Cash Dividend Payments: A Study of Financial Sector in Turkey

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Abstract

This study analyses cash dividend behavior of a panel dataset of 80 companies traded in the Borsa Istanbul (BIST) - Financials Index for the period 2009–2016, using Lintner's (1956) partial adjustment model. The results show that BIST financial firms determine their current cash dividend payments based on current earnings and lagged dividends, in line with Lintner's proposition. In particular, they have long-term target payout ratios and adjust their cash dividends by moving gradually to their target at a moderate level of speed of adjustment. Therefore, the study concludes that BIST-listed financial corporations follow reasonably stable dividend policies starting with the fiscal year 2009, when Turkish authorities abolished the mandatory dividend payout requirement. Moreover, the results also indicate that various firm characteristics such as profitability, debt, growth and size have different impacts on the target payout ratio and speed of adjustment of companies in the Turkish financial sector.

Keywords

Cash dividend, Borsa Istanbul, financial firms, Turkey
JEL Classification: G2, G3, G35.

Nakit Temettü Ödemeleri: Türkiye'de Finansal Sektör Üzerine Bir Çalışma

Öz

Bu çalışma, Borsa İstanbul (BİST) - Mali Endeks'te işlem gören 80 şirketin nakit temettü davranışlarını, 2009–2016 dönemine ait panel verilerini Lintner'in (1956) kısmi düzeltme modelini kullanarak, analiz etmektedir. Sonuçlar, BİST finansal firmalarının güncel nakit temettü ödemelerini, Lintner'in önermesi doğrultusunda, cari kârlarını ve önceki dönem dağıtılan temettülerini temel alarak belirlediklerini göstermektedir. Özellikle, bu firmalar uzun vadeli hedef temettü ödeme oranlarına sahiptirler ve nakit temettü dağıtımlarını orta seviyede bir hızla kademeli olarak hedef ödeme oranlarına göre ayarlamaktadırlar. Dolayısıyla, BİST'te listelenmiş finansal kurumların, zorunlu kâr dağıtım koşulunun yetkili Türk makamları tarafından kaldırıldığı 2009 mali yılından itibaren, makul seviyelerde istikrarlı temmettü politikaları izledikleri sonucuna varılmıştır. Sonuçlar ayrıca kârlılık, borçlanma, büyüme ve işletme büyüklüğü gibi çeşitli firma özelliklerinin Türk finans sektöründeki şirketlerin hedef temettü ödeme oranları ve nakit temettü ödemelerini ayarlama hızları üzerinde farklı etkilere sahip olduğunu da göstermektedir.

Anahtar Sözcükler

Nakit temettü, Borsa İstanbul, finansal firmalar, Türkiye.
JEL Sınıflaması: G2, G3, G35.

INTRODUCTION

In the 1950s, it was a common belief that shareholders prefer dividend payments to capital gains, because more certainty is attached to dividends received today against dividend retention for reinvestments in projects whose future earnings are not certain (Gordon and Shapiro, 1956). Therefore, it was suggested that firms with higher dividend payouts would be valued more highly since firms bring forward cash inflows to shareholders and reduce the risk associated with future cash flows by paying dividends (Gordon 1959, 1963).[1] However, Miller and Modigliani (1961) and Bhattacharya (1979), among many others, argue that the risk of a firm is determined by its investment decisions and not how it is financed – no matter whether the firm retains its earnings to finance investments or distributes them as cash dividends and raises the necessary funds in the capital market, the value of the firm remains the same. It is because in both cases the uncertainty regarding the future is unaffected and hence any increase in dividend payments today will not either decrease the firm risk or increase the firm value.

In fact, in their seminal paper, Miller and Modigliani (1961) demonstrate that, under perfect capital market assumptions, the valuation of a firm depends on the productivity of its assets and dividend payments have no effect on firm value – in other words, the firm's investment policy is the key factor of its value and its dividend policy is residual. As no dividend policy is superior to another, they suggest that a managed dividend policy is irrelevant to the firm value. Although Miller and Modigliani's dividend irrelevance theory is logical and consistent within a perfect capital market, their theorem becomes highly debatable in the real world where market imperfections exist, such as differential tax rates, information asymmetries, agency problems and transaction costs. As a result, financial scholars have considered various market imperfections and offered many challenging explanations about why companies pay or do not pay dividends, and to what extent dividend policy may affect firm value, or even whether dividends are used to minimize such imperfections.

For instance, it is widely disputed that dividend payments may be a useful pre-commitment internal device to reduce agency problems and to signal favorable insider information. From the agency cost theory perspective, cash dividends lessen the free cash from the managers' control that they might spend for unprofitable investments or even misuse for their own consumption, and also force managers to enter the external capital markets for additional funding and thus increase the screening and monitoring by the market (Jensen and Meckling, 1976; Rozeff, 1982; Easterbrook, 1984; Jensen, 1986). Moreover, the signaling theory of dividends indicates that corporate managers have a better understanding of the firm's intrinsic value than outside shareholders and investors, who only have access to public information. Since information asymmetry exists between insiders and outsiders, managers may convey their superior information to outsiders by paying large dividends as a credible signal about the firm's future performance (Bhattacharya, 1979; John and Williams, 1985; Miller and Rock, 1985). Consequently, this highlights that an effective dividend policy might help to minimize the agency-related problems and information asymmetries, and thus enhance the firm value.

Indeed, Lintner (1956) finds out that U.S. managers follow extremely deliberate (managed) dividend policies, contrary to Miller and Modigliani's proposition. Lintner (1956) reveals that U.S. managers have a tendency to smooth dividend payments relative to earnings; they only increase their dividends when they think that earnings can sustain higher dividend levels permanently, and are reluctant to cut dividends unless adverse circumstances are likely to persist. Similarly, many studies such as Darling (1957), Fama and Babiak (1968), McDonald et al. (1975), Chateau (1979), Dewenter and Warther (1998) and Brav et al. (2005) from developed countries and Mookerjee (1992), Pandey (2001), Al-Najjar (2009), Chemmanur et al. (2010) and Al-Ajmi

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[1] This explanation has been labelled as the *risk reduction* or, more frequently, *bird-in-the-hand* hypothesis.

and Abo Hussain (2011) from emerging markets have provided strong evidence in favor of Lintner's findings; that is, corporate managers attempt to pursue managed dividend policies as they are keen on adopting relatively stable dividend payouts by smoothing their dividend payment patterns.

All the above mentioned studies, as the majority of extant studies in the dividend literature, have focused on non-financial firms but excluded financial corporations, e.g., banks, pension funds, investment trusts and insurers. The reason for this exclusion is the different nature of financial institutions compared to industrial (non-financial) firms, such as their different role in capital markets, tighter sector regulations, different capital structures and accounting practices. Nevertheless, considering the importance of financial sector within the economy, it is essential to investigate whether financial sector companies follow managed dividend policies as non-financial firms do, as documented in the related literature, or adopt residual dividend payments by only paying out whatever remains after funding their activities. Even though there is some research on dividend policy behavior of financials separately (e.g., Dickens et al., 2003; Imran et al., 2013; Basse et al., 2014), the evidence is relatively limited and more work is required in this area. Hence, the purpose of this study is to provide further information about dividend policy of financial firms and to contribute new evidence to the literature.

Particularly, the study examines cash dividend behavior of financial institutions listed on the Borsa Istanbul (BIST) using Lintner's (1956) partial adjustment model and attempts to identify whether BIST financials smooth their dividends and adopt stable (managed) dividend policies. It further endeavors to detect how different firm characteristics; that is, profitability, debt level, growth, firm size and family control, affect cash dividend behavior of BIST financial corporations. Turkey offers an interesting setting for the study, because the ownership structures of listed firms in the Turkish stock market are highly concentrated, generally by large controlling families, and it has a bank-based financial system. These features differ from well-developed markets (e.g., the U.S. and U.K.) where the ownership structures are mostly dispersed and public companies rely on arm's-length contracting. Besides, Turkey has undergone major reforms in the early 2000s to integrate with world markets and Turkish regulators have made significant changes in regulatory framework of cash dividend payment rules by abolishing compulsory minimum dividend payout requirements starting with the fiscal year 2009. This action has given BIST corporate managers the freedom to make their own dividend policy decisions. Accordingly, this study primarily aims to present insight into dividend policies of financial firms listed on the BIST after such developments. It also compliments studies by Adaoglu (2000), Aivazian et al. (2003a), Al-Najjar and Kilincarslan (2017) and Baker et al. (2017) who examine the dividend stability of non-financial firms in Turkey. By examining financial corporations, the present study provides a more complete picture and thus a better understanding about dividend practices in the emerging Turkish market.

The paper proceeds as follows. Section 1 reviews the literature and Section 2 develops the research hypotheses in the Turkish context. Section 3 describes the methodology. Section 4 reports and discusses the empirical results. The final section concludes the paper.

1. LITERATURE REVIEW

In a classic study, Lintner (1956) obtains in-depth interviews from corporate managers of 28 different well-established U.S. industrial firms to ascertain how managers make dividend policy decisions. After analyzing his survey data, Lintner detects that U.S. managers believe that the shareholders deserve a fair share of the firm's earnings through dividends and they prefer a steady increase in dividend payments. Therefore, U.S. managers do not change their dividend payout rates immediately corresponding the changes in earnings, which may have to reversed in the future. Instead, they make partial adjustments toward a target payout ratio to smooth dividend

payments streams in the short-run and avoid spectacular and frequent changes. Lintner interprets these findings as the fact that U.S. managers opt for a stable dividend policy – because they perceive that volatile (unstable) dividends reflect the volatility in earnings and this will not be a good indicator about the firm's financial performance to the market. In this respect, managers only increase cash dividend distributions when they think that earnings can sustain higher dividend levels permanently. Lintner further reveals that U.S. managers are also reluctant to cut dividends unless adverse circumstances are likely to persist as dividend cuts tend to convey bad signals to investors.

Moreover, Lintner (1956) develops a mathematical model based on the findings of his extensive field research to test for the stability of cash dividend payments. He suggests that each firm has a target dividend level, which is a function of its earnings in a particular year and its target payout rate, as shown below:

$$D^*_{i,t} = r_i E_{i,t}, \tag{1}$$

where $D^*_{i,t}$ is the target dividend payment for firm i in year t, r_i is the target payout ratio (hereafter TPR) for firm i and $E_{i,t}$ is the net earnings in year t for firm i. Lintner, then, argues that the firm will only adjust dividends partially to its target level of dividends in year t. Thus, the actual difference in dividend payments from year t–1 to year t can be illustrated as:

$$D_{i,t} - D_{i,t-1} = \alpha_i + c_i (D^*_{i,t} - D_{i,t-1}) + u_{i,t}, \tag{2}$$

where α_i is the constant (intercept) term, c_i is the speed of adjustment (hereafter SOA) coefficient for firm i, $u_{i,t}$ is the error term, $D_{i,t}$ is the current dividend payments (year t) for firm i and $D_{i,t-1}$ is the prior period's (year t–1) dividend distributions of firm i. By substituting ($r_i E_{i,t}$) for the firm's target dividend level ($D^*_{i,t}$) in Equation (2) and re-arranging it, the following empirically testable equation can be evenly obtained:

$$D_{i,t} = \alpha_i + \beta_1 E_{i,t} + \beta_2 D_{i,t-1} + u_{i,t}, \tag{3}$$

where $\beta_1 = c_i r_i$ and $\beta_2 = 1 - c_i$ in Equation (3). According to Lintner, a significant and positive constant term (α_i) shows managers' reluctance to decrease dividends and the SOA coefficient (c_i) illustrates firm i's dividend smoothing behavior to variations in the earning levels by calculating the adjustment speed to the TPR (r_i) – a higher SOA implies less smoothing in dividends, in other words unstable dividend policies, and vice-versa. Consequently, the model (also known as the partial adjustment model) reveals that firms set their current dividend payments in line with the current earnings and previous year dividend payments, and they make partial adjustments to a TPR and do not match immediately with the earnings changes. Lintner (1956), first, tests his model with 196 firm-year observations (28 firms, seven years, between 1947 and 1953) and detects that the model works to explain 85% of the variations in current year's dividend payments, with the coefficients on current earnings and past dividends, and also constant term, are all statistically significant and positive. This clearly indicates steady dividends with sustainable increases as well as managers' unwillingness to cut dividends even when earnings decline. Lintner further applies his model for the period 1918–1941 and reports excellent correlations, random residuals and highly significant regression coefficients over longer periods of time.

Substantial evidence across many countries, including both developed and emerging markets, and different time periods shows that managers often tend to follow a traditional Lintner style dividend smoothing policy. Early studies such as Darling (1957), Brittain (1964) and Fama and Babiak (1968) (i.e., research periods of 1921–1954, 1920–1960 and 1946–1964, respectively) re-examine and modify the basic Lintner model, by adding other explanatory variables or carrying

out more advanced approaches, and they all report consistent results with Lintner's original findings in the U.S. market. Further, McDonald et al. (1975) analyze 75 French firms over the period 1962–1968 and find that cash dividends of French firms are well explained by current profit and lagged dividend payments. Chateau (1979) runs the partial adjustment model on a sample of 40 large Canadian manufacturing firms between 1947 and 1970, and detects that Canadian companies pursue stable dividend policies; especially, they are more conservative as compared to U.S. firms related to the short-run dividend strategies although they have a higher average payout ratio. Using the Lintner model, Dewenter and Warther (1998) study 313 U.S. firms and 180 Japanese firms for the period 1983–1992. They show that U.S. dividends are smoother than Japanese dividends and Japanese corporations reduce dividends in response to poor performance faster than their U.S. counterparts.

Furthermore, Mookerjee (1992) investigates a sample of Indian companies during the period 1950–1981 and reveals that the basic Lintner model performs well in explaining dividend behavior in the emerging Indian market. Analyzing 248 firms between 1993 and 2000 in Malaysia, Pandey (2001) reports that Malaysian corporations rely both on current earnings and lagged dividends but they tend to have low smoothing and hence less stable dividends as compared to firms in developed countries. Similarly, Al-Najjar (2009) finds out that although Lintner's argument successfully describes 86 publicly-listed Jordanian corporations' dividend behavior for the period 1994–2003, these firms adjust cash dividends to their target rates relatively faster than those in the U.S. market. By comparing dividend policies of Hong Kong and U.S. firms over the period 1984–2002, Chemmanur et al. (2010) detect that the degree of dividend smoothing of Hong Kong firms is considerably less than U.S. firms and thus dividend payments in Hong Kong are more closely related to current year earnings. In another study, Al-Ajmi and Abo Hussain (2011) examine 54 Saudi-listed companies during the period 1990–2006 and illustrate that current dividends are determined by current earnings and past dividends as proposed by Lintner in Saudi Arabia. However, Saudi companies act quickly to increase dividend distributions or reduce dividends when earnings decline, which implies that they often adopt more flexible dividend policies. In summary, empirical evidence from various emerging markets provides support in favor of the Lintner model of dividend behavior explanation and also presents that emerging market firms generally have lower smoothing and therefore less stable dividends as compared to developed market firms.

Survey researchers have taken another path to improve the understanding of corporate dividend policy. Instead of only relying on economic modelling based on secondary data, they obtain direct evidence from corporate managers who are the actual policy makers and investigate their views and motivations for making such decisions. In this respect, studies such as Baker et al. (1985), Baker and Powell (1999), Baker et al. (2002) and Brav et al. (2005) demonstrate survey evidence supporting Lintner's (1956) findings from U.S. managers. Likewise, Bancel et al. (2005) from 16 different European countries, Baker et al. (2007) from Canada, Baker and Powell (2012) from Indonesia and Baker and Kapoor (2015) from India show that managers follow extremely deliberate dividend payout strategies as originally described by Lintner. Decades later, Baker et al. (1985, p.83) state that "[....] the results show that the major determinants of dividend payments today appear strikingly similar to Lintner's behavioral model developed during the mid-1950's". Also, Benartzi et al. (1997) conclude that the Lintner model has been the best explanation of the dividend setting process available even after all these years.

As previously stated, the most of the prior research on corporate dividend policy has truncated their sample by deleting financial firms and concentrated on non-financial firms. Similarly, the above discussion documents evidence related to dividend smoothing and stability based on non-financial corporations. There are also studies investigating dividend policy behavior of financial institutions separately. For example, Dickens et al. (2003) study a sample of 677 U.S. banking firms for the period 1998–2000 and report that the previous year's dividend yield is one

of the most important factors that determine the next year's dividend yield. Using the data of 16 publicly-listed banks over the period 2000–2010 in Pakistan, Imran et al. (2013) find that Pakistani banks pursue a stable dividend pattern and do not want to skip or cut dividend payments, consistent with the Lintner argument. Basse et al. (2014) examine dividend policy of the European banking sector from the fourth quarter of 1998 to the fourth quarter of 2008 but their empirical results indicate no evidence in favor of the dividend smoothing and/or dividend signaling arguments for explaining dividends. Nevertheless, the empirical evidence regarding financials is comparatively little and additional research is required, and therefore this study aims to provide further insight about financial sector companies and contribute new evidence to the literature.

2. RESEARCH HYPOTHESES

A number of cross-country studies (e.g., Glen et al., 1995; La Porta et al., 2000; Aivazian et al., 2003a) show that in countries with poor legal environment, lack of adequate corporate governance and disclosure practices, and weak minority shareholder protection (typically, emerging markets), governments often tend to force publicly-listed firms to pay dividends in order to protect minority investors. By dictating a minimum level of dividend distributions to which firms must adhere, regulators attempt to convince minority investors that they will not be expropriated, at least not entirely, and instead encourage them to invest in equity markets. However, Glen et al. (1995) suggest that the strict regulations on dividend payouts do not provide corporate managers much flexibility in setting their own dividend policies. In fact, they observe that managers of firms in such markets generally pay attention to the imposed minimum payout ratio on their earnings. These managers seem to be less worried about volatility in dividends and thus concerns such as dividend smoothing or stability over time become less important.

As in many other emerging markets, the Capital Markets Board (CMB) of Turkey, the sole regulatory and supervisory body in charge of the securities markets, heavily regulated dividend policies of the publicly-listed firms in the Turkish stock market, when it first emerged in 1985 and started to operate in 1986.[2] According to the first regulation, the listed firms legally had to pay at least 50% of their distributable income as a cash dividend. Using the Lintner model, Adaoglu (2000) investigates 76 non-financial firms trading in the Istanbul Stock Exchange (ISE) in an early period (i.e., 1985–1997) and reports that the sole determinant of cash dividends was current year earnings, as forced by the first dividend rule – the levels of current cash dividends directly reflect any volatility in earnings of the firms. In their cross-country study, Aivazian et al. (2003a) compare dividend behavior of firms operating in eight emerging markets (India, Jordan, Malaysia, Pakistan, South Korea, Thailand, Turkey and Zimbabwe) with a benchmark sample of 100 U.S. firms over the period 1980–1990. They find that the basic Lintner model still worked well for the U.S. firms, whereas it did not perform well for the emerging market companies, including the ISE-listed firms. Accordingly, these two studies conducted in early periods in Turkey reveal that ISE firms did not smooth their cash dividends and had unstable cash dividend policies, which is possibly due to the mandatory payout requirement of distributing at least 50% of earnings in the form of cash dividends.[3]

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[2] The Turkish stock market commenced its operations on January 3, 1986, under the name of the Istanbul Stock Exchange (ISE). On April 3, 2013, the Borsa Istanbul (BIST) started its operations as the only official body combining all the exchanges operating in the Turkish capital markets, including the former Istanbul Stock Exchange, under one roof. Therefore, the terms BIST and ISE are used interchangeably.

[3] Adaoglu (2000) detects that the dividend-paying ISE firms had an overall target payout ratio of 51.7%, whereas Aivazian et al. (2003a) report an almost identical average target payout ratio of 51.8% for non-zero dividend observations for their Turkish sample during their research period. Thus, the results from both studies are consistent with the compulsory dividend payout rate of 50% imposed by the regulators.

Moreover, the Turkish capital markets underwent important economic and structural improvements in the early 2000s and the CMB of Turkey attributed great importance to improve communications with investors, issuers and other institutions to ensure that markets were functioning in a safer, more transparent and efficient manner. In particular, Turkey implemented major reforms starting with the fiscal year 2003 in compliance with the International Monetary Fund (IMF) stand-by agreement, the European Union (EU) directives, and best-practice international standards for a better working of the market economy, outward-orientation, and globalization (CMB, 2003; Adaoglu, 2008; Birol, 2011). For instance, some of the significant developments included adopting International Financial Reporting Standards (IFRS), publishing the CMB's Corporate Governance Principles in cooperation with the World Bank and the Organisation for Economic Cooperation and Development (OECD), and accelerating privatization of the state-owned enterprises (SOEs). Also, the CMB of Turkey commenced the "Banking Sector Restructuring Program" in May 2001 for restructuring public banks, rehabilitating the private banking system, and strengthening surveillance and supervision to increase efficiency in the sector. The CMB further passed the "Regulation on Establishment and Operations of Banks" in July 2001, which introduced related regulations to minimize credit risk concentration for a single business group (that is containing banks, businesses and subsidiaries in the same group) and, by considering direct and connected loans, prevent insider lending (non-arm's length transactions) as a source of financing (IIF, 2005; BRSA, 2010).[4]

More importantly, Turkish regulators made major changes in regulatory framework of dividend policy rules during this period. In particular, the CMB introduced the second mandatory dividend policy in 2003, which was more flexible as compared to the first regulation. Because, ISE firms were required to pay at least 20% of their distributable income as a dividend but they did not have to pay this amount entirely in cash since they had the option to distribute it in cash or stock dividends or a mixture of both. In fiscal year 2004, the CMB increased the minimum payout rate to 30% and this percentage was also applied to ISE firm for fiscal year 2005. Then, the CMB decreased the minimum compulsory payout ratio to 20% again in 2006 and it remained at this level for fiscal years 2007 and 2008. Nevertheless, beginning in fiscal year 2009, the CMB decided not to determine a minimum payout ratio and ended mandatory dividend payments requirements. This action provided ISE corporate managers the freedom to make their own dividend policy decisions and also allowed investors to interpret dividend policies of firms efficiently in reflecting their judgements in share prices (Adaoglu, 2008; Kirkulak and Kurt, 2010). Turkey's serious efforts to implement various economic and structural reforms to improve its market economy and converge with the global world-markets in the early 2000s led its stock market to a rapid growth in market capitalization and trading volume, and also attracted a large amount of foreign investment (CMB, 2003, 2014). Therefore, it can be argued that these significant developments may have important implications on ISE firms' corporate financial policies, especially their dividend policy decisions – because ISE managers might need to pursue carefully managed divided polices to convey their insider information to both foreign and national investors after such changes.

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[4] Turkish economy experienced a systematic banking crisis in February 2001. As a result, 22 banks were transferred to the Saving Deposit Insurance Fund (SDIF). The restructuring of these banks and banking system cost out US $53.6 billion, which was equal to one-third of the national income in 2001 in Turkey. This was also the major financial crunch that strongly affected the Istanbul Stock exchange and led to substantial losses for shareholders, especially small Turkish investors who heavily invested in the ISE. For instance, many cases revealed wealth transfers from state banks to unlisted firms of controlling owners. Several group banks, which previously funded much of their own business group companies' financial needs, declared bankrupt. Consequently, the CMB of Turkey made various amendments to improve the transparency and quality of banking sector (Yurtoglu, 2003; IIF, 2005; Adaoglu, 2008; BRSA, 2010).

Al-Najjar and Kilincarslan (2017) examine cash dividend behavior of 264 industrial firms listed on the ISE over a ten-year period 2003–2012. Their empirical results show that ISE firms follow a traditional Lintner (1956) style dividend policy in contrast to the evidence presented by prior studies of Adaoglu (2000) and Aivazian et al. (2003a) – that is, ISE firms have long-term payout ratios and adjust their cash dividends by a moderate level of smoothing in the post-2003 period, and hence adopt stable dividend policies, although less stable as compared to their counterparts in the U.S. market. In another recent study, Baker et al. (2017) survey financial managers of 126 dividend-paying industrial BIST firms and obtain 57 usable responses (a response rate of 45.2%) by August 2015. Similarly, their survey evidence reveals that BIST managers set their cash dividends in line with Lintner's dividend model – they make their dividend decisions conservatively, determining dividend payouts based on sustainable earnings, using a target payout ratio, and making partial adjustments in current payout toward the target. Thus, BIST managers pursue stable dividend policies and are reluctant to cut dividends except in extreme cases. Consequently, these two studies present evidence in favor of the traditional Lintner style managed dividend policy in recent periods in Turkey, but only based on non-financial BIST firms.

However, this raises the need for investigating dividend policy behavior of financial firms listed on the BIST, since financial sector companies are key players within the economy for economic prosperity, growing investments and improving corporate governance practices. It is because financial institutions are money managers, who provide liquidity to the market by mobilizing savings, facilitating exchange and offering credit, and generally hold larger amounts of investment funds as they directly invest for themselves or act as agents for other investors. Besides, financial companies, indeed, distribute cash dividends to their shareholders. Accordingly, considering the recent developments in the Turkish market as illustrated above and especially the abolishment of mandatory dividend payment rules beginning in fiscal year 2009, it is hypothesized that BIST financial firms are also more likely to smooth their dividend payment streams to strengthen the credibility of stable dividends reflecting their firms' good financial performance to the market. Therefore:

H1: BIST financial firms have their target payout ratios and smooth their dividends, thus following the traditional Lintner style managed dividend policies.

Furthermore, prior research – for example, renowned studies such as Fama and French (2001), Aivazian et al. (2003b) and Ferris et al. (2006) – shows that there is a positive relationship between a firm's profitability and dividend payments. It is because greater profitability leads to a greater availability of internally generated earnings and thus highly profitable firms have more capability to distribute high dividends. From the signaling perspective, Bhattacharya (1979), Miller and Rock (1985) and John and Williams (1985) propose that more profitable firms are more likely to pay dividends to show their excellent performance; in fact, they tend to distribute larger cash dividends to shareholders when profitability is high as a good (credible) signal to the market. On the other hand, Lintner (1956) suggests that firms increase their dividends with sustainable earnings to prevent spectacular and frequent changes in the short-run; in other words, the volatility in dividends. Because, the volatility in dividends may reflect the volatility in earnings, which will not be a good indicator about a firm's financial performance to the market and this may also increase the firm's beta and investors' required rate of returns, thereby decreasing the firm value. Consequently, although BIST financial firms are conjectured to follow the traditional Lintner style managed dividend policies, the study posits that profitability becomes critical and affects firms' cash dividend payment behavior. Hence, the following hypothesis is developed:

H2: High profitable BIST financial firms have higher target payouts and pay smoother dividends as compared to less profitable BIST financial firms.

Lintner type dividend smoothing can also be a solution to agency problems (Dewenter and Warther, 1998; Aivazian et al., 2003a, 2006). A steady dividend payment stream reduces the free cash from the managers' control that they may spend for unprofitable investments or even misuse for their own consumption. This also forces firms to interact with the capital market more frequently for additional funding, which imposes market discipline (i.e., screening and monitoring) on managers (Rozeff, 1982; Easterbrook, 1986). Moreover, Jensen and Meckling (1976), Jensen (1986) and Crutchley et al. (1999) – among many others, highlight that the use of debt and dividend payments are alternative devices in monitoring managers and controlling agency-related problems. Therefore, the agency theory suggests a negative correlation between debt and dividends, and thus the usage of debt (especially, a high debt ratio) diminishes the need for paying dividends. Besides, when firms obtain debt financing, they commit themselves to fixed financial charges such as interest payments and the principal amount that they have to repay, and if firms fail to meet these obligations, they may face the risk of default. Thus, high-levered firms often distribute none or low dividends, because they tend to maintain their internal funds to pay their obligations rather than distributing the cash to shareholders (Rozeff, 1982; Manos, 2002). Accordingly, it is predicted that dividend policy behavior of BIST financial institutions differs based on the debt level. Hence:

H3: BIST financial firms with high-debt ratios have lower target payouts and less smoothed dividends as compared to BIST financial firms with low-debt ratios.

The dividend literature usually suggests that strong growth (investment) opportunities have a negative effect on dividend payments (e.g., Rozeff, 1982; Holder et al., 1998; Fama and French, 2001; Baker and Wurgler, 2004; Ferris et al., 2006). It is because high-growth firms need more funds to finance their investments and thus generally tend to avoid distributing the available funds as cash dividends. This negative relationship is supported by the pecking order theory proposed by Myers (1984) and Myers and Majluf (1984), which argues that firms with high growth opportunities will first use their internal earnings to finance their expansion (given that investment requires more than the internally generated funds, then they will use debt and equity issuance), hence these firms should pay low or no dividends. Also, the transaction cost theory makes a similar prediction; that is, firms experiencing higher growth are more likely to preserve low cost and easily accessible internal funds for investments rather than paying dividends, because external finance is costly (Rozeff, 1982; Holder et al., 1998). Based on the aforementioned discussion, the following hypothesis is formulated:

H4: BIST financial firms with high growth have lower target payouts and less smoothed dividends as compared to BIST financial firms with low growth.

Numerous studies find that firm size is another significant factor affecting corporate dividend policy and report that there is a positive relationship between firm size and dividend payments (e.g., Gaver and Gaver, 1993; Barclay et al., 1995; Moh'd et al., 1995; Fama and French, 2001; Farinha, 2003; Ferris et al., 2006; Al-Najjar, 2009). It is argued that large firms have easier access to capital markets and thus are able to raise external finance at lower costs as compared to small firms, which reduces their dependence on the internally generated earnings. Besides, larger firms often tend to have more dispersed ownership structures and hence typically experience higher levels of agency problems (Lloyd et al., 1985; Holder et al., 1998). Given the lower transaction costs and less reliance on the internal funds and considering the greater potential for agency problems, large-size firms are more likely to pay dividends and have a tendency to distribute higher dividends to mitigate such problems.

In addition, large firms are more likely to be mature and generally have a steady earnings pattern that enables them to preserve a good level of funds, whereas small firms usually experience more volatile cash flows (Barclay et al., 1995; Fama and French, 2001; Grullon et al.,

2002). This also signposts that larger firms can afford to distribute higher dividend payments than their smaller counterparts. Consequently, this study postulates that large-size BIST financials with more stable earnings and easier access to the capital markets will pay higher cash dividends and be less worried about dividend smoothing when compared to small-size ones, due to their ability of maintaining higher payout ratios and concerns about agency problems – although they are expected to smooth dividends at some degree, they will be more concerned to minimize agency problems and thus follow a more flexible payout policy commensurate with current year earnings. On the contrary, small-size BIST financial companies will pay lower cash dividends since the distributions of dividends may be costly for them and are more likely to smooth their dividends to prevent negative market reactions to volatile dividend payments. Therefore:

H5: Larger BIST financial firms have higher target payouts and less smoothed dividends as compared to smaller BIST financial firms.

Previous research conducted in Turkey (e.g., Gursoy and Aydogan, 1999; Ararat and Ugur, 2003; Erturk, 2003; Yurtoglu, 2003; IIF, 2005; Aksu and Kosedag, 2006; Yuksel, 2008; Caliskan and Icke, 2011; Al-Najjar and Kilincarslan, 2016) provides significant evidence revealing that corporate ownership is highly concentrated and usually dominated by families who mostly own business groups affiliated with industrial (businesses and subsidiaries) and financial (banks) companies organized under the legal form of a "holding company". Turkish families often attempt to use pyramidal corporate structures or even a more complicated web of inter-corporate equity linkages and dual class shares to further enhance the control on their affiliations. Moreover, board representation is another way in which Turkish families almost always tend to exercise the control – in fact, owner families govern the boards of their listed-firms as an internal controlling mechanism in Turkey.

It is generally suggested that family control is a very effective form of organizational governance in order to mitigate agency problems related to the separation of ownership and management. Because, controlling family members and their direct involvement in the managements of their firms provide more efficient supervision and greater alignment between the interests of owners and managers, which in turn lead to few owner-manager conflicts (Fama and Jensen, 1983; La Porta et al., 1999; Setia-Atmaja et al., 2009; Wei et al., 2011). Alternatively, it is argued that when family owners have almost full control and access to the use of corporate funds, they are more likely to implement policies that generate benefits to themselves at the expense of minority (small) shareholders due to the absence of sufficient monitoring on them (Shleifer and Vishny, 1997; Johnson et al., 2000; Anderson and Reeb, 2003; Mork and Yeung, 2003; Villalonga and Amit, 2006).[5] Therefore, the possibility of expropriation of the wealth of minority investors by the families is the prominent agency problem in family-controlled firms. In other words, the owner-manager conflicts in dispersed corporations take the form of large and small shareholders' conflicts in such firms. The substitute model of dividends proposed by La

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[5] Family owners may abuse their controlling power in various ways. For example, Anderson and Reeb (2003) note that founding families may only act for their own interests regardless of the other shareholders, by lessening firm risk, enlarging their control at the cost of minority owners, and misusing internal funds by undertaking in non-profitable projects that benefit themselves. Morck and Yeung (2003) indicate "other people's money" problem, which comprises a situation in which controlling families have substantial control over a firm and its resources, through pyramidal company structures or multiple classes of voting power of shares, but with very little investment in that firm. Johnson et al. (2000) identify another common form of expropriation of wealth from minority shareholders and refer to it as "tunnelling" – tunnelling relates to the transfer of assets and profits to firms in which the controlling family has higher ownership from firms with lower ownership, through non-market prices, within a family-owned business group. Shleifer and Vishny (1997) argue that families can obtain "private benefits of control" such as paying themselves high salaries and providing top managerial positions and board seats to their family members despite lacking the necessary qualifications.

Porta et al (2000) posits that dividends are the substitutes for legal protection in developing countries with poor institutional settings and weak minority shareholders' protection. Companies in such countries need to establish a reputation treating minority investors fairly. Thus, paying dividends helps to establish a good reputation for preventing expropriation of wealth from minority shareholders. Accordingly, family-controlled BIST financial institutions are more likely to pursue steady and sustainable cash dividend payments as a reputation device as well as a signal of good financial performance to attract investors. Hence, the study hypothesizes:

H6: Family-controlled BIST financial firms have higher target payouts and smoother dividends as compared to none family-controlled BIST financial firms.

3. METHODOLOGY

3.1. Data

Using the Public Disclosure Platform of Borsa Istanbul (KAP) (2017), the study identified 80 financial firms that were listed on the BIST-Financials Index on February 1, 2017. Next, it considers all of these 80 financial corporations and collects the data from several sources. In particular, information on accounting and financial variables is derived from the S&P CAPITAL IQ database, whereas the data on corporate ownership and governance measures are obtained from the annual reports published in the Public Disclosure Platform of BIST and companies' official websites. As a result, the study sample consists of a panel dataset of 619 firm-year observations from 80 unique BIST financial firms operated in five different financial sectors (that is, 31 holding and investment companies, 27 real estate investment trusts, 13 banks and special finance corporations, five insurance companies, and four leasing and factoring companies) over the period 2009–2016.[6]

3.2. Model and Variables

For testing the research hypotheses (i.e., *H1* through *H6*) related to the target payout ratio and dividend smoothing, this study uses a slightly modified specification of Lintner's (1956) partial adjustment model. Because, the study attempts to control for the sector-effect by adding sector dummies into the model. Therefore, the following equation is constructed:

$$CASHDIV_{i,t} = \alpha_i + \beta_1 EARNINGS_{i,t} + \beta_2 CASHDIV_{i,t-1} + \sum_{j=1}^{n} \beta_j SECTOR_{j,i,t} + u_{i,t}, \qquad (4)$$

where $CASHDIV_{i,t}$ is the current cash dividend payments and $EARNINGS_{i,t}$ is the current year net earnings for firm i at year t during the period 2009–2016. $CASHDIV_{i,t-1}$ is the lagged cash dividends for firm i that distributed in year $t-1$ (previous year) and $SECTOR_{j,i,t}$ is a vector of dummy variables representing five different sectors.

Moreover, the study considers two alternative estimation procedures when applying the above model on the Turkish panel dataset to provide comparable and more reliable results. In particular, it first employs the pooled Ordinary Least Squares (OLS) regression technique as the main method following various studies such as Fama and Babiak (1968), McDonald et al. (1975), Chateau (1979), Mookerjee (1992), Aivazian et al. (2003a), Al-Najjar (2009) and Al-Najjar and Kilincarslan (2017). More importantly, it is often suggested that the partial adjustment model can be consistently estimated by the OLS (Johnston, 1984; Gujarati, 2003). However, it is further

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[6] Several firms were first listed on the Borsa Istanbul in different years after 2009, hence the panel dataset is not the same for each year during the research period 2009–2016 and is called an "unbalanced" data set, where some certain years of the data category are not observed. Yet, the methods used in this study can be used with both a balanced and an unbalanced panel dataset.

argued that the inclusion of a lagged dependent variable in the right-hand side of the equation (treating as an explanatory variable) may lead to complications if the lagged dependent variable is correlated with the error term (in other words, endogeneity problem), and thus produce inconsistent and biased estimates (Hsiao, 1986; Greene, 2003). In this respect, Blundell and Bond (1998) develop a more advanced model, so called the system Generalized Method of Moments (GMM), to deal with the potential endogeneity problem of a dynamic panel model where a lagged dependent variable is added into the equation as an explanatory variable. Therefore, the study also uses the system GMM regressions to estimate the research model as a robustness check and so to identify whether the findings from the pooled OLS estimates are consistent with the system GMM estimates or the results are sensitive to the usage of chosen econometric approach.

4. EMPIRICAL RESULTS AND DISCUSSION

4.1. Descriptive Analysis

Table 1 presents summary statistics for the panel dataset (unbalanced) of 80 BIST financial firms with 619 firm-year observations over the period 2009–2016, when the CMB of Turkey abolished mandatory minimum dividend payment requirement.

Panel A in Table 1 shows descriptive statistics for seven financial characteristics of the sample. Specifically, the total sales, total assets and market capitalization of BIST financial corporations are, on average, TL1.8 billion (where TL refers to the Turkish Lira), TL21.2 billion and TL3.1 billion, respectively during the period 2009–2016. The means of debt level and return on assets (22.86% and 3.5%, respectively) indicate that the sampled firms make about 23% debt financing in their capital structure and have about 3.5% of the returns on their total assets invested for the research period. Furthermore, the mean market-to-book ratio of 1.36, which is greater than unity, suggests that BIST financials have a good prospect of investment opportunities, whereas the mean current ratio of around 6.6:1 implies a high level of liquidity for BIST financial firms.

Panel B in Table 1 displays the statistics on the sample's ownership and board structures. The results reveal that BIST-listed financial companies have highly concentrated and centralized corporate ownerships, generally dominated by family owners who, on average, have approximately 34% of total shares over the period 2009–2016. National financial institutions are the second largest blockholders, owning almost 13% of the outstanding shares, followed by the other large shareholders such as foreign investors and the state (possessing around 8% and 4%, respectively). On the other hand, minority (small) investors, who held less than the 5% ownership disclosure threshold level, have almost 38% of the total equity of BIST financial firms. Regarding the board characteristics, it is reported that the boards of the BIST-listed financial corporations are generally sized of eight executives and at least one of them, on average, comes from the owner families, while two of them are the independent directors.

Panel C in Table 1 presents descriptive statistics for cash dividend payment and earnings characteristics for the period 2009–2016. First, the results show that BIST-listed financial firms in the sample paid cash dividends in about 45% of the total observations. The total averages of cash dividends distributed and net earnings are TL51 million and TL358 million, respectively, whereas the means of dividends per share and earnings per share are TL0.078 and TL0.398, respectively. The statistics also detect that the average dividend payout ratio (accounting measure) is about 28% and the mean dividend yield (market measure) is around 1.5% during this period.

Table 1. Descriptive Statistics

Panel A: Financial Characteristics

	Total Sales (million TL)	Total Assets (million TL)	Market Cap. (million TL)	Debt Level (%)	Return on Assets (%)	Market to Book Ratio	Current Ratio
Mean	1,825.6	21,215.9	3,088.3	22.86	3.50	1.36	6.62
Medium	183.9	1,361.4	405.0	19.50	2.10	0.87	1.39
Std. Deviation	4,905.3	56,233.5	6,873.6	22.76	8.63	1.89	15.95

Panel B: Ownership and Board Structures

	Family Ownership (%)	Foreign Ownership (%)	National Institutional Ownership (%)	State Ownership (%)	Miscellaneous (%)	Minority Shareholders Ownership (%)	Board Size	Family Directors	Independent Directors
Mean	34.24	8.19	12.88	4.29	2.64	37.77	7.98	1.28	1.76
Medium	33.75	0.00	0.00	0.00	0.00	34.20	8.00	1.00	2.00
Std. Deviation	32.52	21.95	25.40	14.91	8.80	20.97	2.37	1.50	1.23

Panel C: Cash Dividends and Earnings Characteristics

	Cash Dividend Payers (%)	Cash dividends (million TL)	Net Earnings (million TL)	Dividends per Share (TL)	Earnings per Share (TL)	Dividend Payout Ratio (%)[a]	Dividend Yield (%)
Mean	44.59	50.79	357.97	0.078	0.398	28.11	1.54
Medium	0.00	0.00	34.30	0.00	0.00	0.00	0.00
Std. Deviation	49.74	134.76	844.79	0.191	1.239	165.53	2.97

Notes: This table illustrates descriptive statistics for a panel dataset of 80 unique BIST financial firms with 619 firm-year observations between 2009 and 2016. In Panel A, total sales refer to the sum of gross annual sales and other operating revenue; total assets represent the sum of total current assets, long term receivables, investment in unconsolidated subsidiaries, other investments, net property plant and equipment and other assets; market capitalization is calculated as the share price (year-end) multiplied by the common shares outstanding; debt level is the percentage of total debt to total assets; return on assets is measured by net earnings to total assets; market-to-book ratio equals to a firm's market value divided by its book value; current ratio is the fraction of current assets to current liabilities. In Panel B, family ownership and foreign ownership refer to the total percentage of shares held by families and foreign investors, respectively; national institutional ownership is the total percentage of shares owned by Turkish financial institutions, whereas state ownership is the percentage of total shares held by the state; miscellaneous shows the share-ownership of organisations such as cooperatives, voting trusts and a company or a group with no single controlling investor; minority shareholders' ownership refers to the total percentage of shares owned by a large number of small (minority) shareholders who held less than 5% of the outstanding shares of the firm; board size accounts for the total number of directors on the board; family directors and independent directors represent the numbers of family members and independent directors on the board, respectively. In Panel C, cash dividend payers refer to the percentage number that is measured as cash dividend paying firms divided by total firms in the sample; cash dividends equal to the total annual common and preferred dividends paid in cash to shareholders; net earnings represents annual income after all operating and non-operating income and expenses, reserves, income taxes, minority interest and extraordinary items; dividends per share and earnings per share represent the total dividends and earnings per share declared annually, respectively; dividend payout ratio is measured as the dividends per share divided by the earnings per share; dividend yield is calculated as the ratio of dividends per share to price per share. [a] Dividend payout ratio has 601 firm-year observations due to the exclusion of negative payout ratio observations.

4.2. Analysis of Lintner Model Estimation

Panel A in Table 2 reports the results of the pooled OLS regression estimates for applying a slightly modified version of the Lintner model (the research model) on a Turkish panel dataset of 80 financial firms listed on the BIST over the period 2009–2016. The study computes two estimates for this model; the first one contains the estimates based on all financial institutions in the sample (539 observations) and the second one consists of the estimates from only dividend-paying financial companies (389 observations). Also, the pooled OLS estimates are obtained using White's corrected heteroscedasticity robust regressions and hence the results do not suffer from the problem of heteroscedasticity.

Table 2. Lintner Model Specification Results

Dependent variable: $CASHDIV_{i,t}$

Independent variables:	Panel A: Pooled OLS		Panel B: System GMM	
	All Firms	Dividend Payers	All Firms	Dividend Payers
$EARNINGS_{i,t}$	0.129***	0.137***	0.142***	0.154***
	(4.80)	(4.85)	(4.91)	(5.26)
$CASHDIV_{i,t-1}$	0.553***	0.547***	0.513***	0.505***
	(5.34)	(5.31)	(5.01)	(4.86)
Constant	0.617	9.057**	1.021	11.510**
	(0.95)	(2.38)	(1.07)	(2.20)
SECTOR	Yes	Yes	Yes	Yes
Target payout ratio (r)	0.289	0.302	0.292	0.311
Speed of adjustment (c)	0.447	0.453	0.487	0.495
Number of observations	539	389	539	389
F-statistic	87.22***	80.85***	74.07***	65.10***
R^2 (%)	82.89	82.05		
Arellano-Bond test for (AR1)			$Pr > z = 0.00$	$Pr > z = 0.00$
Arellano-Bond test for (AR2)			$Pr > z = 0.42$	$Pr > z = 0.57$
Hansen overidentifying test			$Pr > \chi^2 = 0.52$	$Pr > \chi^2 = 0.61$
Number of instruments			41	41

Notes: This table reports coefficients and t-statistics in the parentheses. The pooled OLS models are tested using White's corrected heteroscedasticity robust regressions. The two-step, robust (Windmeijer's standard error correction), small (corrections that results in t instead of z statistic for the coefficients and F instead of Wald χ^2 test for overall fit) and orthogonal (maximising sample size in panels with gaps) commands are used to make the system GMM estimates even more robust. *** and ** stand for significance at the 1% and 5% levels, respectively.

The results show that the overall pooled OLS regression models estimating the slightly modified Linter equation are statistically significant at the 1% level for both groups of all firms and dividend-payers (that is where all zero dividend-paying financial firms are excluded), as reported by F-statistics. The R^2 values (82.89 and 82.05) indicate a high level of goodness-of-fit, suggesting that the model is able to explain about 83% and 82% of the variation in cash dividend payments for all firms and dividend-payers, respectively. This is consistent with Lintner's (1956) original study that reported an R^2 value of 85% for the U.S. companies. The coefficients on $EARNINGS_{i,t}$ ($t = 4.80$, $p < 0.01$ for all firms and $t = 4.85$, $p < 0.01$ for dividend-payers) and $CASHDIV_{i,t-1}$ ($t = 5.34$, $p < 0.01$ for all firms and $t = 5.31$, $p < 0.01$ for dividend-payers) are both

positive and highly significant, as hypothesized. This reveals that the two variables of the basic Lintner model works well in explaining cash dividend behavior of BIST financial firms over the period 2009–2016, after Turkish authorities abolished compulsory minimum dividend payment requirement. Consistent with the evidence provided by Al-Najjar and Kilincarslan (2017), who examine BIST non-financial corporations, and various previous studies conducted in different emerging markets (e.g., Mookerjee, 1992; Pandey, 2001; Al-Najjar, 2009; Al-Ajmi and Abo Hussain, 2011; Al-Malkawi et al., 2014), the finding suggests that current earnings and lagged cash dividends are the most important determinants for cash dividend payments of publicly listed financial firms in the post-2009 period in Turkey. On the contrary, this is inconsistent with the evidence reported by early studies of Adaoglu (2000) and Aivazian et al. (2003a), which present no support to the validity of the Lintner model, possibly due to the presence of rigid mandatory dividend payout rules imposed to the publicly listed firms in the Turkish stock exchange during the earlier periods.

As previously mentioned, Lintner (1956) suggests that the SOA parameter (calculated as $c = 1 - \beta_2$) indicates how reactive cash dividends are to earnings changes, and lies between 0 and 1 ($0 < c \leq 1$). A high SOA shows a speedy adjustment towards the target; for example, the SOA of 1 (at its maximum level) implies that the firm does not adjust or smooth cash dividends, instead it relies on the long-run TPR (calculated as $r = \beta_1/(1 - \beta_2)$). A reverse argument is valid for low SOAs; for instance, a value of SOA closed to zero means that the firm has an extremely smoothed dividend behavior and very slowly adjust cash dividend payments to the TPR. Accordingly, Panel A of Table 2 illustrates the TPR and SOA estimates for the sampled financial firms based on the pooled OLS regressions. The estimates report the TPR of 28.9% ($r = 0.129/(1 - 0.553)$) and SOA of 0.447 ($c = 1 - 0.553$) for all firms, whereas these parameters are 30.2% ($r = 0.137/(1 - 0.547)$) and 0.453 ($c = 1 - 0.547$), respectively, for dividend-payers over the period 2009–2016.

Considering prior research in Turkey, Adaoglu (2000) detects a SOA factor of 1 and Aivazian et al. (2003a) find a very high SOA of 0.92 (0.88 if zero dividend-paying observations are excluded) for their Turkish samples. Thus, they conclude that publicly listed non-financial firms did not smooth their cash dividends and follow unstable policies that were shaped by the level of current earnings in earlier periods when the CMB of Turkey imposed the minimum 50% of profit distribution as a cash dividend. Recently, Al-Najjar and Kilincarslan (2017), however, report much lower SOAs as compared to above studies – in particular, the speed of adjustments of around 0.58 for all firms and 0.59 for dividend-payers for the period 2003–2008, and approximately 0.52 for all firms and 0.53 for dividend-payers for the period 2009–2012. Hence, they suggest that ISE-listed industrial companies adjust their cash dividends by a moderate level of smoothing in both sub-periods when the CMB introduced the secondary mandatory dividend policy (that is more flexible than the first one but still requires a minimum payout ranged from 20% to 30%) and when the CMB further abolished mandatory dividend payment requirement starting with the fiscal year 2009. In line with the findings of Al-Najjar and Kilincarslan (2017), the current study indeed presents evidence that BIST financial firms also have their target payout ratios (i.e., the TPRs of about 29-30% for all firms and dividend-payers) and adjust their cash dividend distributions by moving gradually to their target at a moderate level of speed of adjustment, even a little smoother than non-financial corporations (i.e., the SOAs of around 0.45 both for all firms and dividend-payers) in the post-2009 period.

When compared to other studies from different countries, this study reports lower SOAs than those obtained by Mookerjee (1992) for India ($c = 0.73$), Chemmanur et al. (2010) for Hong Kong ($c = 0.68$), and Al-Ajmi and Abo Hussain (2011) for Saudi Arabia ($c = 0.71$). Moreover, the current SOA estimates are relatively higher in comparison to the SOA values of 0.30 found by Lintner (1956) and 0.28 detected by Chemmanur et al. (2010) in the developed U.S. market, but are closely matched with those reported by Al-Najjar (2009) for Jordan ($c = 0.43$) and Fama and Babiak (1968) for U.S. companies ($c = 0.45$). Overall, the study results indicate that cash

dividend payments now play an important role in signaling in the financial sector in Turkey – more specifically, BIST financial firms adjust their cash dividends towards their target payout ratios by a moderate level of dividend smoothing and tend to follow rationally stable dividend policies over the period 2009–2016. Therefore, this provides support for *H1*.

Additionally, the above tests are re-performed using the system GMM regressions to check whether the pooled OLS estimates are robust or sensitive to the usage of alternative estimation technique. Panel B in Table 2 displays the results of the system GMM estimates, which are very similar to the results of the pooled OLS estimates that are reported in Panel A in the same table. Hence, this confirms more robust and reliable findings from both econometric specifications.

4.3. Analysis of Firm Characteristics Effect on Lintner Model Estimation

In order to find out how different firm characteristics affect the target payout ratio and dividend smoothing of BIST financial firms, the research model of a slightly modified Lintner specification is applied on a number of sub-samples that are constructed according to various firm characteristics. Therefore, the study sample is partitioned into (1) high and low profitability firms, (2) firms with high and low debt ratios, (3) high and low growth firms, (4) large- and small-size firms, and (5) family-controlled and non-family-controlled firms. Accordingly, Table 3 shows the results of the pooled OLS estimates for the 10 subsamples based on five different firm characteristics.

The results illustrate that *F*-statistics of each of the 10 pooled OLS regressions are statistically significant at the 1% level, revealing overall significance of all models. The R^2 values of estimated equations vary between 74% and 87% and hence suggest a high level of goodness-of-fit, which means that current cash dividend payments of Turkish subsamples are highly predictable using the Lintner model. Furthermore, it is observed that the two main variables, $EARNINGS_{i,t}$ and $CASHDIV_{i,t-1}$, are statistically significant and have the same directional impacts as previously explained in all regressions. However, the coefficients on these two variables comparatively differ among 10 subsamples and hence this implies that the target payout ratios and speed of adjustments of financial firms in ten groups are significantly different from each other. As hypothesized, this therefore recommends the impact of firm characteristics on dividend stability explanation proposed by Lintner (1956).

In this context, Panel A in Table 3 shows the results of high and low profitability subsamples. High profitability group has a much greater TPR and a much lower SOA factor (41.5% and 0.26, respectively) as compared to low profitability group (with the TPR of 17.6% and SOA of 0.493). This means that BIST financial firms with high profitability aim to pay higher cash dividends by a serious degree of dividend smoothing, whereas BIST financial corporations with low profitability tend to distribute lower cash dividends with a comparatively speedier adjustment factor (but they still appear to moderately smooth their dividends). Consistent with the notion that profitability positively affects dividend payments (Fama and French, 2001; Aivazian et al., 2003b; Ferris et al., 2006) and more profitable firms are more likely to pay high dividends to show their good performance (Bhattacharya, 1979; Miller and Rock, 1985; John and Williams, 1985), the evidence reveals that highly profitable BIST financial firms distribute larger cash dividends as a credible signal to the market, when their less profitable counterparts whose financial positions are not as good cannot mimic such dividend payment levels. While targeting high dividend payouts, high profitability BIST financial firms also display a sticky dividend behavior to prevent volatility in dividends and to strengthen the credibility of stable dividend distributions, which further reflects their firms' better financial achievements to investors. Consequently, this evidence lends support to *H2*.

Table 3. Results of Pooled OLS Estimates for Lintner Model Specification on Subsamples Partitioned by Various Firm Characteristics

Dependent variable: $CASHDIV_{i,t}$

Independent variables:	Panel A		Panel B		Panel C		Panel D		Panel E	
	Profitability		Debt Level		Growth		Size		Family-controlled	
	High	Low	High	Low	High	Low	Large	Small	Yes	No
$EARNINGS_{i,t}$	0.108***	0.087***	0.092***	0.134***	0.088***	0.067***	0.177***	0.045**	0.119***	0.127***
	(3.01)	(4.64)	(3.30)	(3.92)	(5.12)	(3.20)	(4.82)	(2.34)	(4.93)	(5.65)
$CASHDIV_{i,t-1}$	0.740***	0.507***	0.483***	0.582***	0.357***	0.861***	0.540***	0.701***	0.599***	0.580***
	(4.36)	(4.49)	(3.26)	(4.62)	(3.05)	(7.31)	(5.20)	(6.88)	(5.86)	(3.40)
Constant	2.692	−1.085	−3.158***	2.073	−3.101***	4.337	3.684***	−1.173	3.371	3.255
	(0.65)	(−1.39)	(−2.88)	(1.33)	(−3.70)	(0.69)	(4.61)	(−0.72)	(0.84)	(0.68)
SECTOR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Target payout ratio (r)	0.415	0.176	0.178	0.321	0.137	0.482	0.385	0.151	0.297	0.302
Speed of adjustment (c)	0.260	0.493	0.517	0.418	0.643	0.139	0.460	0.299	0.401	0.420
Number of observations	219	320	227	312	275	264	248	291	319	220
F-statistic	76.34***	71.42***	83.44***	60.28***	64.69***	45.72***	88.26***	51.14***	46.42***	41.35***
R^2 (%)	86.77	82.54	84.35	74.29	83.93	87.12	80.38	78.93	85.69	83.15

Notes: This table reports coefficients and *t*-statistics in the parentheses. The pooled OLS models are tested using White's corrected heteroscedasticity robust regressions. *** and ** stand for significance at the 1% and 5% levels, respectively.

Panel B in Table 3 reports that high-debt subsample has the TPR of 17.8% and low-debt subsample has a comparatively higher TPR of 32.1%. The results also show that firms in high-debt category have the SOA of 0.517, whereas firms in low-debt category have a relatively lower SOA of 0.418. This finding implies that low-levered BIST financial firms pay larger and steadier dividends to reduce the free cash from the managers' control and to increase the interaction with the capital market more often for additional funding, which is in line with the argument that the use of debt and dividend payments are substitute mechanisms in monitoring managers and controlling agency-related problems (Jensen and Meckling, 1976; Rozeff, 1982; Easterbrook, 1986). On the other hand, high-levered BIST financial corporations have low dividends because the usage of high debt lessens the need for paying dividends to control such agency conflicts. This might as well indicate that BIST financials with high debt ratios are more likely to maintain their internally generated earnings to pay their obligations that derive from raising external financing (Rozeff, 1982; Manos, 2002) rather than distributing the cash to shareholders in the form of dividends. Therefore, this finding provides support for *H3*. Moreover, evidence in Panel C of Table 3 illustrates that high-growth subsample has a low TPR of 13.7% but a high SOA factor of 0.643. Conversely, low-growth subsample has a high TPR of 48.2% but a low SOA factor of 0.139. In accordance with the pecking order theory (Myers, 1984; Myers and Majluf, 1984) and transaction cost theory (Rozeff, 1982; Holder et al., 1998), this suggests that BIST financial firms with high growth opportunities need more funds to finance their expansion and thus they will first use low cost and easily accessible internal cash for investments, because external finance is costly. Therefore, high-growth BIST financial companies tend to pay lower dividends and are less concerned about dividend smoothing as compared to low-growth BIST financial firms, since they experience a rapid growth. Hence, this evidence lends support to *H4*.

Panel D in Table 3 presents that large-size BIST financial firms have a much greater TPR than small-size BIST financial corporations (that is, 38.5% and 15.5%, respectively). This finding is consistent with various studies such as Gaver and Gaver (1993), Barclay et al. (1995), Moh'd et al. (1995), Fama and French (2001), Ferris et al. (2006) and Al-Najjar (2009), which report that there is a positive correlation between firm size and dividend payments. From the practical perspective, this infers that larger BIST financial firms often face higher potential agency problems and generally have easier access to capital markets to raise external finance at lower costs that reduces their dependency on internal funds. Therefore, large-size BIST financials tend to distribute relatively higher dividends as a disciplinary device to mitigate such problems in addition to the signaling purpose. Besides, the SOA estimates (i.e., 0.46 for large-size and 0.299 for small-size firms) reveal that although large BIST financials moderately smooth their cash dividends, their smaller counterparts display more stable (smoother) dividend payments. This possibly reflects that small-size BIST financial corporations experience more volatile cash flows and find the payments of cash dividends more costly, thus they distribute lower but stickier dividends to prevent negative market reactions to volatile dividend payments. Nevertheless, larger BIST financial firms, mostly with more stable earnings and easier access to the capital markets, pay higher cash dividends and seem to be less worried about dividend smoothing as compared to smaller ones, due to their ability to maintain higher payouts and concerns about agency problems. Accordingly, this finding provides support for *H5*.

As Panel E in Table 3 shows, family-controlled and non-family-controlled BIST financial firms have very similar target payout ratios (the TPRs of 29.7% and 30.2%, respectively) and speed of adjustment factors (the SOAs of 0.401 and 0.420, respectively). Given that corporate ownership is heavily dominated by large family owners, it is predicted that family control affects dividend payment behavior of financial sector companies in Turkey. However, this evidence illustrates that the target payout ratios and levels of dividend smoothing of family-controlled and non-family-controlled BIST financial corporations do not significantly differ from one another. Therefore, the evidence leads to reject *H6.*

Table 4. Results of System GMM Estimates for Lintner Model Specification on Subsamples Partitioned by Various Firm Characteristics

Dependent variable: $CASHDIV_{i,t}$

Independent variables:	Panel A		Panel B		Panel C		Panel D		Panel E	
	Profitability		Debt Level		Growth		Size		Family-controlled	
	High	Low	High	Low	High	Low	Large	Small	Yes	No
$EARNINGS_{i,t}$	0.113**	0.089***	0.098***	0.122***	0.082***	0.073***	0.191***	0.044**	0.130***	0.142***
	(1.99)	(5.45)	(4.21)	(3.12)	(6.89)	(3.54)	(4.69)	(2.07)	(4.04)	(4.33)
$CASHDIV_{i,t-1}$	0.731***	0.483***	0.465***	0.599***	0.379***	0.856***	0.518***	0.699***	0.585***	0.562***
	(3.99)	(4.58)	(6.60)	(2.94)	(5.20)	(13.06)	(4.93)	(5.19)	(4.49)	(4.16)
Constant	2.618	−0.992	−4.084*	2.131	−2.590**	3.894	4.653**	−1.746	2.909	3.092
	(0.89)	(−1.01)	(−1.75)	(1.02)	(−2.26)	(1.34)	(2.09)	(−0.99)	(1.16)	(1.48)
SECTOR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Target payout ratio (r)	0.420	0.172	0.183	0.304	0.132	0.507	0.396	0.146	0.313	0.324
Speed of adjustment (c)	0.269	0.517	0.535	0.401	0.621	0.144	0.482	0.301	0.415	0.438
Number of observations	219	320	227	312	275	264	248	291	319	220
F-statistic	106.37***	79.45***	128.29***	88.47***	98.44***	59.04***	67.05***	53.60***	96.68***	87.35***
Arellano-Bond test for (AR1) (Pr > z)	0.00	0.00	0.01	0.04	0.02	0.03	0.00	0.00	0.03	0.03
Arellano-Bond test for (AR2) (Pr > z)	0.43	0.56	0.47	0.85	0.33	0.37	0.41	0.33	0.72	0.78
Hansen overidentifying test (Pr > χ^2)	0.52	0.48	0.63	0.31	0.76	0.60	0.47	0.58	0.35	0.44
Number of instruments	41	41	41	41	41	41	41	41	41	41

Notes: This table reports coefficients and t-statistics in the parentheses. The two-step, robust (Windmeijer's standard error correction), small (corrections that results in t instead of z statistic for the coefficients and F instead of Wald χ^2 test for overall fit) and orthogonal (maximising sample size in panels with gaps) commands are used to make the system GMM estimates even more robust. ***, ** and * stand for significance at the 1%, 5% and 10% levels, respectively.

Finally, further tests are again conducted using the system GMM regressions for each of the 10 subsamples in order to check whether above findings are robust or sensitive to the usage of different estimation technique. As demonstrated in Table 4, the system GMM estimates are consistent with the pooled OLS estimates and provide very similar TPRs and SOAs for each subsample that previously reported.

CONCLUSION

This study provides new evidence on dividend decisions of financial sector companies in Turkey. Using Lintner's (1956) partial adjustment model, it attempts to identify whether BIST financial firms smooth their cash dividends and adopt stable (managed) dividend policies. The study further tries to find out how different firm characteristics affect cash dividend behavior of BIST-listed financial corporations. Based on a panel dataset of 80 firms listed on the BIST-Financials Index over the period 2009–2016, the findings of this study lead to several conclusions about dividend policy of these financial firms.

First, the results show that current earnings and lagged dividends are both positive and significant factors in determining current dividends of the BIST financial firms. This provides empirical support for the validity of traditional Lintner style managed dividend policy in the Turkish financial sector between 2009 and 2016. More specifically, the results reveal that BIST-listed financial corporations have their target payout ratios and adjust their cash dividend distributions by moving gradually to their target at a moderate level of speed of adjustment. Therefore, the study concludes that BIST financials follow reasonably stable dividend policies starting with the fiscal year 2009, when the CMB of Turkey abolished the compulsory minimum dividend payment requirement.

Moreover, the empirical findings indicate that although financials corporations traded in the BIST generally adopt relatively stable dividend policies, various firm characteristics have different impacts on the target payout ratio and dividend smoothing among financial corporations. In particular, BIST financials with high profitability aim much greater target payouts and display much smoother dividend payments as compared to BIST financials with low profitability. This infers that highly profitable BIST financial firms tend to distribute larger cash dividends as a credible signal to the market, when their less profitable counterparts whose financial performances are not as good cannot mimic such dividend payment levels. While aiming high dividend payouts, high-profitability BIST financials also have a sticky dividend behavior to prevent volatility in dividends and to strengthen the credibility of stable dividend payments in order to show their better performance to investors.

It is further observed that BIST financial companies with high debt levels have much lower target payouts but relatively higher speed of adjustments than BIST financial institutions with low debt levels. Consistent with the notion that the use of debt and dividends are alternative tools to control agency problems, low-levered BIST financial firms attempt to pay larger and steadier dividends to reduce the free cash from the managers' control and to increase the interaction with the capital market more often for additional funding. However, high-levered BIST financials are more likely to pay lower dividends, because the usage of high debt lessens the need for paying dividends to control such agency conflicts. This might also imply that high debt levels force BIST financial firms to use their internal funds to pay their obligations that derive from raising external financing rather than distributing cash dividends. Similarly, growth (investment) opportunities are found to be another important characteristic affecting dividend behavior of BIST-listed financial institutions. That is, high-growth firms have low target payouts with high speed of adjustments (less dividend smoothing), whereas low-growth firms have high target payouts with low speed of adjustments (more stable dividends). This suggests that high

growth BIST financial companies need more funds to finance their expansion and hence tend to pay lower dividends and are less concerned about dividend smoothing as compared to low-growth BIST financial firms, since they experience a rapid growth.

Furthermore, the results illustrate that large-size BIST financial corporations have much greater target payout ratios than their smaller counterparts, and even though large BIST financials moderately smooth their cash dividends, small-size BIST financial firms display more stable (smoother) dividend payments. This reflects that larger financial corporations listed on the BIST (often face higher potential agency problems with generally more stable earnings and easier access to the capital markets) are more likely to pay higher cash dividends as a disciplinary device and seem to be less worried about dividend smoothing as compared to smaller BIST financials, due to their ability to maintain higher payouts and concerns about agency problems. Whereas small-size BIST financial corporations experience more volatile cash flows and find the payments of cash dividends more costly, thus they distribute lower but stickier dividends to prevent negative market reactions to volatile dividend payments. Nevertheless, the results further show that family control does not have a significant impact on cash dividend behavior of financial sector companies in Turkey, since family-controlled and non-family-controlled BIST financial firms have very similar target payout ratios and levels of dividend smoothing.

Previous studies conducted in early periods in Turkey report that Turkish-listed firms generally concentrated on the first mandatory dividend payment requirement (i.e., distributing at least 50% of earnings as a cash dividend) imposed by the regulations. Hence, they did not smooth their cash dividends or much care about setting stable dividend policies. Currently, however, this study presents that BIST-listed financial firms now appear to pursue stable (managed) dividend polices with a specific pattern of dividend payments that involves dividend smoothing. This evidence is also consistent with recent studies revealing that industrial (non-financial) companies listed on the BIST follow traditional Lintner style dividend policies in the post-2003 period. Consequently, the study attributes this significant change in dividend behavior of BIST corporations to the result of having much more flexible policy regulations in 2003 and eventually receiving total freedom as the CMB of Turkey abolished mandatory dividend payment requirement starting with the fiscal year 2009.

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