) the company has the same ultimate shareholder as one or more companies in the sample; or iv) the ultimate shareholder of the company is a widely held company or widely held financial company.

We define a BIST company as a family-controlled company if it meets one of the following conditions. Given a 20% threshold level of control rights, (1) the ultimate owners are from the same family; (2) the ultimate owners are from the coalition of at least two different families; or (3) the ultimate owner is an individual large owner (e.g.,Sacristán-Navarro, Gómez-Ansón & Cabeza-García, 2011)[5]. We also trace family members through their surnames and marriages, and treat them collectively in our calculations.

In total, we identify 141 family-controlled BG companies. We find that 80% of non-financial BG companies are controlled by families. We group each company as either a holding or a non-holding BG company by tracing the presence of a controlling holding company in their ownership structures.72% of these family controlled BG companies are holding BG companies. In order to minimise survivorship bias, we include companies that are delisted or newly listed during the estimation period. As a final step, we exclude companies with insufficient accounting data and newly listed companies with one year of data. As in the dividend literature (e.g., Adjaoud & Ben-Amar, 2010), we also exclude company-level observations for years in which it had negative dividend payout. Ultimately, we have 901 company-year observations for a

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[5] In literature, the control threshold limit is either 10% or 20%. The appropriate control threshold limit used in the study is 20% since there is no family controlled company in our sample having a control rights range of 0-19.99%.

total of 134 companies.

3.4 Model and Methodology

In the study, the dependent variable is the dividend payout ratio (DIV/EARN).The nature of dependent variable defines the the most appropriate estimation method for the study. Since the dependent variable is left censored at zero, and the distribution of the sample is a combination of continuous and discrete variables, we use panel random effects Tobit estimation in our analysis. When a dependent variable is censored within ranges the Ordinary Least Squares (OLS) estimates of coefficients may be inconsistent and biased towards zero. Hence, it is more appropriate to use the Tobit model (Wooldridge, 2010). Moreover, the Tobit model is a nonlinear function. Hence, the likelihood estimator for fixed effects can be biased and inconsistent (Wooldridge, 2010). The Likelihood-ratio[6] test compares the pooled Tobit model with the random effects Tobit model. In this study, the estimation results of likelihood–ratio tests favour the random effects model rather than the pooled model.

Therefore, we employ the following Tobit model.

$$y_{it} \begin{cases} 0 & \text{if } y*_{it} \leq 0 \\ \alpha_i + \beta_k x_{kit} + u_{it}, u_{it} \sim N(0, \sigma^2) & \text{if } y*_{it} > 0 \end{cases}$$

y^*_{it} is the latent (unobserved) variable. If dividends are not distributed, the dependent variable $y_{i,t}$ takes the value equal to zero. Otherwise it takes a positive value greater than zero; i stands for observations; t stands for the time; α_i is the individual-specific random component; $x_{k,i,t}$ is a k dimensional vector of independent regressors; β_k

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[6] In likelihood-ratio test the null hypothesis is rho=0. If we reject the null hypothesis then, random effects Tobit model is more appropriate rather than the pooled Tobit model.

stands for the k coefficients that will be estimated; u_{it} stands for the idiosyncratic error term with zero mean and constant variance.

Thus, in line with the random effects Tobit model, the estimated equation for the dependent variable is specified as follows:

$$DIV/EARN_{i,t} = \alpha + \beta_1\,WEDGE_{i,t} + \beta_2\,HOL_{i,t} + \beta_3\,(HOL_{i,t} \times WEDGE_{i,t}) +$$
$$\beta_4\,NB_{i,t} + \beta_5\,FB_{i,t} + \beta_6\,FDUMMY_{i,t} + \beta_7\,AGE_{i,t} + \beta_8\,LEVER_{i,t} + \beta_9\,ROA_{i,t} \quad (1)$$
$$+ \beta_{10}\,SIZE_{i,t} + \beta_{11}GR_{i,t} + \sum_1^T \delta_i\,YEAR_{i,t} + \sum_1^J \gamma_j\,IND_{j,t} + \varepsilon_{i,t}.$$

i represents the specific company having a range from 1 to 134; t represents the specific year having a range from 2010 to 2017.

We use the dividend payout ratio (DIV/EARN) as the dependent variable[7] to measure the intensity of paying dividends. Dividend payout ratio is measured as the cash dividends divided by the earnings of the specific company for a specific year. The dependent variable takes a positive value if dividends are distributed and equals to zero if dividends are not distributed. To avoid the potential outlier effects in estimation, we winsorise the dependent variable, the dividend payout ratio, at 1st and 99th percentiles. We use the winsorisation technique to minimise the influence of outliers in the data. We use four models to estimate the effect of control enhancing mechanisms on the dividend payout ratio. In Model 1 we estimate the effect of total wedge (C/O) on the dividend payout ratio. In Model 2, the effect of pyramid wedge is estimated. In Model 3, we estimate the effect of dual share wedge on the dividend payout ratio. Finally, in Model 4 pyramid (C/V) and dual share wedge (V/O) are

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[7] Borsa Istanbul companies have been legally allowed to repurchase their stocks since August 2011. However, repurchases are not used as substitutes for cash dividends (Pirgaip & Karacaer, 2015).

estimated together. Depending on the selected model, 'WEDGE' stands for the total wedge, pyramid wedge and dual share wedge. The HOL dummy variable is equal to 1 if the intermediary controlling company is a holding company and is used to evaluate the effect of a holding company as a control entity on dividend payouts. We also add interactions between the holding dummy variable (HOL) with the total wedge (C/O), pyramid wedge (C/V) and dual share wedge (V/O) to investigate their respective effects. To further examine the effect of CEMs, we add indicators of control achieved through the board. These are the board size (NB), the ratio of family members on the board (FB) as well as a foreign dummy variable (FDUMMY) to capture the effect of a foreigner's presence in the control coalition. CEMs are fully explained in the following section.

Based on previous literature (e.g., Faccio et al., 2001; Mancinelli & Ozkan, 2006; Gonzalez et al., 2014), we add five control variables for company characteristics. Three are financial variables, namely return on assets (ROA), leverage (LEVER) and growth opportunities (GR); the others are firm age (AGE) and firm size (SIZE). Return on assets (ROA) is included in the analysis to account for the company's profitability. It is calculated as the ratio of net income divided by total assets. Leverage (LEVER) is a proxy for the companies' debt policy. It is defined as the ratio of total debt to total assets. Growth opportunities (GR) represent the investment opportunities of companies. It is calculated as the market to book ratio. Age (AGE) is the natural logarithm of number of years since incorporation. Finally, size (SIZE)is calculated as the natural logarithm of total assets. Furthermore, since the sample period covers eight years, we add year dummies (YEAR) to control for the effect of unobserved time-varying factors such as the stages of the economic cycle,

macroeconomic dynamics and regulatory changes (Chen et al., 2005), and industry dummies (IND) to control for industry-specific effects. For dividend policy industrial classification is important. Because companies in different industries have different levels of risk and growth opportunities, and these differences should be incorporated to the analysis (Baker, Farrelly, & Edelman, 1985; Moh'd, Perry, & Rimbey, 1995). We provide detailed descriptions of all variables in Table 1.

For the robustness of our results, we estimate the following model for two sub-samples of holding and non-holding BG companies respectively:

$$
\begin{aligned}
DIV/EARN_{i,t} = {} & \alpha + \beta_1\, WEDGE_{i,t} + \beta_2\, NB_{i,t} + \beta_3\, FB_{i,t} + \\
& \beta_4\, FDUMMY_{i,t} + \beta_5\, AGE_{i,t} + \beta_6\, LEVER_{i,t} + \beta_7\, ROA_{i,t} + \\
& \beta_8\, SIZE_{i,t} + \beta_9\, GR_{i,t} + \sum_1^T \delta_i\, YEAR_{i,t} + \sum_1^J \gamma_j\, IND_{j,t} + \varepsilon_{i,t}.
\end{aligned}
\tag{2}
$$

3.5 CEM explanatory variables

Control rights (C) are measured by the direct link method at the 20% threshold level. In line with the previous literature we use the direct link method in control rights calculations. For the Turkish companies, Yurtoglu (2000, 2003), Orbay and Yurtoglu (2006), and Ararat, Orbay and Yurtoglu (2010) use the direct link method based on the finding that an active merger and acquisition market does not exist, and the ownership structure does not significantly change over time. We sum control rights held by the ultimate owner directly and control rights held by other controlled companies (La Porta et al., 1999; Lins, 2003). The ownership (O) variable represents the fraction of dividends received by the ultimate owner; it is the sum of direct cash flow (dividend) rights and cash flows through pyramids and cross-shareholdings

Table 1: Description of variables

Dependent variable	
DIV/EARN	Dividends are cash dividends paid to shareholders. Earnings are measured after taxes and interest but before extraordinary items
CEM explanatory variables	
C/O	The ratio of control rights to ownership rights owned by the controlling family
C/V	Pyramid wedge (additional control via pyramids)
V/O	Dual share wedge (additional control via dual class stock)
HOL	Holding dummy variable = 1 If the company is controlled via a holding intermediary company, otherwise 0
NB	Board size calculated as natural logarithm of number of board members
FB	Ratio of family members in board, calculated as the ratio of number of family members in the board to number of board members
FDUMMY	Dummy variable =1 if the company is controlled together with a foreign entity, otherwise 0
Control variables	
AGE	Natural logarithm of number of years since incorporation
LEVER	Leverage calculated as total debt divided by total assets
ROA	Return on assets calculated as net income divided by total assets
SIZE	Natural logarithm of total assets
GR	Growth opportunities calculated as market to book ratio

(Almeida et al., 2007). For companies with pyramid control chains, we calculate indirect cash flow rights by multiplying the percentage of equity held by the ultimate family along each control chain and then adding these percentages.

Subsequently, we precisely decompose the total wedge (C/O) into the pyramid wedge (C/V) and dual share wedge (V/O) following the specific wedge calculation developed by Villalonga and Amit (2009). The C/V ratio represents the divergence between control and voting rights. "V" stands for the percentage of votes owned by the ultimate owner through direct and/or indirect chains of ownership as a percentage of total votes outstanding. The V/O ratio represents the dual share wedge. In ratio format, the decomposition of the control-to-ownership ratio (C/O) is as follows:

$$C/O = C/V \times V/O. \tag{3}$$

We demonstrate the preceding wedge calculations by using the ownership structure of "Link Bilgisayar A.Ş (LINK)," which is a family-controlled holding BG company whose ownership structure is shown in Figure 1 (Panel A). The company is ultimately owned by the Kasaroglu family, and control is achieved through both the pyramid wedge and dual share wedge. The family controls 69% (C2) of Link Holding A.Ş., an unlisted company, with same amount of cash flow rights (O2). At this level, there is no wedge between control and ownership rights. Then, for LINK, Link Holding A.Ş. controls 49.28% (C3) of total votes outstanding and has ownership rights of 37.43% (O3). The family also controls LINK directly, and a control-ownership wedge occurs due to the dual class shares. LINK has three classes of shares: A- and B-type shares are non-bearer types and are entitled to 10 votes per share, whereas C-type shares are a bearer type, which is entitled to one vote per share. The O1 is 23.29% and C1 is 33.59%.

In dual share wedge (V/O) calculations, we calculate "V" by multiplying C2 (69%) and C3 (49.28%) and adding the direct control rights C1 (33.59). "V" is equal to 67.59%, "O" of the ultimate owner is the product of O2 and O3, and we add the resulting value of 49.12% to O1. We add C1 and C3, resulting in a total control value of 82.87% (C). We can decompose the total wedge in equation 3 into the pyramid wedge and the dual share wedge as follows. The total wedge (C/O), pyramid wedge and the dual share wedge are 1.69, 1.23 and 1.38, respectively:

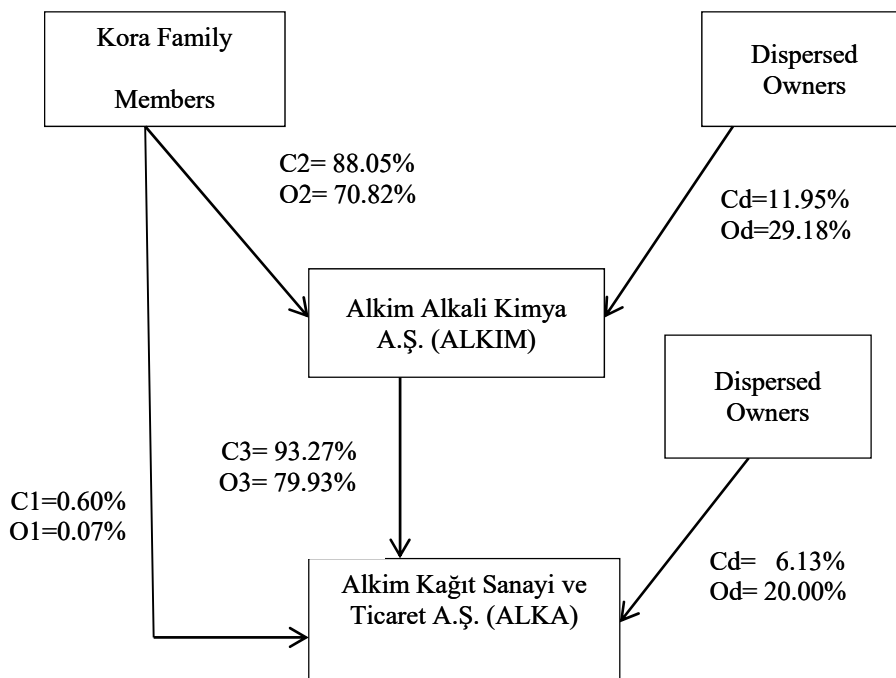82.87%/49.12% = 82.87%/67.59% x 67.59%/49.12% → 1.69 = 1.23 x 1.38.

In Figure (Panel B), we show the ownership structure of a family-controlled non-holding BG company, "Alkim Kağıt Sanayi ve Ticaret A.Ş. (ALKA)", which is ultimately controlled by the Kora family through directly owned shares and a non-holding company Alkim Alkali Kimya A.Ş. (ALKIM), a public company traded on the Borsa Istanbul. The total wedge of 1.66 is the product of 1.13 (i.e., the pyramid wedge) and 1.46 (i.e., dual share wedge):

93.87%/56.68% = 93.87%/82.72% x 82.72%/56.68% → 1.66 = 1.13 × 1.46.

We demonstrate an additional example of the wedge calculations, by using the ownership structure of "Anadolu Efes Biracılık A.Ş (AEFES)" which is a family-controlled holding BG company, in the appendix.
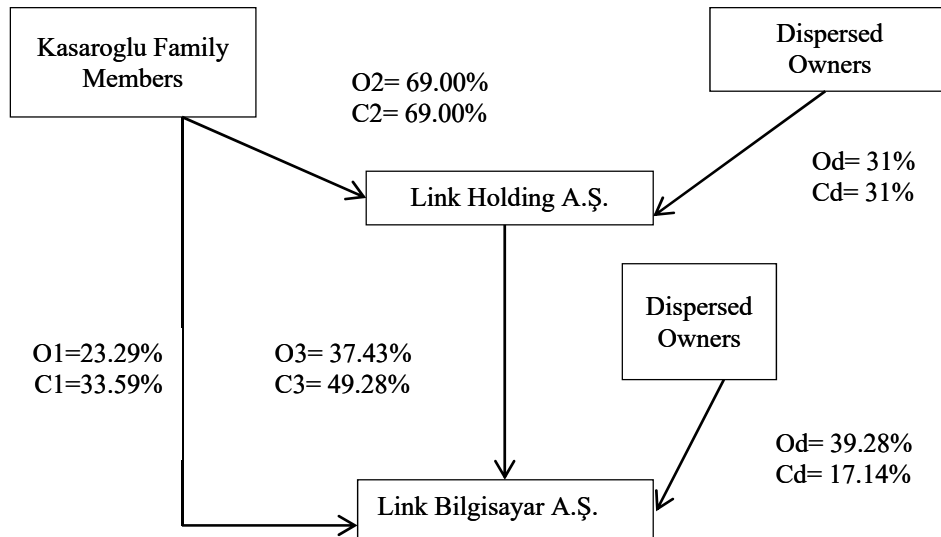
Panel A. Ownership structure of a family controlled holding BG company, 'LINK'.

Panel B. Ownership structure of a family controlled non-holding BG company, "ALKA".

Figure 1: Ownership structures of a holding BG company and a non-holding BG company

Notes: This figure shows the ownership and control rights of a holding BG company "Link Bilgisayar A.Ş.," and a non-holding BG company "Alkim Kağıt Sanayi ve Ticaret A.Ş." "C" shows the control (voting) rights, and "O" shows the ownership (cash flow) rights.

Control enhancement through the board of directors is typically achieved by family members' dominance on the board (e.g., Chen & Nowland, 2010). To further examine the effect of CEMs on dividend payout, we add indicators of control achieved through the board. Board size (NB), the natural logarithm of the number of directors on the board, and the ratio of family members to board size (FB) (Al-Najjar & Kilincarslan, 2016; Yoshikawa & Rasheed, 2010). Moreover we add a dummy variable (FDUMMY) to measure the effect of foreign ownership on dividends. The variable takes the value equal to one if the company is controlled together with a foreign entity.

Chapter 4

EMPRICAL RESULTS AND ANALYSIS

Based on the reviewed literature on dividend policy and the business settings in Turkey, we analyse the dividend policies of holding and non-holding business group companies. In particular, we measure the effect of control enhancing mechanisms (CEMs) on the dividend payout ratio. In this chapter we report the estimation results and their analysis. First, we report the descriptive statistics, second, we give the results of multivariate analysis and finally, we report the results of the robustness tests.

4.1 Descriptive Statistics

Table 2 shows the sample distribution for the period 2010-2017, specifically the total number of family controlled BG companies, and the number of holding and non-holding BG companies. Additionally, it shows the number of dividend payers and non-payers for holding and non-holding companies, and the level of dividend concentration for each group of companies. In the sample, we have a total number of 134 family controlled business group companies. In each year number of holding and non-holding business group companies are different. In all years number holding business companies is higher than the number of non-holding business group companies. Across the sample period, we have a mean of 66.50% for family controlled BG companies having a holding company in their control structure. The rest has a mean of 33.50% having a non-holding company in the control structure.

Moreover, we observe that holding BG companies have a higher mean percentage of dividend paying companies. The mean of dividend paying holding BG companies is

44.76%. It is 36.75% for non-holding BG companies. In terms of dividend concentration, we observe an increasing trend in the ratio of dividend paying holding BG companies as well as in the percentage of total dividend payments. There is a high level of dividend concentration for holding BG companies, especially during the period 2012-2017.

In Table 3, we show the descriptive statistics (mean, median, standard deviation, minimum and maximum values) for the dependent and independent variables. In Panel A the descriptive statistics for unwinsorised dependent variable is shown. We report the descriptive statistics for the CEM variables in Panel B, and the control variables in Panel C. We also show the t-test results for the differences in means of the variables between holding and non-holding BG companies. There are 901 observations; 599 of these observations are for holding BG companies and the remaining 302 observations are for non-holding BG companies. The mean dividend payout ratio for all BGs companies is 0.28. We have a higher mean dividend payout ratio for holding BG companies, and the difference is only statistically significant at 10% significance level. The mean dividend payout ratios for holding and non-holding BG are 0.30 and 0.23 respectively. For holding and non-holding BG companies, there is no significant difference in the mean C/O ratios (total wedge). It is 1.28 for holding BG companies and 1.25 for non-holding BG companies. In line with the expectation for a holding control structure, we detect a statistically significantly higher value in the mean C/V ratio (pyramid wedge) for holding BG companies. The mean pyramid wedges for holding and non-holding BG companies

Table 2: Sample Distribution, Dividend Payment Frequency and Dividend Concentration

All BG Companies		Holding BG companies				Non-Holding BG companies			
Dividend Distribution Year	Total Number of Companies	# of Companies	# of Payers	# of Non-payers	% of Total Dividend Payments	# of Companies	# of Payers	# of Non-payers	% of Total Dividend Payments
2010	119	79 (66.39%)	28 (35.44%)	51 (64.56%)	51.91%	40 (31.36%)	14 (35.00%)	26 (65.00%)	48.09%
2011	118	79 (66.95%)	33 (41.77%)	46 (58.23%)	52.67%	39 (33.05%)	15 (38.46%)	24 (61.54%)	47.33%
2012	118	78 (66.10%)	33 (42.31%)	45 (57.69%)	91.17%	40 (33.90%)	14 (35.00%)	26 (65.00%)	8.83%
2013	114	77 (67.54%)	35 (45.45%)	43 (55.84%)	91.88%	37 (33.46%)	11 (29.73%)	26 (70.27%)	8.12%
2014	112	74 (66.07%)	32 (43.24%)	42 (56.76%)	89.43%	38 (33.93%)	15 (39.47%)	23 (60.53%)	10.57%
2015	113	73 (64.60%)	38 (52.05%)	35 (47.94%)	92.53%	40 (35.40%)	16 (40.00%)	24 (60.00%)	7.47%
2016	105	70 (66.67%)	34 (48.57%)	36(51.43%)	90.41%	35 (33.33%)	14(40.00%)	21(60.00%)	9.59%
2017	102	69 (67.65%)	34 (49.28%)	35(50.72%)	91.77%	33 (32.35%)	12(36.36%)	21(63.64%)	8.23%
Mean %		66.50%	44.76%	55.24%	81.47%	33.50%	36.75%	63.25%	18.53%

Notes: This table shows the number of company distribution across sample years in total, and for two samples of holding and non-holding BG companies. The numbers in parentheses respective show the percentages. The table shows the number of dividend payers and non-payers for both holding and non-holding BG companies. The table also shows the level of dividend concentration between the two groups of BG companies.

Table 3: Descriptive statistics and tests of difference in means

Variables	Mean	SD	Min	Max	t-test	Variables	Mean	SD	Min	Max	t-test
Panel A: Dependent variables											
Dividend Payout Ratio (DIV/EARN)						*Foreign dummy (FDUMMY)*					
All companies (901 obs.)	0.28	0.51	0.00	4.80		All companies	0.21	0.41	0.00	1.00	
Holding BG companies (599 obs.)	0.30	0.48	0.00	4.18		Holding BG companies	0.26	0.44	0.00	1.00	
Non-Holding BG companies (302obs.)	0.23	0.57	0.00	4.80	-1.93*	Non-Holding BG companies	0.11	0.31	0.00	1.00	-5.47***
Panel B: CEM Variables						**Panel C: Control Variables**					
Total Wedge (C/O)						*Age (AGE)*					
All companies	1.27	0.56	1.00	5.71		All companies	3.56	0.56	1.79	7.60	
Holding BG companies	1.28	0.56	1.00	5.71		Holding BG companies	3.62	0.37	2.30	4.44	
Non-Holding BG companies	1.25	0.58	1.00	5.71	-0.70	Non-Holding BG companies	3.45	0.80	1.79	7.60	-4.21***
Pyramid wedge (C/V)						*Leverage (LEVER)*					
All companies	1.22	0.54	1.00	5.71		All companies	0.49	0.24	0.02	1.14	
Holding BG companies	1.25	0.55	1.00	5.71		Holding BG companies	0.49	0.24	0.02	1.14	
Non-Holding BG companies	1.16	0.51	1.00	5.71	-2.35**	Non-Holding BG companies	0.49	0.23	0.04	0.98	-0.04
Dual share wedge (V/O)						*Return on assets (ROA)*					
All companies	1.04	0.17	1.00	2.71		All companies	0.04	0.09	-0.29	0.53	
Holding BG companies	1.02	0.09	1.00	2.12		Holding BG companies	0.04	0.09	-0.26	0.53	
Non-Holding BG companies	1.10	0.27	1.00	2.71	5.64***	Non-Holding BG companies	0.03	0.08	-0.29	0.43	-2.06**
Board Size (NB)						*Size (SIZE)*					
All companies	1.92	0.30	1.09	2.71		All companies	19.79	1.52	15.63	24.18	
Holding BG companies	1.96	0.29	1.09	2.71		Holding BG companies	20.02	1.54	15.63	24.18	
Non-Holding BG companies	1.81	0.34	1.09	2.48	-5.67***	Non-Holding BG companies	19.37	1.36	15.83	23.44	-6.28***
Family members in board (FB)						*Growth opportunities (GR)*					
All companies	0.35	0.24	0.00	1.00		All companies	1.88	2.24	-10.09	16.82	
Holding BG companies	0.29	0.22	0.00	1.00		Holding BG companies	1.91	2.26	-10.09	16.82	
Non-Holding BG companies	0.46	0.23	0.00	1.00	11.10***	Non-Holding BG companies	1.82	2.18	0.11	16.64	-0.56

Notes: The table shows the descriptive statistics (mean, standard deviation (SD), minimum (Min), and maximum (Max)) for all variables. The table shows the t-test difference in mean results between holding and non-holding BG companies. ***p<0.01, **p<0.05, *p<0.1.

are 1.25 and 1.16 respectively. Non-holding BG companies have a higher mean V/O ratio (dual share wedge) (1.10) than holding BG companies (1.02). Furthermore, non-holding BG companies have smaller board size on average, and family representation on boards is higher. This result is expected, because larger companies have larger board size. The descriptive statistics results show that holding BG companies are significantly larger in size than the non-holding BG companies. Controlling foreign-family coalition (FDUMMY) is found in 26% of holding BG companies, whereas it is only 11% for non-holding BG companies, and the difference is highly significant.

Regarding control variables, Panel C shows that on average, holding BG companies are older, larger and more profitable than non-holding BG companies. For holding BG companies the mean return on assets is 0.04. It is 0.03 for non-holding BG companies. The difference is significant at 5% level. For holding and non-holding BG companies the mean sizes are 20.02 and 19.37 respectively. The mean age for holding BG companies is 3.62 and it is 3.45 for non-holding BG companies. The mean differences for size and age are significant at 1% level. The mean leverage is the same for holding and non-holding BG companies (0.49). Similarly, we do not detect any statistically difference in mean growth opportunities. The mean growth opportunities are 1.91 and 1.82 for holding and non-holding BG companies respectively.

Table 4 shows the correlation matrix of dependent and independent variables included in our empirical analysis. Pearson correlation coefficients show us the direction and strength of relationships between the dependent and the independent variables. In addition, any multicollinearity problems between the independent

variables can be detected. The results show that, among CEM variables, the pyramid wedge (C/V) and the board size (NB) have a positive relationship with the dependent variable, namely, the dividend payout ratio (DIV/EARN). The total wedge (C/O), the dual share wedge (V/O) and the ratio of family members on the board (FB) have a negative relationship with the dividend payout ratio. The foreign dummy (FDUMMY) and the holding dummy (HOL) have a positive relationship with the dividend payout, while age (AGE), profitability (ROA), size (SIZE), and growth opportunities (GR) have a positive relationship with the dividend payout ratio. In contrast, leverage (LEVER) has a negative relationship with this ratio. Except for the total wedge (C/O) and its component (C/V), we do not observe high levels of correlation among other variables for potential multicollinearity problems. There is a high level of correlation (0.94) between the total wedge (C/O) and its component, the pyramid wedge (C/V). To avoid multicollinearity problems, the C/O variable is not estimated together with its components V/O and C/V variables in the following multivariate analysis.

Table 4: Pearson correlation matrix

	Variables	DIV/EARN	C/O	C/V	V/O	HOL	NB	FB	FDUMMY	AGE	LEVER	ROA	SIZE	GR
CEMs Variables	C/O	-0.03	1.00											
	C/V	0.01	0.94*	1.00										
	V/O	-0.07*	0.28*	-0.05	1.00									
	HOL	0.10*	0.02	0.08*	-0.19*	1.00								
	NB	0.34*	0.03	0.06*	-0.05	0.19*	1.00							
	FB	-0.08*	-0.18*	-0.22*	0.10*	-0.35*	-0.15*	1.00						
	FDUMMY	0.30*	-0.01	0.02	-0.10*	0.18*	0.26*	0.01	1.00					
Control Variables	AGE	0.04	-0.24*	-0.15*	-0.32*	0.14*	0.08*	0.06*	0.04	1.00				
	LEVER	-0.15*	-0.17*	-0.15*	-0.09*	0.00	0.05	-0.03	0.04	0.05	1.00			
	ROA	0.32*	-0.07*	-0.05	-0.06*	0.07*	0.17*	0.04	0.16*	0.10*	-0.41*	1.00		
	SIZE	0.29*	-0.13*	-0.08*	-0.17*	0.21*	0.52*	-0.13*	0.17*	0.10*	0.22*	0.19*	1.00	
	GR	0.15*	-0.04	-0.04	0.00	0.02	0.07*	-0.01	0.28*	-0.09*	0.20	0.14*	0.07*	1.00

Notes: * statistically significant at a minimum significance level of 10%.

4.2 Multivariate Analysis

Table 5 presents the estimation results of random effects Tobit regression of Eq. (1) for holding and non-holding BG companies. The coefficients represent the marginal effects for the unconditional expected value of dependent variable (Adjaoud and Ben-Amar, 2010). In Model 1, we capture the total wedge effect (C/O) on the dividend pay-out ratio. In Models 2 and 3, we capture the effect of the pyramid wedge (C/V) and the dual-class wedge (V/O) on dividend payments respectively. In Model 4, we capture the effects of both wedges for robustness. Statistically, the Wald chi2 test results for all models indicate that all coefficients are simultaneously (jointly) different than zero. However, the likelihood-ratio test results for all models are statistically significant at 1% significance level. This suggests that random effects tobit model is more favourable than pooled tobit model in estimation of Equation 1.

Focusing on the wedges, the total wedge is statistically insignificant in Model 1. Similarly, the pyramid wedge (C/V) and the dual share wedge (V/O) components are statistically insignificant in Models 2, 3, and 4. Since we have interactions between the holding dummy variable and the wedge variables in our models, the coefficients of the total wedge (C/O), the pyramid wedge (C/V) and the dual share wedge (V/O) measure the respective effects of wedges on the dividend payout ratio of non-holding BG companies. The statistically insignificant results show that the total wedge (C/O), the pyramid wedge (C/V) and the dual share wedge (V/O) do not affect the dividend payout decisions of non-holding BG companies.

Table 5: CEMs and dividend payouts in family controlled BG companies

			Model 1 Total Wedge	Model 2 Pyramid Wedge	Model 3 Dual-share Wedge	Model 4 Pyramid & Dual-share Wedge
CEMs Variables	Total Wedge	C/O	0.040 (1.04)			
	Pyramid Wedge	C/V		0.047 (1.19)		0.047 (1.19)
	Dual Share Wedge	V/O			-0.026 (-0.15)	-0.019 (-0.11)
	Holding	HOL	0.198* (1.68)	0.206* (1.76)	-0.150 (-0.35)	0.132 (0.30)
	Holding * Total Wedge	HOL*C/O	-0.162* (-1.88)			
	Holding*Pyramid Wedge	HOL *C/V		-0.173** (-1.97)		-0.172* (-1.95)
	Holding* Dual Share Wedge	HOL* V/O			0.137 (0.33)	0.070 (0.17)
	Board Size	NB	0.237*** (3.95)	0.240*** (4.01)	0.242*** (3.98)	0.242*** (4.00)
	Family Members in Board	FB	-0.077 (-1.00)	-0.077 (-1.00)	-0.054 (-0.71)	-0.077 (-0.99)
	Foreign Dummy	FDUMMY	0.040 (1.07)	0.041 (1.10)	0.035 (0.94)	0.041 (1.10)
Control Variables	Age	AGE	-0.059 (-1.11)	-0.060 (-1.13)	-0.054 (-1.01)	-0.060 (-1.10)
	Leverage	LEVER	-0.477*** (-4.80)	-0.476*** (-4.82)	-0.486*** (-4.88)	-0.477*** (-4.81)
	Profitability	ROA	0.564*** (3.27)	0.564*** (3.28)	0.567*** (3.30)	0.564*** (3.28)
	Size	SIZE	0.073*** (4.14)	0.072*** (4.15)	0.076*** (4.29)	0.072*** (4.15)
	Growth Opportunities	GR	0.006 (0.77)	0.006 (0.80)	0.007 (0.86)	0.006 (0.81)
	Year Effect		Yes	Yes	Yes	Yes
	Industry Effect		Yes	Yes	Yes	Yes
	Number of observations		901	901	901	901
	Left censored observations		521	521	521	521
		Wald chi^2	122.48***	123.67***	120.12***	123.97***
		Likelihood-ratio	198.80***	195.75 ***	200.90***	191.09***

Notes: This table shows the regression results for four models. All models include the same control variables. In model 1 only total wedge variable (C/0) is included due to multicollinearity problem. Model 2 includes pyramid wedge variable (C/V). Model 3 includes dual share wedge variable (V/O). Model 4 includes both pyramid and dual share wedge variables (C/V), (V/O). Regression coefficients represent the marginal effects on the latent variable y. z statistics are in parentheses, *** $p<0.01$, ** $p<0.05$, * $p<0.1$

To examine the effect of control wedges on the dividend payout ratio of holding BG companies, we interact wedge variables with the holding dummy variable. The sum of the coefficients of wedges with the coefficients of their respective interaction terms gives us the net effect of the total wedge (C/O), the pyramid wedge (C/V) and the dual share wedge (V/O) on the dividend payout ratio of holding BG companies. In Model 1, since the coefficient of total wedge (C/O) is statistically insignificant, for holding BG companies, the net effect of total wedge (C/O) is the coefficient of statistically significant interaction term (HOL*C/O), -0.162. Similarly, in Models 2 and 4, since the coefficients of pyramid wedge (C/V) are statistically insignificant. The statistically significant net effects of pyramid wedge (HOL*C/V) for holding BG companies are -0.173 and -0.172, respectively. In Models 3 and 4, the dual share wedges (V/O) and their interaction terms (HOL*V/O) are statistically insignificant.

Our results for Models 1, 2 and 4 show that in holding BG companies, as the total wedge and the pyramid wedge increase, the incentives for controlling families to extract private benefits increase and dividend payouts decrease. The results also show that the pyramid wedge effect is stronger than the total wedge effect. These findings are in line with the rent extraction hypothesis and support our hypothesis for the family-controlled holding BG companies. However, there is no empirical support for the effect of dual share wedge on the dividend payout of holding BG companies.

In Models 1 and 2, the coefficients of the holding dummy variables (HOL) are positive and statistically significant at 10% significance level but in Models 3 and 4, the coefficients of HOL are statistically insignificant. Hence, we do not have strong empirical evidence that holding BG companies have higher dividend payouts than non-holding BG companies, ceteris paribus. Focusing on the estimation results for board CEMs, we find a positive relationship between board size and dividend

payouts. The coefficients of the variable are statistically significant at 1% level in all models. This is in line with other studies' findings for countries with weak investor protection settings (e.g., Bradford, Chen, & Zhu, 2013; Gonzalez et al., 2014). Control enhancement through the board of directors is typically achieved by family members' dominance on the board (Chen & Nowland, 2010). A company's board of directors are responsible for monitoring the management but, controlling family members on the board of directors can execute policies that benefit the family members but not the minority shareholders. However, companies with a greater number of board members payout more dividends and can indicate less control in board decisions by family members. Statistically, FB and FDUMMY do not affect the dividend payouts of family-controlled BG companies.

SIZE and ROA are statistically significant at 1 % level in all models with positive signs. These results indicate that larger and more profitable companies pay out more dividends. Size is used as a proxy for better financial market access (Aivazian, Booth, & Cleary, 2003). Larger companies have better market access and they are able to raise capital at lower costs enabling them to pay higher dividends. In line with previous studies (e.g., Alzahrani & Lasfer, 2012), we find that leverage affects the dividend payout ratio negatively due to capital constraints. The coefficients of this variable are highly significant and negative at 1% level in all models. When companies have profitable investment opportunities, they retain cash for these investments, and a negative relationship between growth opportunities and dividend payout ratio is expected. In contrast to previous findings (e.g. Mitton, 2004; Alzahrani & Lasfer, 2012), we do not find a statistically significant effect of growth opportunities on dividend payouts. Since mature companies have fewer attractive

investment opportunities, better access to capital markets and steady earnings, they are expected to pay higher dividends (Grullon, Michaely, & Swaminathan, 2002; H. DeAngelo & L.DeAngelo, 2006). In contrast to previous findings (e.g., Alzahrani & Lasfer, 2012; Gonzales et al., 2014), AGE, a proxy for the life cycle, is found to be statistically insignificant.

4.3 Robustness Results

For the robustness of our results represented in Table 5, we estimate Eq. (2) for the two sub-samples, holding and non-holding BGs, separately. In Table 6, we report the random effects Tobit estimation results of holding BG companies. In Model 1 we estimate the effect of the total wedge (C/O) on the dividend payout ratio. The coefficient of total wedge (C/O) is significant and negative (-0.165) at 5% level. In Model 2, the pyramid wedge (C/V) has negative and statistically significant coefficient (-0.73) at 5% level. The controlling families pay out less as these two wedges increase in holding BG companies supporting the rent extraction hypothesis. The coefficients of the dual share wedge (V/O) are statistically insignificant in Models 3 and 4. These findings support the negative interaction effects of C/O and C/V in Table 5. Similarly, there is no dual share wedge effect as it is found in Table 5. The FDUMMY is positive and significant in Models 2 and 4. These estimation results show some evidence for the positive influence of controlling foreign-family coalitions on dividend payouts in holding BG companies. Like the findings in other studies (e.g., Bena & Hanousek, 2008; Baba, 2009; Mian & Nagata, 2015), foreign partners tend to monitor the companies closely and prefer to receive the excess cash as dividends by not letting the excess cash under the control of family partner.

The coefficients of ROA and SIZE are significant at 1% level in all models. Leverage (LEVER) is significant at 1% level in all models with negative sign. AGE, a proxy for the life cycle, and growth opportunities (GROWTH) are found to be statistically significant. These results are consistent with the findings in Table 5 for the whole sample.

In Table 7, we show the results of random effects Tobit estimations for non-holding BG companies. Like our findings in Table 5, total wedge (C/O), pyramid wedge (C/V) and dual share wedge (V/O) are statistically insignificant and do not affect the dividend payouts of non-holding BG companies. Unlike the positive and significant foreign dummy variable for holding BG companies, this variable is insignificant for non-holding BG companies. In Table 7, except for the statistically insignificant profitability (ROA) variable for non-holding BG companies, the statistical significant results and signs for LEVER and SIZE control variables are consistent with the results in Table 5 for the whole sample.

Overall, our estimation results show that as the total wedge and pyramid wedge increase, holding BG companies pay lower dividends supporting the rent extraction hypothesis. For holding BG companies, the effects of financial control variables on dividend payouts are stronger than the effects of CEMs. The effect of board size on dividend payout ratio is positive and significant for both holding and non-holding BG companies. In non-holding BG companies, CEMs do not affect the dividend payouts. The main variables affecting the dividend payouts of non-holding BG

Table 6: CEMs and dividend payouts in family controlled holding BG companies

			Model 1 Total Wedge	Model 2 Pyramid Wedge	Model 3 Dual-share Wedge	Model 4 Pyramid & Dual-share Wedge
CEMs Variables	Total Wedge	C/O	-0.165** (-2.16)			
	Pyramid Wedge	C/V		-0.173** (-2.16)		-0.172 (1.19)
	Dual Share Wedge	V/O			0.137 (0.32)	0.090 (0.21)
	Board Size	NB	0.265*** (3.39)	0.267*** (3.44)	0.260*** (3.31)	0.270*** (3.44)
	Family Members in Board	FB	-0.142 (-1.46)	-0.149 (1.54)	-0.010 (-1.04)	-0.152 (-1.55)
	Foreign Dummy	FDUMMY	0.075 (1.56)	0.079* (1.64)	0.063 (1.29)	0.081* (1.66)
Control Variables	Age	AGE	-0.080 (-0.97)	-0.763 (-0.94)	-0.031 (-0.39)	-0.074 (-0.90)
	Leverage	LEVER	-0.478*** (-3.81)	-0.476*** (-3.81)	-0.454*** (-3.63)	-0.475*** (-3.80)
	Profitability	ROA	0.661*** (3.05)	0.664*** (3.07)	0.685*** (3.19)	0.666*** (3.08)
	Size	SIZE	0.055*** (2.64)	0.055*** (2.65)	0.060*** (2.86)	0.055*** (2.65)
	Growth Opportunities	GR	0.000 (0.06)	0.001 (0.12)	0.001 (0.10)	0.001 (0.15)
	Year Effect		Yes	Yes	Yes	Yes
	Industry Effect		Yes	Yes	Yes	Yes
	Number of observations		599	599	599	599
	Left censored observations		330	330	330	330
		Wald chi^2	95.25***	96.07***	90.48***	96.47***
		Likelihood-ratio	123.23***	119.04 ***	123.48***	111.11***

Notes: This table shows the regression results for four models. All models include the same control variables. In model 1 only total wedge variable (C/0) is included due to multicollinearity problem. Model 2 includes pyramid wedge variable (C/V). Model 3 includes dual class wedge variable (V/O). Model 4 includes both pyramid and dual share wedge variables (C/V), (V/O). Regression coefficients represent the marginal effects on the latent variable y. z statistics are in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Table 7: CEMs and dividend payouts in family controlled non-holding BG companies

			Model 1 Total Wedge	Model 2 Pyramid Wedge	Model 3 Dual-share Wedge	Model 4 Pyramid & Dual-share Wedge
CEMs Variables	Total Wedge	C/O	0.022 (0.63)			
	Pyramid Wedge	C/V		0.027 (0.76)		0.027 (0.76)
	Dual Share Wedge	V/O			0.012 (0.07)	0.013 (0.08)
	Board Size	NB	0.230** (2.43)	0.234** (2.47)	0.232** (2.39)	0.232** (2.39)
	Family Members in Board	FB	0.030 (0.23)	0.033 (0.26)	0.027 (0.210)	0.032 (0.24)
	Foreign Dummy	FDUMMY	-0.047 (-0.62)	-0.048 (-0.77)	-0.048 (-0.77)	-0.047 (-0.76)
Control Variables	Age	AGE	-0.015 (-0.26)	-0.015 (-0.28)	-0.172 (-0.30)	-0.014 (-0.25)
	Leverage	LEVER	-0.400*** (-2.67)	-0.398*** (-2.67)	-0.414*** (-2.79)	-0.398*** (-2.66)
	Profitability	ROA	0.396 (1.29)	0.400 (1.30)	0.380 (1.24)	0.400 (1.30)
	Size	SIZE	0.110*** (3.40)	0.109*** (3.37)	0.112*** (3.28)	0.110*** (3.25)
	Growth Opportunities	GR	0.013 (0.99)	0.013 (1.00)	0.013 (0.99)	0.013 (1.00)
	Year Effect		Yes	Yes	Yes	Yes
	Industry Effect		Yes	Yes	Yes	Yes
	Number of observations		302	302	302	302
	Left censored observations		191	191	191	191
		Wald chi^2	46.07***	46.61***	46.04***	46.45***
		Likelihood-ratio	43.29***	43.26***	40.71***	40.97***

Notes: This table shows the regression results for four models. All models include the same control variables. In model 1 only total wedge variable (C/0) is included due to multicollinearity problem. Model 2 includes pyramid wedge variable (C/V). Model 3 includes dual class wedge variable (V/O). Model 4 includes both pyramid and dual share wedge variables (C/V), (V/O). Regression coefficients represent the marginal effects on the latent variable y. z statistics are in parentheses, *** $p<0.01$, ** $p<0.05$, * $p<0.1$

companies are the financial control variables. Lastly, we find that having a foreign

partner in coalition with a family affects the dividend payouts positively in holding

BG companies, and no such effect is found for non-holding BG companies.

Chapter 5

CONCLUSIONS AND POLICY IMPLICATIONS

5.1 Concluding Remarks

We examine the impact of CEMs on the dividend payouts of family-controlled holding BG companies compared to those of non-holding BG companies in a low-protection "insider system" setting characterised by majority control similar to privatised companies in Eastern Europe. The insiders are typically rich families that control companies by using CEMs such as pyramid structures and dual class shares. In particular, these two CEMs result in a divergence between the control rights and ownership rights. Families also achieve control by using board control mechanisms, such as having a board of directors dominated by family members.

Our empirical analysis results indicate that different CEMs affect the dividend payouts of holding and non-holding BG companies differently. Specifically, as the divergence between control and ownership rights increases, the rent extraction hypothesis dominates in holding BG companies. In other words, controlling families pay lower dividends to keep resources within the group, and they use the financial holding company to do so. Moreover, in holding BG companies, we find that the dividend payout decreases as the pyramid wedge increases supporting the rent extraction hypothesis. The pyramid organizational structure in BGs results in the formation of internal capital markets and favors rent extraction, especially in holding BG companies (Almeida & Wolfenzon, 2006; La Porta et al. 2000), which, by their

coherent structure under centralized control, have stronger internal capital markets. This structure reduces holding group companies' need for external financing and makes them subject to less outside monitoring by investors and financial institutions. These settings facilitate rent extraction by the controlling family. In addition, our results show that bigger board size curbs the rent extraction in family-controlled holding BG companies by having a positive effect on dividend payout. However, in holding BG companies, the effects of company-specific financial control variables (i.e., leverage, profitability and size) on dividend payouts are stronger.

For family controlled non-holding BG companies, the company-specific financial control variables (i.e., leverage and size) are the main determinants of dividend payouts in addition to the positive effect of board size. We could not find any empirical support for the reputation building hypothesis in both holding and non-holding BG companies, and these companies do not use the dividend policy as a mechanism to alleviate the expropriation concerns of minority shareholders.

As the limitation of our study, we echo the sentiment of Villalonga and Amit (2009): "As a caveat to the interpretation of our results, we acknowledge that the choice of one mechanism or another by founding families is endogenous, which raises the possibility of reverse causation" (p. 3088). However, in corporate governance econometrics, finding the correct instrumental variables for different control-enhancing mechanisms is still an unresolved problem for empirical studies (e.g., Lins, 2003; Adams & Ferreira, 2008). For instance, Villalonga and Amit (2009) state that their sample's ownership structure is stable over time and that CEMs had already existed at the beginning of their sample period; therefore, it is very unlikely that a reverse causality problem exists. We find the same empirical observation for our

sample. The ownership and control structures are significantly stable over time similar to the findings of Yurtoglu (2003) for Turkey. Using lagged explanatory variables is not an effective methodology to tackle the endogeneity problem if the changes in the main hypothesized variables are minimal or zero.

5.2 Policy Implications

Our findings have implications such as higher expropriation risk for minority shareholders who invest in family controlled holding BG companies, particularly in a low investor protection setting. For investment decisions in holding BG companies, portfolio managers and investors should consider that a higher level of pyramid wedge is associated with higher expropriation risk. In family controlled holding BG companies, the presence of a controlling foreign and family coalition lowers the possibility of rent extraction. The results show that there is a need for further policy actions to strengthen the rights of minority shareholders to enable them to limit rent extraction by the controlling shareholders. Policy makers can take actions for the development of strong and more transparent financial markets to enhance better monitoring of controlling shareholders. Controlling shareholders are allowed to have higher control rights than cashflow rights by means of CEMs. Regulations should be targeted at decreasing the extent of control-enhancing mechanisms. This can be achieved by prohibiting the issuance of shares with different voting rights. In addition, high tax rates on inter-corporate dividends may discourage pyramidal business groups. Regulations that reduce the dominance of family members in the board of directors may decrease the extent of expropriations by the controlling family. The number, and requirements to be an independent board member should equally cover all companies listed in BIST. Moreover, foreign partnerships should be encouraged as a mechanism for enhancing the monitoring. We expect our results to

be valid for companies operating in Eastern European markets having similar "crony" capitalism characteristics. Our study can be replicated in these markets for the global validity of our findings.

While the research has several limitations, it also provides directions for future research. First, our sample only covers family controlled BG companies in Turkey and it may not explain the dividend behaviour of all companies with different control structures. This can be a subject for further research. Second, our study covers only non-financial companies and it can be replicated for a sample of financial companies to analyse the effect of different CEMs on the dividend behaviour of financial companies. Third, the econometric challenge of finding correct instrumental variables for different types of CEMs still exists in the empirical studies of corporate governance.

REFERENCES

Adams, R., & Ferreira, D. (2008). One share-one vote: The empirical evidence. *Review of Finance*, 12(1), 51-91.

Adaoglu, C. (2000). Instability in the dividend policy of the Istanbul Stock Exchange (ISE) corporations: Evidence from an emerging market. *Emerging Markets Review*, 1(3), 252-270.

Adaoglu, C. (2008). Dividend policy of the ISE industrial corporations: The evidence revisited (1986-2007). *Journal of BRSA Banking and Financial Markets*, 2(2), 113–136.

Adjaoud, F., & Ben-Amar, W. (2010). Corporate governance and dividend policy: Shareholders' protection or expropriation? *Journal of Business Finance and Accounting*, 37 (5–6), 648–667. http://doi.org/10.1111/j.1468-5957.2010.02192.x

Adjaoud, F., & Hermassi, N. (2017). The Impact of Corporate Governance Mechanisms on the Dividend Policy of Canadian Firms: Empirical Study. *International Journal of Business, Accounting, and Finance*, 11(1), 90-105.

Aguenaou, S., Farooq, O., & Di, H. (2013). Dividend policy and ownership structure: Evidence from the Casablanca Stock Exchange. *GSTF International Journal on Business Review (GBR)*, 2(4), 116-121.

Aivazian, V., Booth, L., & Cleary, S. (2003). Do emerging market firms follow different dividend policies from U.S. firms? *Journal of Financial Research*, 26(3), 371–387. http://doi.org/10.1111/1475-6803.00064

Akça, H. (1998). Vergisel açıdan holdinglerin durumu. *Sayıştay Dergisi* 30 (Özel baskı): 207-222.

Ararat, M. 2010. 'Comply or Explain' without consequences; the case of Turkey. Retrieved from *SSRN Electronic Journal*. doi: 10.2139/ssrn. 1599831.

Ararat, M., H. Orbay, & Yurtoglu, B.B. (2010). The effects of board independence in controlled Firms: Evidence from Turkey. Retrieved from *SSRN Electronic Journal*. doi: 10.2139/ssrn.1663403.

Ararat, M., & Ugur, M. (2003). Corporate governance in Turkey: An overview and some policy recommendations. *Corporate Governance: The International Journal of Business in Society,* 3(1): 58-75

Ararat, M., & Yurtoglu, B. B. (2012). An assessment of the recent legal reforms concerning "Corporate Governance" introduced by the Capital Market Boards of Turkey. Retrieved from http://ssrn.com/abstract=2040376)

Al-Najjar, B., & Kilincarslan, E. (2016). The effect of ownership structure on dividend policy: evidence from Turkey. *Corporate Governance: The International Journal of Business in Society*, 16(1), 135–161. Retrieved from http://www.scopus.com/inward/record.url?eid=2-s2.0-

84954452833&partnerID=tZOtx3y1

Alchian, A. A. & Demsetz, H. (1972). Production , information costs , and economic organization. *The American Economic Review*, 62(5), 777–795. http://doi.org/10.1109/EMR.1975.4306431

Almeida, H., Park, S., Subrahmanyam, M., & Wolfenzon, D. (2007). Beyond cash flow and voting rights: Valuation and performance of firms in complex ownership structures. Retrieved from https://doi.org/10.2139/ssrn.1101865

Almeida, H. V., & Wolfenzon, D. (2006). A theory of pyramidal ownership and family business groups. *Journal of Finance*, 61(6), 2637–2680. http://doi.org/10.1111/j.1540-6261.2006.01001.x

Alzahrani, M., & Lasfer, M. (2012). Investor protection, taxation, and dividends. *Journal of Corporate Finance*, 18(4), 745–762. http://doi.org/10.1016/j.jcorpfin.2012.06.003

Amoako-Adu, B., Baulkaran, V., & Smith, B. F. (2014). Analysis of dividend policy of dual and single class U.S corporations. *Journal of Economics and Business*, 72, 1–29. http://doi.org/10.1016/j.jeconbus.2013.10.002

Anderson, R. C., & Reeb, D. M. (2003). Founding family ownership and firm performance: Evidence from the S&P 500. *The Journal of Finance*, 58(3), 1301–1328. http://doi.org/10.1111/1540-6261.00567

Baba, N. (2009). Increased presence of foreign investors and dividend policy of Japanese firms. *Pacific-Basin Finance Journal* 17(5), 163-174. https://doi.org/10.1016/j.pacfin.2008.04.001

Baker, H. K., Farrelly, G.E, & Edelman, R.B. (1985). A Survey of management views on dividend policy. *Financial Management*, 14, 78-84.

Baker, H. K., Kilincarslan, E., & Arsal, A. H. (2018). Dividend policy in Turkey: Survey evidence from Borsa Istanbul firms. *Global Finance Journal*, 35, 43–57. http://doi.org/10.1016/j.gfj.2017.04.002

Bena, J., & Hanousek, J. (2008). Rent extraction by large shareholders: Evidence using dividend policy in the Czech Republic. *Finance a Uver - Czech Journal of Economics and Finance*, 58(3), 106–130.

Benavides, J., Berggrun, L., & Perafan, H. (2016). Dividend payout policies: Evidence from Latin America. *Finance Research Letters*, 17, 197–210. http://doi.org/10.1016/j.frl.2016.03.012

Bennedsen, M., & Nielsen, K. M. (2010). Incentive and entrenchment effects in European ownership. *Journal of Banking and Finance,* 34(9), 2212-2229.

Berispek, C. (2012). The new CMB Communiqué on corporate governance, *Legal News Bulletin Turkey* 1, 28-30.

Berle, A. A., & Means, G. C. (1932). *The modern corporation and private property.*

New York: The Macmilian Company. http://doi.org/10.2139/ssrn.46906

Bertrand, M., Mehta, P., & Mullainathan, S. (2002). Ferreting out tunneling: An application to Indian business groups. *Quarterly Journal of Economics*, 117(1), 121–148. https://doi.org/10.1162/003355302753399463

Bhattacharya, S. (1979). Imperfect information, dividend policy, and "The bird in the hand" fallacy. *The Bell Journal of Economics*, 10(1), 259. http://doi.org/10.2307/3003330

Black, F. (1976). The dividend puzzle. *The Journal of Portfolio Management*, 2(2), 5–8. http://doi.org/10.3905/jpm.1976.408558

Black, F., & Scholes, M. (1974). The effects of dividend yield and dividend policy on common stock prices and returns. *Journal of Financial Economics*, 1(1), 1–22. http://doi.org/10.1016/0304-405X(74)90006-3

Boţoc, C., & Pirtea, M. (2014). Dividend payout-policy drivers: Evidence from emerging countries. *Emerging Markets Finance and Trade*, 50(s4), 95–112. http://doi.org/10.2753/REE1540-496X5004S407

Bradford, W., Chen, C., & Zhu, S. (2013). Cash dividend policy, corporate pyramids, and ownership structure: Evidence from China. *International Review of Economics & Finance,* 27 (C), 445-464.

Brennan, M. J. (1970). Taxes , market valuation and corporate financial policy.

National Tax Journal, 23(4), 417–427.

Brockman, P., & Unlu, E. (2011). Earned/contributed capital, dividend policy, and disclosure quality: An international study. *Journal of Banking and Finance*, 35(7), 1610–1625. http://doi.org/10.1016/j.jbankfin.2010.11.014

Bugra, A. (1994). *State and Business in Modern Turkey*. State University of New York Press.

Bulan, L., & Hull, T. (2013). The impact of technical defaults on dividend policy. *Journal of Banking and Finance*, 37(3), 814–823. http://doi.org/10.1016/j.jbankfin.2012.10.014

Byrne, J., & O'Connor, T. (2012). Creditor rights and the outcome model of dividends. *Quarterly Review of Economics and Finance*, 52(2), 227–242. http://doi.org/10.1016/j.qref.2012.04.002

Caliskan, N. & Icke, T. (2011).Turkish corporate governance principles and its implications for ISE corporate governance index companies. *Journal of Accounting and Finance,* 11(1), 60-75.

Casado, B. R., Burkert, M., Dávila, A., & Oyon, D. (2016). Shareholder protection: The role of multiple large shareholders. *Corporate Governance: An International Review*, 24(2), 105–129. http://doi.org/10.1111/corg.12131

Chen, E. T, & Nowland, J. (2010). Optimal board monitoring in family-owned

companies: Evidence from Asia. *Corporate Governance*, 18(1), 3–17. http://doi.org/10.1111/j.1467-8683.2009.00778.x

Chen, Z., Cheung, Y. L., Stouraitis, A., & Wong, A. W. S. (2005). Ownership concentration, firm performance, and dividend policy in Hong Kong. *Pacific-Basin Finance Journal,* 13, 431–449. https://doi.org/10.1016/j.pacfin.2004.12.001

Chen, X., Yong, S., & Xiaodong, X. (2016). Free cash flow, over-investment and corporate governance in China. *Pacific-Basin Finance Journal*, 37, 81-103. https://doi.org/10.1016/j.pacfin.2015.06.003

Claessens, S., Djankov, S., & Lang, L. H. P. (2000). *Who controls East Asian corporations?* World Banks Report, 1–40.

Correia Da Silva, L.,Goergen, M., & Renneboog, L. (2004). *Dividend policy and corporate governance.* New York: Oxford University Press Inc.

Coulton, J. J., & Ruddock, C. (2011). Corporate payout policy in Australia and a test of the life-cycle theory. *Accounting and Finance,* 51(2), 381–407. http://doi.org/10.1111/j.1467-629X.2010.00356.x

Dahlquist, M., Robertsson, G., & Rydqvist, K. (2014). Direct evidence of dividend tax clienteles. *Journal of Empirical Finance*, 28, 1–12. http://doi.org/10.1016/j.jempfin.2014.05.003

De Cesari, A. (2012). Expropriation of minority shareholders and payout policy. *British Accounting Review*, 44(4), 207–220. http://doi.org/10.1016/j.bar.2012.09.002

DeAngelo, H., & DeAngelo, L. (2006). The irrelevance of the MM dividend irrelevance theorem. *Journal of Financial Economics*, 79(2), 293–315. http://doi.org/10.1016/j.jfineco.2005.03.003

DeAngelo, H., DeAngelo, L., & Stulz R. (2006). Dividend policy and the earned/contributed capital mix: A test of the life-cycle theory. *Journal of Financial Economics,* 81, 227–254. https://doi.org/10.1016/j.jfineco.2005.07.005

Demirag, I., & Serter, M. (2003). Ownership patterns and control in Turkish listed companies. *Corporate Governance*, 11(1), 40–51. http://doi.org/10.1111/1467-8683.00300

Demsetz, H. (1983). The Structure of Ownership and The Theory of The Firm. *Journal of Law & Economics*, 26, 375–390. http://doi.org/10.1086/467042

Desai, M. A., & Jin, L. (2011). Institutional tax clienteles and payout policy. *Journal of Financial Economics*, 100(1), 68–84. http://doi.org/10.1016/j.jfineco.2010.10.013

Easterbrook, F. H. (1984). Two agency-cost explanations of dividends. *The American Economic Review*, 74(4), 650–659. http://doi.org/10.2307/1805130

Elton, E. J., & Gruber, M. J. (1970). Marginal stockholder tax rates and the clientele effect. *The Review of Economics and Statistics*, 52(1), 68. http://doi.org/10.2307/1927599

Faccio, M., & Lang, L. H. P. (2007). *The ultimate ownership of western European corporations*. In A. I. Ruud, van Frederikslust, J. S. Ang, P. S. Sudarsanam, Corporate Governance and Corporate Finance: A European Perspective (pp. 163-190). London: Routledge.

Faccio, M., Lang, L. H. P., & Young, L. (2001). Dividends and expropriation. *The American Economic Review*, 91(1), 54–78.

Fama, E. F. (1980). Agency problems and the theory of the firm. *Journal of Political Economy*, 88(2), 288–307. http://doi.org/10.1126/science.1165821

Fama, E. F., & French, K. R. (2002). Testing trade-off and pecking order predictions about dividends and debt. *Review of Financial Studies*, 15(1), 1–33. http://doi.org/10.1093/rfs/15.1.1

Friedman, E., Johnson, S., & Mitton, T. (2003). Propping and tunneling. *Journal of Comparative Economics*, 31(4), 732–750. http://doi.org/10.1016/j.jce.2003.08.004

Gompers, P., Ishii, J., & Metrick, A. (2010). Extreme governance: An analysis of dual-class firms in the United States. *Review of Financial Studies*, 23(3): 1051-1088. https://doi.org/10.1093/rfs/hhp024

Gonzalez, M., Guzman, A., Pombo, C., & Trujillo, M. A. (2014). Family involvement and dividend policy in closely held firms. *Family Business Review*, 27(4), 365–385. http://doi.org/10.1177/0894486514538448

Gonzalez, M., Molina, C. A., Pablo, E., & Rosso, J. W. (2017). The effect of ownership concentration and composition on dividends: Evidence from Latin America. *Emerging Markets Review*, 30, 1–18. http://doi.org/10.1016/j.ememar.2016.08.018

Gordon, M. J. (1963). Optimal investment and financing policy. *The Journal of Finance*, 18(2), 264–272. http://doi.org/10.2307/2977907

Goto, A. (1982). Business groups in a market economy. *European Economic Review*, 19(1), 53–70. http://doi.org/10.1016/0014-2921(82)90005-8

Grossman, S. J., & Hart, O. D. (1980). Takeover Bids, the free-rider problem, and the theory of the corporation. *The Bell Journal of Economics*, 11(1), 42. http://doi.org/10.2307/3003400

Grullon, G., Michaely, R., & Swaminathan, B. (2002). Are dividend changes a sign of firm maturity? *Journal of Business*, 75(3), 387–424. http://doi.org/10.1086/339889

Gugler, K., & Yurtoglu, B. B. (2003). Corporate governance and dividend pay-out policy in Germany. *European Economic Review*, 47(4), 731–758. http://doi.org/10.1016/S0014-2921(02)00291-X

Harada, K., & Nguyen, P. (2011). Ownership concentration and dividend policy in Japan. *Managerial Finance*, 37(4), 362–379. http://doi.org/10.1108/03074351111115313

Heper, M. (1991). *The state and interest groups with special reference to Turkey. Strong State and Eco- nomic Interest Groups: The Post-1980 Turkish Experience*. Berlin: De Gruyter.

IIF. (2005). *Corporate governance in Turkey – an investor perspective*. Task Force Report April 2005. Institute of International Finance, Washington, DC.

Ipekci, N. (2000). *Holding Şirketler*. İstanbul: Ipekci Yayıncılık.

Isakov, D., & Weisskopf, J. P. (2015). Pay-out policies in founding family firms. *Journal of Corporate Finance*, 33, 330–344. http://doi.org/10.1016/j.jcorpfin.2015.01.003

Iturriaga, F. J. L., & Crisóstomo, V. L. (2010). Do leverage, dividend payout, and ownership concentration influence firms' value creation? An analysis of Brazilian firms. *Emerging Markets Finance and Trade*, 46(3), 80–94. http://doi.org/10.2753/REE1540-496X460306

Jacob, M., & Michaely, R. (2017). Taxation and dividend policy: The muting effect of agency issues and shareholder conflicts. *Review of Financial Studies*, 30(9), 3176–3222. http://doi.org/10.1093/rfs/hhx041

Jensen, M. C. (1986). Agency costs of free cash flow , corporate finance , and takeovers. *American Economic Review*, 76(2), 323–329. http://doi.org/10.2139/ssrn.99580

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 4, 305–360. Retrieved from http://ssrn.com/abstract=94043http://hupress.harvard.edu/catalog/JENTHF.html

Jiraporn, P., Kim, J. C., & Kim, Y. S. (2011). Dividend payouts and corporate governance quality: An empirical investigation. *Financial Review,* 46(2), 251–279. http://doi.org/10.1111/j.1540-6288.2011.00299.x

Jiraporn, P., & Ning, Y. (2006). Dividend policy, shareholder rights, and corporate governance. *Journal of Applied Finance*, 16(2), 24–36

John, K., & Williams, J. (1985). Dividends, dilution, and taxes: A signalling equilibrium. *The Journal of Finance*, 40(4), 1053–1070. http://doi.org/10.1111/j.1540-6261.1985.tb02363.x

Johnson, S., La Porta, R., Lopez-De-Silanes, F., & Shleifer, A. (2000). Tunnelling. *American Economic Review*, 90(2), 22–27. https://doi.org/10.2307/117185

Karpavičius, S., & Yu, F. (2017). How institutional monitoring creates value: Evidence for the free cash flow hypothesis. *International Review of*

Economics and Finance, 52, 127–146. http://doi.org/10.1016/j.iref.2017.10.016

Kepenek, Y. & Yenturk, N. (1996). *Türkiye Ekonomisi*, İstanbul. Remzi Kitapevi.

Khanna, T., & Palepu, K. (2000). Is group affiliation profitable in emerging markets? An analysis of diversified Indian business groups. *The Journal of Finance*, 55(2), 867–891. http://doi.org/10.1111/0022-1082.00229

Khanna, T., & Yafeh, Y. (2010). Business groups in emerging markets: Paragons or parasites? *The Oxford Handbook of Business Groups*, 6, 1–60. http://doi.org/10.1093/oxfordhb/9780199552863.003.0020

Kjellstrom, S. B. (1990). *Privatization in Turkey (English)*. Policy, research, and external affairs working papers ; no. WPS 532. Country Operations. Washington, DC: World Bank. http://documents.worldbank.org/curated/en/199651468760520433/Privatization-in-Turkey

Kuo, L. W. (2017). Reputation as a governance mechanism? Evidence from payout policy of insider-controlled firms in Taiwan. *Journal of Business Finance and Accounting*, 44(9–10), 1443–1476. http://doi.org/10.1111/jbfa.12261

La Porta, R., Lopez-de-SIlanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. *Journal of Political Economy*, 106(6), 11131–55. http://doi.org/10.1086/250042

La Porta, R., Lopez-De-Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. *The Journal of Finance*, 54(2), 471–517. http://doi.org/10.1111/0022-1082.00115

La Porta, R., Lopez-De-Silanes, F., Shleifer, A., & Vishny, R. W. (2000). Agency problems and dividend policies around the world. *Journal of Finance*, 55(1), 1–33. http://doi.org/10.1111/0022-1082.00199

Lease, R. C., John, K., Kalay, A., & Loewenstein, U., & Sarig, O. H. (1999). *Dividend policy: Its impact on firm value.* OUP Catalogue, 26.

Liljeblom, E., & Maury, B. (2016). Shareholder protection, ownership, and dividends: Russian evidence. *Emerging Markets Finance and Trade*, 52(10), 2414–2433. http://doi.org/10.1080/1540496X.2015.1073991

Lins, K. V. (2003). Equity ownership and firm value in emerging markets . *The Journal of Financial and Quantitative Analysis*, 38(1), 159–184.

Lintner, J. (1956). Distribution of incomes of corporations among dividends, retained earnings, and taxes. *The American Economic Review*, 46(2), 97–113. http://doi.org/10.1126/science.151.3712.867-a

Lintner, J. (1962). Dividends, earnings, leverage, stock prices and supply of capital to corporations. *The Review of Economics and Statistics,* 64, 243-269.

Litzenberger, R. H., & Ramaswamy, K. (1979). The effect of personal taxes and

dividends on capital asset prices. Theory and empirical evidence. *Journal of Financial Economics*, 7(2), 163–195. http://doi.org/10.1016/0304-405X(79)90012-6

Liu, M., & Magnan, M. (2011). Self-dealing regulations, ownership wedge, and corporate valuation: International evidence. *Corporate Governance,* 19(2), 99–115. https://doi.org/10.1111/j.1467-8683.2010.00839.x

Mancinelli, L., & Ozkan, A. (2006). Ownership structure and dividend policy: Evidence from Italian firms. *The European Journal of Finance*, 12(3), 265–282. http://doi.org/10.1080/13518470500249365

Masulis, R. W., Wang, C., & Xie, F. (2009). Agency problems at dual-class companies. *The Journal of Finance*, 64(4), 1697–1727.

Mian, R., & Nagata, K. (2015). Foreign institutional ownership and the valuation effect of investment and payout decisions. *Journal of Finance and Economics,* 3(5), 97-104. http://pubs.sciepub.com/jfe/3/5/3

Miller, M. H., & Modigliani, F. (1961). Dividend policy, growth, and the valuation of shares. *The Journal of Business*, 34(4), 411. http://doi.org/10.1086/294442

Miller, M. H., & Rock, K. (1985). Dividend policy under asymmetric information. *The Journal of Finance*, 40(4), 1031-1051.https://doi.org/10.1111/j.1540-6261.1985.tb02362.x

Miller, M. H., & Scholes, M. S. (1978). Dividends and taxes. *Journal of Financial Economics*, 6(4), 333–364. http://doi.org/10.1016/0304-405X(78)90009-0

Mitton, T. (2004). Corporate governance and dividend policy in emerging markets. *Emerging Markets Review*, 5(4), 409-426. http://doi.org/10.1016/j.ememar.2004.05.003

Moh'd, M. A., Perry, L.G., & Rimbey, J. N. (1995). An Investigation of the dynamic relationship between agency theory and dividend policy. *Financial Review*, 30(2), 367-385

Moortgat, L., Annaert, J., & Deloof, M. (2017). Investor protection, taxation and dividend policy: Long-run evidence, 1838–2012. *Journal of Banking and Finance*, 85, 113–131. http://doi.org/10.1016/j.jbankfin.2017.08.013

Morck, R., & Yeung, B. (2003). Agency problems in large family business groups. *Entrepreneurship Theory and Practice*, 27(4), 367–382. http://doi.org/10.1111/1540-8520.t01-1-00015

Myers, S. C. (1984). The capital structure puzzle. *The Journal of Finance*, 39(3), 575. http://doi.org/10.1111/j.1540-6261.1984.tb03646.x

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187–221. http://doi.org/10.1016/0304-405X(84)90023-0

Orbay, H., & Yurtoglu, B.B. (2006). The impact of corporate governance structures on the corporate investment performance in Turkey. *Corporate Governance,* 14 (4), 349-363

Pindado, J., Requejo, I., & de la Torre, C. (2012). Do family firms use dividend policy as a governance mechanism? Evidence from the Eurozone. *Corporate Governance (Oxford)*, *20*(5), 413–431. http://doi.org/10.1111/j.1467-8683.2012.00921.x

Pirgaip, B., & Karacaer, S. (2015). Short-term price effects of stock repurchases in Turkish capital markets. *International Journal of Economics and Finance*, 7(12), 29–43. https://doi.org/10.2139/ssrn.2650418

Rozeff, M. S. (1982). Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of Financial Research*, 5(3), 249–259. http://doi.org/10.1111/j.1475-6803.1982.tb00299.x

Setia-Atmaja, L. (2016). The impact of family control on dividend policy: Evidence from Indonesia. *The International Research Journal of Business Studies*, 9(3), 147-156. https://doi.org/10.21632/irjbs.9.2.147-156

Setia-Atmaja, L., Tanewski, G. A., & Skully, M. (2009). The role of dividends, debt and board structure in the governance of family controlled firms. *Journal of Business Finance and Accounting,* 36(7–8), 863–898. http://doi.org/10.1111/j.1468-5957.2009.02151.x

Shleifer, A., & Vishny, R. W. (1997). A Survey of gorporate governance. *The Journal of Finance*, 52(2), 737–783. http://doi.org/10.1111/j.1540-6261.1997.tb04820.x

Thanatawee, Y. (2011). Life-cycle theory and free cash flow hypothesis: Evidence from dividend policy in Thailand. *International Journal of Financial Research*, 2(2). http://doi.org/10.5430/ijfr.v2n2p52

Tran, Q. T., Alphonse, P., & Nguyen, X. M. (2017). Dividend policy: Shareholder rights and creditor rights under the impact of the global financial crisis. *Economic Modelling*, 64, 502-512. http://doi.org/10.1016/j.econmod.2017.03.010

Villalonga, B., & Amit, R. (2006). How do family ownership, control and management affect firm value? *Journal of Financial Economics*, 80(2), 385–417. http://doi.org/10.1016/j.jfineco.2004.12.005

Villalonga, B., & Amit, R. (2009). How are U.S. family firms controlled. *Review of Financial Studies*, 22(8), 3047–3091. http://doi.org/10.1093/rfs/hhn080

Wei, Z., Wu, S., Li, C, & Chen,W. (2011). Family control, institutional environment, and cash dividend policy: Evidence from China. *China Journal of Accounting Research*, 4, 29-46.

Wooldridge, J. M. (2010*). Econometric analysis of cross section and panel data*, 2ⁿᵈ edition, London, MIT Press.

World Economic Forum. (2017). *The Global Competitiveness Report 2017–2018*. World Economic Forum Reports 2017. https://doi.org/92-95044-35-5

Yoshikawa, T., & Rasheed, A. A. (2010). Family control and ownership monitoring in family-controlled firms in Japan. *Journal of Management Studies*, 47(2), 274–295. http://doi.org/10.1111/j.1467-6486.2009.00891.x

Yurtoglu, B. B. (2000). Ownership, control and performance of Turkish listed firms. *Empirica*, 27(2), 193–222. http://doi.org/10.1023/A:1026557203261

Yurtoglu, B. B. (2003). Corporate governance and implications for minority shareholders in Turkey. *Corporate Ownership and Control*, 1(1), 72–86.

APPENDIX

Ownership structure of a family controlled holding BG company, 'AEFES'
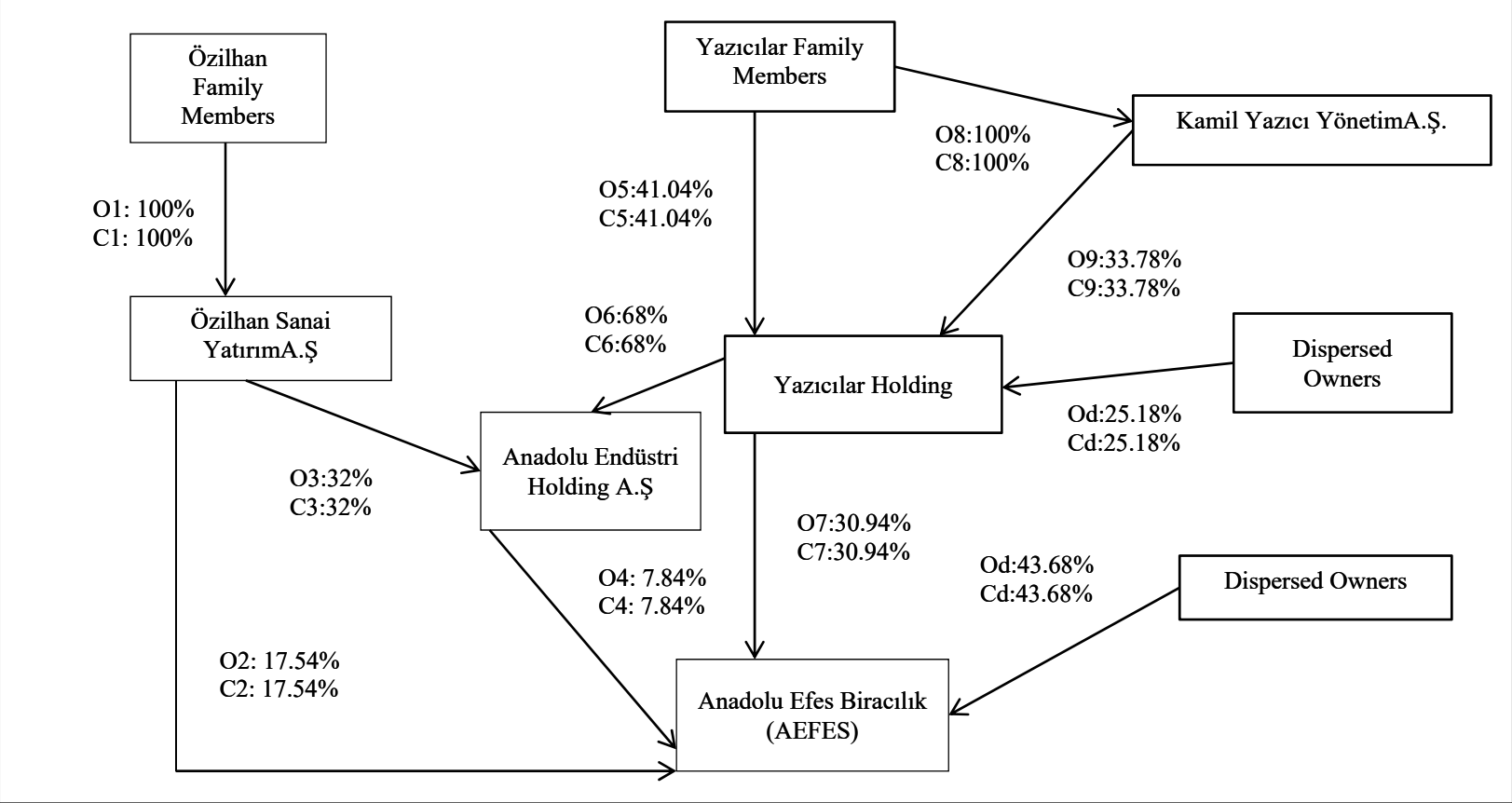
Anadolu Efes Biracılık A.Ş (AEFES) is a holding BG company. It is controlled by the coalition of two families, Özilhan and Yazıcılar families. So the control and the ownership rights of these families are treated together. Control is achieved through the pyramid wedge. Since there is only one type of shares, control rights and ownership rights are equal in each level of the pyramid. The total control value of AEFES is the sum of C2, C4, and C7 resulting in a total control value of 56.32%. For companies with pyramid control chains, we calculate indirect cash flow rights by multiplying the percentage of equity held by the ultimate family along each control chain and then adding these percentages. Cashflow rights (O) of the ultimate owner is 45.39%. It is calculated as follows:

(O1xO2) + (O1xO3xO4) + (O5xO6xO4) + (O5xO7) + (O8xO9xO7).

"V" the percentage of votes owned by the ultimate owner through direct and/or indirect chains of ownership is calculated as follows:

(C1xC2) + (C1xC3xC4) + (C5xC6xC4) + (C5xC7) + (C8xC9xC7).

The total wedge (C/O) of 1.24 is the product of 1.24 (i.e., the pyramid wedge, (C/V)) and 1 (i.e., dual share wedge, (V/O)):

56.32%/45.39% = 56.32%/45.39% x 1.