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THE EFFECTS OF DIVIDEND DISTRIBUTION POLICIES ON FIRM VALUE: AN APPLICATION ON BIST FOOD BEVERAGE AND BIST CHEMICAL PETROL AND PLASTIC INDICES[1]

Research

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Abstract

There is no consensus in the literature among theoretical approaches and studies which try to explain the effect of dividend policies on firm value. In this study, it has been investigated whether the dividend policies affect the firm value. Between 2010 and 2020, annual data from companies in the BIST Chemical, Petrol, Plastic, and BIST Food and Beverage indices were used in the study. In this research firm value is included the dependent variable, dividend distribution status per share is included independent variable, debt/equity ratio, return on assets and return on equity are included as instrumental variables.

Using Two Stage System Generalized Moment Method proposed by Arellano and Bover and Blundell and Bond it was determined that the dividend distribution policies in the BIST Food and Beverage index did not have a significant effect on the firm value. On the other hand, dividend distribution policies in BIST Chemical, Petrol, Plastic index have a significant and negative effect on firm value.

Purpose: The aim of this study is to investigate whether the dividend policies of companies in the BIST Food Beverage and BIST Chemical, Petrol and Plastic Indexes have an effect on the firm value.

Method: In this study dynamic panel data Two Stage System Generalized Moment Method proposed by Arellano and Bover, Blundell and Bond were used between 2010 and 2020, annual data from companies in the BIST Chemical, Petrol, Plastic, and BIST Food and Beverage indices were used in the study. In this research firm value is dependent variable. Dividend distribution status per share is included independent variable, debt/equity ratio, return on assets and return on equity are included as instrumental variables.

Findings: It was determined that the dividend distribution policies in the BIST Food and Beverage indexes did not have a significant effect on the firm value. On the other hand, dividend distribution policies in BIST Chemical, Petrol, and Plastic index have a significant and negative effect on firm value. It has been observed that the instrument variables used in the study have a positive and significant relationship on the firm value.

Originality: Although there are many studies in the literature on this subject, it has been seen that the dividend puzzle is continues. It is thought that this study will contribute to the literature since it has a larger and more up-to-date data set compared to other studies conducted in Turkey, and includes the comparative results of the two indices determined.

Keywords: Dividend Policies, Firm Value, Profit Distribution, Dynamic Panel Data Analysis, BIST XKMYA Index, BIST XGIDA Index

JEL Classification: G10,G11,G30,G35

KÂR PAYI DAĞITIM POLİTİKALARININ FİRMA DEĞERİ ÜZERİNE ETKİSİ : BIST YİYECEK, İÇECEK VE BIST KİMYA, PETROL, PLASTİK ENDEKSLERİ ÜZERİNE BİR UYGULAMA

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Özet

Kâr payı dağıtım politikalarının firma değeri üzerine etkisini açıklamaya çalışan birçok teorik yaklaşım ve çalışma arasında literatürde görüş birliği sağlanamamıştır. Bu çalışmayla firmaların kâr payı dağıtım politikalarının firma değerini etkileyip etkilemediği araştırılmıştır. Çalışmada BIST Kimya, Petrol, Plastik ve BIST Yiyecek ve İçecek endekslerinde yer alan firmaların 2010-2020 yılları arasındaki yıllık verileri kullanılmıştır. Firma değeri bağımlı değişken, hisse başına kâr payı dağıtım durumları bağımız değişken, borç/özkaynak oranı, aktif kârlılığı ve özkaynak kârlılığı ise araç değişken olarak araştırmada kullanılmıştır.

Dinamik panel veri modellerinden Arellano ve Bover ile Blundell ve Bond tarafından geliştirilen İki Aşamalı Sistem Genelleştirilmiş Momentler Tahmincisi metodu kullanılarak yapılan analizler sonucunda BIST Yiyecek ve İçecek endeksinde kâr payı dağıtım politikalarının firma değeri üzerinde anlamlı bir etkisinin olmadığı saptanmıştır. Buna karşılık BIST Kimya, Petrol, Plastik endeksinde kâr payı dağıtım politikalarının firma değeri üzerinde negatif yönde ve anlamlı bir etkisinin olduğu görülmüştür. Çalışmada kullanılan araç değişkenlerin firma değeri üzerinde pozitif yönlü ve anlamlı bir ilişki içerisinde olduğu görülmüştür.

Amaç: Bu çalışmanın amacı, BIST Gıda İçecek ve BIST Kimya, Petrol ve Plastik Endekslerindeki şirketlerin kâr payı politikalarının firma değeri üzerinde etkili olup olmadığının araştırılmasıdır.

Yöntem: Çalışmada dinamik panel veri modellerinden Arellano ve Bover ile Blundell ve Bond tarafından geliştirilen İki Aşamalı Sistem Genelleştirilmiş Momentler Tahmincisi metodu kullanılmıştır. Çalışmada BIST Kimya, Petrol,Plastik ve BIST Yiyecek ve İçecek endekslerinde yer alan firmaların 2010-2020 yılları arasındaki yıllık verileri kullanılmıştır. Firma değeri bağımlı değişken, hisse başına kâr payı dağıtım durumları bağımız değişken,borç/özkaynak oranı, aktif kârlılığı ve özkaynak kârlılığı ise araç değişken olarak araştırmaya dahil edilmiştir.

Bulgular: Yapılan analizler sonucunda BIST Yiyecek ve İçecek endeksinde kâr payı dağıtım politikalarının firma değeri üzerinde anlamlı bir etkisinin olmadığı saptanmıştır. Buna karşılık BIST Kimya, Petrol, Plastik endeksinde kâr payı dağıtım politiklalarının firma değeri üzerinde negatif yönde ve anlamlı bir etkisinin olduğu görülmüştür.Çalışmada kullanılan araç değişkenlerin firma değeri üzerinde pozitif yönlü ve anlamlı bir ilişki içerisinde olduğu görülmüştür.

Özgünlük: Bu konuda literatürde çok sayıda çalışma olmasına rağmen kar payı bilmecesinin devam ettiği görülmüştür. Bu çalışmanın Türkiye'de yapılmış diğer çalışmalara göre geniş ve güncel bir veri setine sahip olması, belirlenen iki endeksin karşılaştırılmalı sonuçlarına yer vermesi nedeniyle literatüre katkı sağlayacağı düşünülmektedir.

Anahtar Kelimeler : Kâr Dağıtım Politikaları, Firma Değeri, Kâr Payı, Dinamik Panel Veri Analizi, BIST XKMYA Endeksi, BIST XGIDA Endeksi

JEL Classification: G10,G11,G30,G35

INTRODUCTION

In the finance literature, the main purpose of financial transactions and analytical studies has been to determine the processes, approaches and methods that will maximize firm value. The main purpose of the firm is to maximize the value of the company by making profits on the activities they carry out. For firms, making a profit is not a sufficient result, this profit will be distributed or not to the investors, if so, how much, when and how it will be distributed are important decisions.

There are different theoretical approaches about the existence of the effect of dividend distribution and dividend policy decisions, which are an important decision for firms, on firm value. There is no common idea among theoretician for this issue. While some theoretical techniques imply that dividend distribution rules have no effect on a company's market value, others argue that this relationship does exist.

The aim of this study is to comparatively investigate the effect of dividend distribution policies of companies on firm value in Borsa İstanbul Food and Beverage, and Borsa İstanbul Chemical, Petrol, Plastic indices. For this aim, a data set was created by using the annual data of the companies between the years 2010-2020. As a research method, dynamic panel data models which are Arellano and Bover/Blundell and Bond Generalized Moments Estimator Arellano and Bover/Blundell and Bond Two-stage Generalized Moments Method Estimator and Arellano and Bover/Blundell and Bond Two-stage Generalized Moment Estimator using the Resistive Standard Error methods of the results are analyzed.

THEORETICAL FRAMEWORK

Theoretical views on the effect of dividend distribution policies on firm value are listed below.

Merton Miller and Franco Modigliani's dividend irrelevance theory claims that, under certain assumptions, argues that the dividend distribution policies of firms under certain assumptions do not affect the market value of firms. It makes no difference to investors whether or not the dividend is paid out, ınvestors are insensitive about the distribution of profits. The present value of the cash flows that the firm will get in the future equals the firm's value. The value of these cash flows is independent of dividend policies.

It is not considered to be the determining factor for investors whether the firm distributes the profits it makes or not. It is not considered to be a decisive and guiding element for investors whether the firm distributes the profits it makes or not (Chambers, 2009:150-152).

According to the bird-in-hand theory put forward by Myron Gordon and John Lintner, which was based on the assumption that near-future earnings in other words the dividends to be distributed by the firm by shareholders, are preferred to uncertain earnings in the distant future. Rational shareholders who are risk-averse will also prefer the return on the profit they will receive today to the capital gains that will be created in the future. According this argument that a bird in the hand is worth

two in the bush. For investors, dividend share income is the bird which is in hand, and the capital gain expected to be obtained in the long run is the bird which is in the branch (Bello and Olarinde, 2020:143-160).

The dividend distribution policy should be decided according to the state of the firm's investment opportunities, according to the James E. Walter model. The amount of dividend to be distributed may change depending on the state of the investment opportunities of the enterprise. The optimal dividend distribution that will maximize the firm value should be associated with the return on investments (Ercan and Ban,2014:259).

According the Tax Preference Theory put forward by Litzenberger and Ramaswamy is based on the assumption that investors' preferences for capital gains or dividend gains affect their preferences for dividend income and capital gains in different periods and because they are taxed at different rates, and this situation will have an impact on firm value.

Agent cost theory, which was developed by Michael C. Jensen and William H. Meckling, argues that the dividend payment is an tool for reduce the agencies cost. Firms that make high dividend payments are more valuable than firms that make low dividend payments because investors don't want to incur the cost of a representative to control and audit to representatives (Alzomaia and Al-Khadhiri,2013:182).

According to the signaling theory, changes in dividends are considered by investors to be signals of firm managers' expectations regarding the firm's future earnings. The market perceives the change in dividend payment policies as a signal because of dividends signal managers' thoughts about the future of the firm (Filbeck, 2009:163-177). Stable and more profit distribution than the market forecast sends positive signals to the markets and investors about the company, while unstable profit policies generate negative signals about the company. As a result of these situations, the expectations created by the signals received from the investors' side may cause changes in the direction of increase or decrease in the company's shares and the company's market value (Kaya and Şanlı,2019:107-116).

According the catering theory, the importance of investors' feelings is emphasized in decisions regarding dividend policy. Investors profit share preferences may differ and change over time. These preference should be notice and consider by the companies. Company managers should make dividend payments when investors prefer the other companies which were made dividend payments; even should not pay or reduce dividends, when investors prefer the companies that do not pay dividends, it should try to balance by this way. Firms must meet investors' demands for dividends in order to increase their stock market prices (Renneboog and Rooıj, 2009: 215-237).

According Residual Dividend approach is that the main purpose of the companies is not to pay dividends to their investors but to meet the internal capital needs of the company and the funds to be used in investments. It proposes to distribute the remaining amount as a dividend after the financing

that the firm should have for its future investments is provided from internal resources, that is, from the dividends obtained and not distributed(Lasher,2008:605).

According to the clientele effect, some investors prefer firms that are distributed as dividends, while others prefer that the profit be left at the enterprise in the market. This preference is came from the different taxation of dividends and capital gains. Companies make the decisions that make up their dividend distribution policies according to the preferences of the investor audience they have. In this approach, when the firm changes its dividend policy, it is expected that the investor base of the firm, not the value of the firm, will change (Ang and Ciccone,2009:108-110). Preferred dividend policy is considered to be ineffective in terms of firm value.

LITERATURE REVIEW

When the literature is examined for the effect of dividend distribution policies on firm value, this topic has attracted quite attention, many studies have been made on this subject in our country and in the world, however, a definitive consensus on the subject, there is no general idea about whether there is a relationship between the dividend policies of firms and firm values, instead, it has been noticed that there are two basic deficiencies in general, in the form of whether there is a relationship between dividend distribution policies and firm value or not. For this reason, this topic have to attract attention among researchers. Summarize as below which is related to this issue.

In the study conducted by Gordon (1959) on “Dividends, Earnings and Stock Prices” the years 1951 and 1954 were chosen as the dataset of the chemicals, food, steel and machine tools industries. As a result of this study, which occurred the first data set of the research, the relationship between the dividend distributions and market values of the companies 1951 years data of food, steel and machinery parts sectors is significant and positive, while chemical sectors is a negative and significant relationship between the dividend distributions and firm value of the companies. In the part of the research applied to the data of 1954, negative and significant results were obtained in the food sector, and positive and significant results were obtained in the other sectors. This study, which used the correlation method, was one of the first in the field, concluding that dividend distribution within the framework of the industries studied has an effect on firm value.

In the study conducted by Miller and Modigliani (1961), which made an important impact in the finance literature and which deals with the relationship between the profit share policies of the firms and the firm value for the first time, it is stated that the firm value is equal to the present value of the future cash flows of the firm and that these cash flows are also the profit of the firms. They argued that it is independent and unaffected by dividend distributions and dividend policies. In this study, which is also known dividend irrelevance theory in the literature, Miller and Modigliani found that there is no relationship between firm value and dividend policies under some assumptions.

Aharony and Swary (1980), in their study in which industrial firms listed on the New York stock exchange were selected as a sample and they investigated the effect of dividend disclosures of firms on stock prices, stated that dividend disclosures have a price effect on the firm's stocks.

Batchelor and Orakçıoğlu, (2003) in their research which is related to Turkish companies stocks, they saw an increase in the prices of the shares that paid dividends from the shares of 20 large companies traded in the ISE between 1990-1994, and they have concluded that stock prices have an impact on dividend policy.

Pekkaya (2006), studies which is investigating the effect of dividend distribution of companies on company value, he searched the effect of dividend distribution to company value status of companies which are traded in the ISE 30 Index between 1986 and 2006, he found the results of 5 companies to be statistically positive. It has been observed that dividend distributions of some companies affect the company value positively, while the dividend distributions of some companies affect the company value negatively. As a result of this study, the dividend contradiction in the literature has continued to persist.

Amidu (2007) examined the relationship between the dividend distribution status of the companies and the firm values in his study, which was prepared by taking into account the data of the companies traded in the Ghana stock exchange covering the years 1997 – 2004; In his study used dividend distribution ratio, return on assets and sales growth rates as variables in study and found a negative relationship between dividend policies and firm value.

Murekefu and Ouma (2012) they used the regression analysis method in their research covering the years 2002-2010 on companies listed on the Kenya Nairobi stock exchange and found that dividend distribution has a positive and strong impact on the company's value.

Tyastari and other (2014) They used the meta-analysis approach in their study which was made at 70 companies in Indonesia between 2007 and 2015 and stated that dividend policies have positive and significant effects on company value as a result of the study.

Shah and Noreen (2016) In their study, which included data from 2005-2012 and companies listed on the Karachi stock exchange of Pakistan and included data, they concluded that the effect of the firms' dividend policy, in other words the firm's dividend payments and dividend yield, and the fluctuation effect on the firm's stock prices is significant and negative.

Eraslan and Koç (2017) they used the annual financial data of 15 companies whose shares are traded on BIST and operating in the cement sector between 2005 and 2015, in their research. in the study they used, a panel data set was created containing the ratios used to measure company profitability. Dividend payments were included in the panel data regression model as an independent variable and profitability ratios were included as dependent variables. The relationship between each dependent variable and the independent variable was investigated and as a result of the study, it was decisively

that dividend payments had a positive effect on profit per share, a panel data set containing the ratios used to measure company profitability was created.

Zeren (2017) evaluated the relationship between cash dividend distribution rates and firm value in his study on the companies in the BIST Dividend 25 index from 2001 to 2017, and found no relationship between dividend distribution and firm value at the end of his analysis.

Süsay and Tanrıöven (2018) conducted a study on the effect of dividend distributions on company stock prices, using the 2010-2017 period data of 56 companies traded in the BIST 100 index. In the study, they make some analyzes were made in order to understand the effects of companies' dividend distributions on the company's stock price, and according to the results of this study they have reached that dividend distributions have an effect on stock prices, especially cash dividend distributions of companies are more effective on stock prices than other types of dividend distributions.

Kaya and Şanlı (2019) used the Dumitrescu & Hurlin panel causality test to investigate the association between the dividend distribution policies of companies included on the BIST 30 Index between 2007 and 2016 and firm value. As a consequence of their research, they discovered no relationship between company dividend distribution policies and firm value.

Kuzu and Çelik (2020) In the study they used the panel data analysis method for analyze the data, which is belong the 25 companies included in the BIST 30 index for the years 2005-2019, they take the annual average price of the stock is the dependent variable, and the earnings per share, return on equity, dividend yield, dividend distribution rate, interest, depreciation and profit before tax are used as the independent variable. As a result of the study, there is a significant relationship between return on stock and earnings per share, dividend distribution ratio and return on equity.

Koç and others (2020) They use the classical model of the panel data method for the measure effect of cash dividend payments on firm value which are companies traded in BIST 30. As a result of their studies, it was concluded that there is a positive relationship between dividend payments of the companies and the variables of equity profitability and P/E ratio for the first model PD/DD. For the second model, Tobin's Q, positive and significant effects of the dividend payment status of the firms, return on assets ratio, equity ratio and price/earnings ratio variables were determined. In the study, the effect of dividend payments on firm value could not be determined clearly.

DATA AND MODEL

The data set of the study consists of companies included in the BIST Chemical, Petrol, Plastic and BIST Food and Beverage sector indexes between 2010-2020.

The research analysis process was carried out with the remaining 17 companies out of 31 companies traded in Borsa Istanbul XKMYA index due to the fact that their data could not be accessed, and the remaining 12 companies out of 24 companies traded in the XGIDA index could not be included in the research dataset due to the fact that their data could not be reached.

Dividend distribution announcements of the companies used in the study, from the profit distribution tables approved by the general assembly in the announcements of the companies on the KAP webpage (www.kap.com.tr); values for other variables were obtained from Halk Invest Securities web page (https://www.halkyatirim.com.tr) and Reuters Eikon (https://eikon.thomsonreuters.com/index.html). Also, companies that were not traded in BIST continuously between these years were excluded from the data set of the study.

Table 1. Variables Used in the Study

Variables	Abbreviations	Description
Market Value/Book Value	PD/DD	Market Value/Total Equity
Dividend Distribution Per Share Status	HBKD	Dividend distribution "1",Not to distribute dividend "0"
Return on Assets	ROA	Net Profit/Total Assets
Return on Equity	ROE	Net Profit/Equity
Debt / Equity	D/E	Total Debt / Total Equity

The research hypothesis of the study was formed as stated below, as in similar studies in the literature.

H0: Dividend distribution has no effect on firm market value

H1: Dividend distribution has an effect on firm market value

In Hypothesis 1 argued that the dividend distribution of the firms has an effect on the firm's market value. This hypothesis will be tested with dynamic panel data models using the Two-Stage System Generalized Moments Method developed by Arellano and Bover (1995) and Blundell and Bond (1998).

In this study, dynamic panel data models were used. Since the previous period values of PD/DD, which is considered to represent the firm value, are thought to be effective in the current period, the dynamic panel data models Arellano and Bover/Blundell and Bond Generalized Moments Estimator, Arellano and Bover/Blundell and Bond Two-stage Generalized Moments Estimator and Arellano and Bover /Blundell and Bond Two-stage Generalized Moment Estimator Resistive Standard Error models (the results were obtained by using Arellano and Bond Generalized Moments, Arellano and Bond Two-Step Generalized Moments Estimator and Arellano and Bond Two-Step Generalized Moments Estimator Resistive Standard Error Models) were used to analyze the data set. Wald test indicates that the model as a whole is significant; It tests whether the independent variables are significant in explaining the dependent variables. The Sargan test was used to test whether the instrumental variables used in the model were valid, and the Arellano and Bover/Blundell and Bond Generalized Moment Estimator methods were used to test the existence of autocorrelation in the models.

Table 1: List of companies which are used in the study

	COMPANY BIST CODE	COMPANY NAME	BIST INDEX CODE
1	AEFES.E	ANADOLU EFES BİRACILIK	XGIDA
2	CCOLA.E	COCA COLA İÇECEK	XGIDA
3	FRIGO.E	FRİGO PAK GIDA	XGIDA
4	KNFRT.E	KONFRUT GIDA	XGIDA
5	KRSTL.E	KRİSTAL KOLA	XGIDA
6	PETUN.E	PINAR ET VE UN	XGIDA
7	PINSU.E	PINAR SU VE ICECEK	XGIDA
8	PNSUT.E	PINAR SÜT	XGIDA
9	SELGD.E	SELÇUK GIDA	XGIDA
10	TATGD.E	TAT GIDA	XGIDA
11	TUKAS.E	TUKAŞ	XGIDA
12	ULKER.E	ÜLKER BİSKÜVİ	XGIDA
13	AKSA.E	AKSA AKRİLİK	XKMYA
14	ALKIM.E	ALKİM KİMYA	XKMYA
15	AYGAZ.E	AYGAZ	XKMYA
16	BAGFS.E	BAGFAŞ	XKMYA
17	BRISA.E	BRİSA	XKMYA
18	BRKSN.E	BERKOSAN YALITIM	XKMYA
19	DEVA.E	DEVA HOLDİNG	XKMYA
20	DYOBY.E	DYO BOYA	XKMYA
21	EGGUB.E	EGE GÜBRE	XKMYA
22	EGPRO.E	EGE PROFİL	XKMYA
23	GOODY.E	GOOD-YEAR	XKMYA
24	GUBRF.E	GÜBRE FABRİKALARI	XKMYA
25	HEKTS.E	HEKTAŞ	XKMYA
26	MRSHL.E	MARSHALL	XKMYA
27	PETKM.E	PETKİM	XKMYA
28	SASA.E	SASA POLYESTER	XKMYA
29	TUPRS.E	TÜPRAŞ	XKMYA

Reference: Borsa İstanbul

EMPIRICAL RESULT

It was determined that all of the series used in the study were stationary at level values. At this stage of the study, the results were obtained by using Arellano and Bover, Blundell and Bond Generalized Moments (Model 1), Arellano and Bover, Blundell and Bond Two-Step Generalized Moments Estimator (Model 2), Arellano and Bover, Blundell and Bond Two-Step Generalized Moments Estimator Resistive Standard Error Models (Model 3). According to Arellano and Bover, Blundell and Bond autocorrelation test results, AR(1) test statistic was negative and statistically significant ($p<0.05$); The AR(2) test statistic was found to be statistically insignificant ($p>0.05$). In dynamic panel data analysis, first-order autocorrelation is desired but second-order autocorrelation is undesirable. The two-stage GMM model has eliminated the problem of endogeneity and autocorrelation that emerged as a result of the GMM model. However, since the standard errors obtained from the two-stage GMM solution are down-studded, the model gives a warning to correct the resistive errors at the end. For this reason, the models were recalculated using Windmeijer (2005) resistive standard errors. The coefficients obtained with the two-stage GMM and the two-stage GMM coefficients calculated with the resistive errors are the same. However, since resistant standard errors are used instead of standard errors, the statistical significance of the coefficients also differ. According to the results obtained with the two-stage GMM, it was determined that the independent variables were significant in explaining the dependent variable, and there was no second-order autocorrelation as expected with the Arellano and Bover, Blundell and Bond test as mentioned before.

CONCLUSION

As a result of the study, it has been determined that dividend distribution policies has no a significant effect on the firm value for BIST Food and Beverage (XGIDA) ındex on the other hand, dividend distribution policies in BIST Chemical, Petrol, and Plastic (XKMYA) index have a significant and negative effect on firm value.

Furthermore, the one-period lag of the debt/equity ratio, which is one of the instrumental variables, affects firm value in both index companies. Despite the fact that in the XKMYA index, there is a positive and significant relationship between firm value and ROA, ROE has a positive and significant relationship between firm value which firms are included XGIDA index.

It has been observed that dividend distributions per share (Net profit share corresponding to a share with a nominal value of 1 Turkish Lira) and net profit distributed ratio in BIST XKMYA index are higher than BIST XGIDA index. While dividend distribution policies had an effect in BIST XKMYA index, dividend distribution policies did not have a significant effect on the firm value in XGIDA index.

When two index are observed, dividend distribution policies effect on the firm value have different results. As a result of this study, it has been observed that it is necessary to consider sectoral differences and sectoral dynamics while determining dividend distribution policies.

The dividend distributions had a significant and negative effect on the firm value in the XKMYA index, where meaningful results were reached. It would be beneficial for this index to leave the profit shares of the companies included in this index on the company without being distributed and to be evaluated in the proper investments that will have a long-term positive effect on the company's worth. It will be beneficial for this index to keep the profit share of the companies included in this index on the company without being distributed and to evaluate it in the proper investments that will have a positive impact on the long time company value.

When the literature is analyzed, the results of this study are similar to the results of both studies in foreign literature and other related studies conducted in Turkey, and the findings overlap; The sectors included in this study show a consensus on the influence of dividend distribution decisions on firm value that theorists could not attain; the paradox and uncertainty of the profit share in the literature has been noted in this study as well as between theories and previous studies.

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APPENDIX

Table 1. XKIMYA Index Model 1 Result - Arellano and Bover/Blundell and Bond Generalized Moments Estimator

	Coefficient	Standart Error	Z value	p
FD_{t-1}	1.048	0.157	6.68	0.0000
$HBKD_t$	-2.165	0.559	-3.87	0.0000
DE_{t-1}	1.467	0.303	4.84	0.0000
ROA_t	0.108	0.040	2.71	0.0070
Wald Test	290.090	0.000		
Sargan Test	212.401	0.000		

Table 2. XKIMYA Index Model 2 Result - Arellano and Bover/Blundell and Bond Two-Stage Generalized Moments Estimator

	Coefficient	Standart Error	Z value	p
FD_{t-1}	1.028	0.091	11.26	0.0000
$HBKD_t$	-1.979	0.299	-6.63	0.0000
DE_{t-1}	1.451	0.070	20.80	0.0000
ROA_t	0.106	0.014	7.38	0.0000
Wald Test	758.010	0.000		
Sargan Test	14.605	0.950		
AR1	-1.570	0.117		
AR2	-0.833	0.405		

Table 3. XKIMYA Index Model 3 Result - Arellana and Bover/Blundell and Bond Two-Stage Generalized Moments Estimator –Windmeijer Standard Error

	Coefficient	WC- Robust Standart Error	Z value	p
FD_{t-1}	1.028	0.248	4.14	0.0000
$HBKD_t$	-1.979	0.825	-2.40	0.0160
DE_{t-1}	1.451	0.625	2.32	0.0200
ROA_t	0.106	0.056	1.90	0.0570
Wald Test	25.620	0.000		
AR1	-1.315	0.188		
AR2	-0.775	0.438		

Table 4. XKIMYA Index Summary Model Table

	Model1	Model2	Model3
FD_{t-1}	1.05***	1.03***	1.03***
$HBKD_t$	-2.17***	-1.98***	-1.98**
DE_{t-1}	1.47***	1.45***	1.45**
ROA_t	0.108***	.106***	0.106*
N	170	170	170
Wald Test	290.09	758.01	25.62
Sargan Test	212.40***	14.61	

Note:*,**,*** state that they are statistically significant at 10%, 5% and 1% significance level, respectively.

Table 5. XKIMYA Index Results Table

Variables	Abbreviations	Direction of Relationship	Firm value Relationsship
Market Value / Book Value	FD	-	-
Dividend Distribution Per Share	HBKD	Negative	Significant
Debt / Equity	DE	Positive	Significant
Return on Assets	ROA	Positive	Significant

Table 6. XGIDA Index Model 4 Results - Arellano and Bover/Blundell and Bond Generalized Moments Estimator

	Coefficient	Standart Error	Z value	p
FD_{t-1}	0.188	0.086	2.18	0.029
$HBKD_t$	0.204	0.388	0.53	0.598
DE_{t-1}	1.872	0.237	7.91	0.000
ROE_t	0.028	0.008	3.59	0.000
Wald Test	233.370	0.000		
Sargan Test	55.182	0.000		

Table 7. XGIDA Index Model 4 Results - Arellano and Bover/Blundell and Bond Generalized Moments Estimator

	Coefficient	Standart Error	Z value	p
FD_{t-1}	0.188	0.086	2.18	0.029
$HBKD_t$	0.204	0.388	0.53	0.598
DE_{t-1}	1.872	0.237	7.91	0.000
ROE_t	0.028	0.008	3.59	0.000
Wald Test	233.370	0.000		
Sargan Test	55.182	0.000		

Table 2. XGIDA Index Model 5 Results - Arellano and Bover/Blundell and Bond Generalized Moments Estimator

	Coefficient	Standart Error	Z value	p
FD_{t-1}	0.167	0.024	6.89	0.000
$HBKD_t$	0.593	0.206	2.88	0.004
DE_{t-1}	1.842	0.061	30.21	0.000
ROE_t	0.027	0.002	11.72	0.000
Wald Test	2147.260	0.000		
Sargan Test	11.763	0.988		
AR1	-1.195	0.232		
AR2	1.036	0.300		

Table 9. XGIDA Index Model 6 Results - Arellano and Bover/Blundell and Bond Generalized Moments Estimator Windmeijer Standard Error

	Coefficient	WC- Robust Standart Error	Z value	p
FD_{t-1}	0.167	0.084	2.00	0.046
$HBKD_t$	0.593	0.500	1.19	0.235
DE_{t-1}	1.842	0.287	6.42	0.000
ROE_t	0.027	0.014	1.88	0.060
Wald Test	426.970			
AR1	-1.189	0.235		
AR2	1.031	0.303		

Table 10. XGIDA Index Summary Model Table

	Model4	Model5	Model6
FD_{t-1}	.188**	.167***	.167**
$HBKD_t$	0.204	.593***	0.593
DE_{t-1}	1.87***	1.84***	1.84***
ROE_t	.0276***	.0271***	0.027*
N	120	120	120
Wald Test	233.37	2147.26	426.970

Note:*,**,*** state that they are statistically significant at 10%, 5% and 1% significance level, respectively.

Table 3. XGIDA Index Results Table

Variables	Abridgment	Abbreviations	Direction of Relationship
Market Value / Book Value	FD	-	-
Dividend Distribution Per Share	HBKD	-	İnsignificant
Debt / Equity	DE	Positive	Significant
Return on Equity	ROE	Positive	Significant