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KATILIM ŞİRKETLERİNDE PERFORMANS ANALİZİ: TÜRKİYE ÖRNEĞİ

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ÖZET

Bu Çalışma, Türkiye'de birim fon şirketlerinin 2016-2020 dönemindegösterdikleri performansının değerlendirilmesi amaçlamaktadır. Bu amaca dönük olarak,portföylerve şirketler için birim fon performansını değerlendirmede günlük getiriler kullanılmaktadır. 102 şirketin getirilerinden elde edilen veriler temelinde 1256 gözlem incelenmiştir. Çalışmada, altı şirket portföyünü değerlendirmek için Fama ve French modeline genişletilen FVFM (Finansal Varlık Fiyatlandırma Modeli) kullanılmıştır. Elde edilen sonuçlara göre katılım fonları, hisse senedi piyasalarından gelen tüm portföylerdendaha iyi performans göstermektedir. Sonuçlar çoğu şirketin piyasa kıyaslamasındandaha iyi performans sağladığını ifade etmektedir. Bu çalışma, Türk ve yabancı helal yatırımlar için ilgili ve önemli olan 102 katılım şirketi performansının analizine katkıda bulunmaktadır.

Anahtar Kelimeler: Fama ve French modeli, performans, Sermaye varlıkları fiyatlandırma modeli, katılım şirketler.

PERFORMANCE ANALYSIS IN PARTICIPATION COMPANIES: THE CASE OF TURKIYE

ABSTRACT

This study aims to evaluate the performance of unit fund companies in Turkey in the period of 2016-2020.For this purpose, daily returns are used to evaluate unit fund performance for portfolios and companies.Based on the data obtained from the returns of 102 companies, 1256 observations were examined.In the study, CAPM(Capital Asset Pricing Model), which was extended to the Fama and French model, was used to evaluate six company portfolios.According to the results obtained, participation funds outperform all portfolios from stock markets.Besides, the results show that most

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companies outperformed the market benchmark. This study contributes to the analysis of the performance of 102 participation companies that are relevant and important for Turkish and foreign halal investments.

Key Words: Fama and French model, Performance, Capital Asset Pricing Model, Participation companies

INTRODUCTION

Shariah-based fund or the Islamic unit fund is increasingly selected for portfolio management, which plays an important role in developing the whole Islamic financial system all over the world. There has been tremendous growth of the Islamic unit funds over the last few years, and it is expected that investors will be increasingly interested in Islamic investment funds in the near future. The rapid industry growth in the Islamic financial system is the Islamic mutual fundindustryall over the world and the hypothesis is that the performance of the Islamic unit's funds on returns could be directly impacted by the industry.

Investors pay attention to information regarding the performance of portfolio investments, simply because of their motivation and certainty of the highestreturn on their investment. Therefore, one of the most important considerations in the decision to select a fund is information, regarding the efficient unit trust funds. Fund managers regard information according to the efficient portfolio investment as important, allowing higher inflow of funds with better profitability, and better pricing (Berger and al., 1993: 221-226). Furthermore, fund managers can measure their performance as compared to their competitors by measuring the efficiency of unit trust investments, ensuring that relevant factors can improve the performance of the fund and perform better than the related benchmarks (Al-Shammari and Salimi, 1998:5-12).

Two parametric and non-parametric approaches can be used to measure the efficiency of portfolio investment. A functional association between the selected explanatory variables and a performance variable is essentially specified by the parametric approach. The parametric approaches which are commonly used, include Thick Frontier Approach (Ang and Lin, 2004:205), Distribution Free Approach (Troutt et al., 2005), and the Stochastic Frontier Approach (Yuengert, 1993). However, this approach has been strongly criticized because of its unrealistic assumptions of linearity and normality of the estimated functional forms. (Sengupta, 1989).

The parametric approach has some shortcomings such as the growing interestin the non-parametric approach used to measure the efficiency of the portfolio. Due to a more general and flexible non-parametric approach that does not rely on assumptions that may be invalid, it is preferred over the parametric approach. The Jensen's alpha (Jensen, 1968: 389-416) and Sharpe index are the two forms of this approach that are mostused. Essentially, the Sharpe index is a measure of risk-adjusted performance considering the ratio of reward to variability, but Jensen's alpha evaluates if a portfolio manager can forecast prices of a security.

In most studies about the unit trusts performance, the only focus is on the CAPM, including annual and Shamsher (1995), using multiple benchmark performance measures to evaluate the performance of 54 unit trust funds in Malaysia from 1988 to 1992 and Shakrani and Ismail (2003) on the performance of the Islamic unit trust funds in Malaysia. According to the study, the return on investment in Malaysian unit trusts is below the stock market returns and the risk-free rate. Chua (1985) examines the performance of 12 unit trust funds in Malaysia using the Treynor Index and the Sharp Index during two sub-periods, 1974-1979 and 1979-1984. He finds a negative correlation

between fund characteristics such as portfolio turnover, size, expense ratio, and performance. Chuan (1995) uses several investment measures such as the Treynor Index, the Adjusted Jensen's Alpha, Jensen's Alpha, and Adjusted Sharpe Index using monthly data on a sample consisting of 21 unit trust funds during 1984-1993. According to the results, there is a negative correlation between unit trust funds in general, market underperformance and fund characteristics, i.e., expense ratio and fund performance. Similarly, Chuan (1995), and Tan (1995) compared to the actual portfolio returns based on the market benchmarks using the benchmark model using the CAPM and Jensen's alpha. Later studiesby Low (2007) and Low and Ghazali (2005) on the data in Malaysia continually use the benchmark model on larger samples. A study by Irfan et al. (2012) evaluated the performance of conventional and Islamic mutual funds in Pakistan.

Selectivity, risk adjustment performance, risk and return bases, timing, diversification of the funds were evaluated and the results showed better performance of the Islamic mutual funds with a Sharpe ratio of -3.045 than conventional mutual funds (-3.7152). Conventional and Islamic funds had lower performance than their benchmark. Hayat and Kraussl (2011) found the performance of the IEF's lower than the Islamic and also conventional equity benchmarks by examining the performance of conventional equity funds and Islamic equity funds (IEF's) between 2000 and 2009.

It is important to compare the two groups of unit trust industry in terms of efficiency for Turkish investors since it has a dual financial system where Islamic and conventional unit trust fund companies operate in parallel. Therefore, the comparison shows the performance of Islamic unit trust companies with operations restricted to the chosen companies that comply with the sharia, as opposed to conventional unit trust companies that invest in suitable companies with possibly the highest return. In the end, the results of the study can help make the Turkish unit trust industry more efficient.

We organize the remaining of this study as follows: Section 2: provides a review of the literature on the unit trust industry. Section 3: describes the methodology and data of the multiple factors of Fama and French. Section 4: provides analysis and results, and Section 5: conclusion of the study.

1. LITERATURE REVIEW

In recent years, Sharia or Islamic compliant investinghas experienced unprecedented growth. This style of portfolio management reflects the desire of a category of investors to grow their capital without conflicting with the religious precepts that are supposed to govern their spiritual lives. More specifically, this type of investment is the result of a financial transposition of Sharia law. Sharia prohibits installment loans and makes trading legal. This Islamic principle is based on "halal" activities through the sale and purchase between different parties and prohibits the financing of activities or products deemed illegal such as alcohol, tobacco, pork, etc.). Islamic finance in its functioningvalues capital and work through an equitable distribution of gains and risk. This form of finance has proven its worth in the world of finance especially in times of crisis.

Before the 2000's, there was very little work on analyzing the performance of Islamic securities funds. Most of thework at the time was limited to assessing the risks and returns of a portfolio of conventional funds. However, since the 2000's, many researchers have started to focus on Islamic funds. One example is a study by Hajara Atta (2000), suggesting that the performance of the Islamic index is better than that of an ethical benchmark sample, which is unscreenedusing the unconditional measure of Jensen, Treynor and Sharpe. Their work has often focused on Islamic funds in the United States, United Kingdom, some Arab countries, Pakistan, and especially in Malaysia. Besides, most of the previous studies have focused on Muslim and emerging countries, but few studies have been

conducted on the Western countries. For instance, much work has been done in Malaysia. We can mention the studies of Fadillah and Ishaq (2011); Ismail and Shakrani (2003); Abdullah and al. (2007); Fikriyah et al. (2007); Sadeghi (2008); Nik Maheran and Masliza (2008); Lean and Parham (2012); Osamah and Lean and Anis Samet (2013); Saad and al. (2010); Abdul Ghafar, Ismail and Suhal Kusairi (2010).

In general, most studies have analyzed the performance of Islamic funds and compared it to conventional funds.Islamic stocks have been examined on a proxy basis as some Islamic indices and compared to non-Islamic ones by another group. Most of the studies conducted on Islamic funds do not unanimously find positive performance or outperformance of Islamic funds. Some authors support the outperformance of Islamic funds, others claim the underperformance and for the last group, there would be no difference between the two types of funds.

First, Abdullah et al. (2007) analyzed unit trusts in Malaysia consisting of 51 conventional and 14 Islamic funds. They find that performance of both funds was slightly below the KLCI benchmark. But when risk is taken into account, the Islamic Equity Funds outperform conventional funds in bear markets, while IFEs underperform their conventional counterparts in bull markets. This means that the Islamic Equity Funds outperform the non-Islamic funds only in times of economic crisis. This is in line with the result by Elfakhani et al. (2005), who estimated the performance of Islamic investment fundsin Malaysia considering their NAV between 1995 and 2001 and compared the returns of conventional funds with those of Islamic funds. In thisstudy, it was found that both groups of investment means had slightly lower performance than the market and gave all categories of funds relatively poor market timing and selection ability.

After the study of Abdullah and al. (2007) Fadillah and Ishaq (2011) also used to evaluate the performance of Malaysian mutual fundsof conventional and Islamic portfolios. Using monthly data from the period of 1996-2009, they considered 350 conventional mutual funds and 128 Islamic mutual ones. The results of their study show better performance of both portfolios than the market portfolio over the period.

Irfan et al. (2012) evaluated how both mutual funds perform in Pakistan. The risk and return bases, selectivity, diversification, timing of the funds, and risk adjustment performance were evaluated. 125 funds (94 conventional and 31 Islamic mutual funds) were studied as a data set. The results showed a better performance of Islamic mutual funds with a Sharpe ratio of -3.045 than conventional mutual funds (-3.7152). The performance of both funds was below their benchmark.

Furthermore, in recent studies, Osamah et al. (2013) examined if Islamic stock indexes perform better than conventional stock indexes from 1996 to 2012. They compared Dow Jones Islamic (DJI) indexes to conventional ones in the Asia Pacific, emerging markets, Developed Country, Global, Japanese, European, US, and UK indexes. The resultsobtained are similar to those of Abdullah and al. (2007) ones. The results show better performance of Islamic indexes than conventional ones during the recent financial crisis around the world. Therefore, Islamic investment has better performance than conventional investment due to the collapse of the economy.

For instance, in addition to the study by Abdullah et al. (2007) who found better performance of conventional funds than Islamic funds in good economic times and vice-versa, Fikriyah et al. (2007) showed better performance of conventional funds than Islamic ones by testing the performance of Islamic funds in Malaysia from 1995 to 2001.

Besides, Hayatand Kraussl (2011) evaluate the performance of conventional equity funds and IEFsfrom 2000 to 2009, and findthat IEFs underperform both Islamic and conventional equity benchmarks. Furthermore, they find more pronounced underperformance during the recent financial

crisis and conclude that Muslim investors should not invest in Islamic equity funds but in Islamic exchange-traded funds or Islamic index-tracking funds to improve their portfolio performance.

The last part of this review shows that some authors did not considera difference between conventional and non-conventional funds. For example, a study by Shamsher et al. (2000) on 41 passively and actively managed mutual funds in Malaysia between 1995 and 1999, by using Treynor, Jensen's alpha, and Sharpe ratios found that passively and actively managed funds were not significantly different in terms of performance and that both underperformed the market portfolio. It also showed that the diversification levels were less than 50 % compared to the market index diversification level (Kuala Lumpur Composite Index- KLCI).

Similarly, Elfakhani et al. (2005) examined the performance of Islamic mutual funds from January 1, 1997, to August 31, 2002 based on the DJIM Technology Index and the S&P 500 Index using 46 Islamic mutual funds. Their findings indicate that there is no statistical difference between the funds studied in terms of performance based on the corresponding indices and that these funds are similar in terms of financial and benchmark performance. The authors found that the performance of Islamic mutual funds improved over time due to the market knowledge and experience gained by the fund managers.

Girard and Hassan (2005) also found no difference between both indices. It should be noted that this may be a return performance, and when risk is taken into account, both indices have a similar overall reward to the benefits of diversification and risk. The Dow Jone Islamic indices have improved performance in 1996–2000, and lower performance in 2001 and 2005 than their conventional counterparts have. Overall, both indices have a reward similar to diversification benefits and risk. Thus, Abderrezak (2008) demonstrated that Islamic and ethical funds had a similar performance. He also found that ethical and Islamic funds were not significantly different in performance based on Fama's performance measures.

A recent study by Mansor et al. (2012) used analysis of panel data from 1990 to 2009 to assess fund performance based on market benchmark. Based on the previous studies, the results reveal on average that the performance of Islamic funds does not differ statistically significantly between single and multiple benchmarks. The results also show lower market timing expertise but higher fund selectivity skill among Islamic fund managers over the courseof the study. On the other hand, results show a difference between the performance of Islamic fundsand the market benchmark.

To evaluate the performance of equities, most researchers started with the CAPM single index model which was extended to three factors proposed by Fama and French and the four-factor model proposed by Carhart (1997). The debate on the issue of the performance of Islamic funds is not over yet. Although Islamic stocks and studies have developed recently, there is no rich literature regarding the Islamic market as compared to conventional stocks but few studies have been conducted in Turkey and our contribution will be, to estimate the performance of Turkish Islamic equities comparing to conventional ones.

2. DATA AND METHODOLOGY

2.1. DATA AND VARIABLES

This study concerns 102 companies that do not deal with interest credit above a certain threshold for their activities (33% in the case of this study) and classified in different sector categories of companies. The companies studied are selected based on the criteria of the participation index and the rates of appeal. In addition, we considered eligible companies simultaneously during the last three

periods. Most of our data is collected from the Turkish website (www.investing.tr.com). This website publishes information on each stock, periodic analysis of the industry, performance graphs, and annualperformance reports showing percentage changein the stock or monthly NAVs of the equity. Historical stock price data is also provided.

Using a sample of 102 companies, the data consists of daily prices for each company and the BIST 100 index which represents the market benchmark stock for this study. The Bist-100 is composed of 100 of the best stocks and is used as a benchmark that excludes the market effect in this study. In addition, the daily interest data of one-year Turkish bonds are used as the risk-free rate.

As a result, the performance of the BIST 100 only shows returns to its significant securities. To cover the majority of companies, the period studied begins in January 2016 and ends in December 2020. January 2016 is chosen due to the availability of several companies' data in the market over time. In fact, most of the companies have limited data, andour study covers 102 companies from January 2016 to December 2020. Hence, the total sample period is 1256 days. The daily excess returns were calculated for each company and used for estimation. Market capitalization and book-to-share ratio dataof each company are also collected. The 12-month Turkish bond yields are used as a risk-free rate for our study to calculate the daily excess returns for each portfolio and the performance of each company category is measured and compared to the market benchmark performance.

2.2.METHODOLOGY

The CAPM model, extended to the Fama and French three-factor model is the mai model of this study. The Jensen's alpha, which is generally a measure of outperformance or underperformance based on the market proxy used, is given by the intercept of such a model, α.We estimate a simple CAPM to start analysis as follows:

$$R_p = R_f + \beta(R_m - R_f)$$

$$R_p - R_f = \beta(R_m - R_f)$$

$$E(r_{pt}) = \beta_p E(r_{mt})$$

$$r_{p,t} = \alpha_p + \beta_p r_{m,t} + \varepsilon_{p,t} (1)$$

$r_{p,t} =$The return of portfolio (P) excess at time t over the rate without risk

$r_{m,t} =$ The equity market benchmark over the risk-free rate

$\beta_p =$The portfolio's systematic exposure

$\alpha_p =$ denotes Jensen's alpha

The Jensen alpha is usually a measure of outperformance or underperformance based on the used market proxy is given by the intercept of such a model, α.Thus, we include the fama french factor.

Fama And French Model (1993)

The robustness of theresultsis tested by evaluating the performance of the companies in our sample on the basis of the market benchmark using the Fama-French (F-F) three-factor model, and CAPM. We use the Fama-French factor size SMB and HML. A follow-up paper showed the evolution of Fama and French (1993) to a testing framework based on a time series. One can also use two

additional risk factors of a value-weighted market proxy i.e.book-to-market ratio and size. We have the Fama and French model as follows

$$r_{p,t} = \alpha_p + \beta_p r_{m,t} + \gamma_p SMB_t + \delta_p HML_t + \varepsilon_{p,t} \qquad (2)$$

p = 1, 2, ...,6   and t=1.....T

where $r_{p,t}$, and $r_{m,t}$ denotes a portfolio (p) excess return and the market benchmark excess return, respectively. βp is the systematicexposure of the portfolio to market equity. αp represents Jensen's (1968) alpha, as the systematic return component of the portfolio below or above the return obtained based on the equity market benchmark for the equal level of systematic risk. εp,tdenotes the random components of the excess return of a portfolio for each observation (t).

SMB stands for Small minus big: The size factor is interpreted as the difference in returnsbetween stocks in the upper half of the same universe and those in the lower half of a universe of stocks ranked by market capitalization. In other words, there is a difference between a Large-Cap portfolio and a Small-Cap portfolio at time t in terms of return.

HML stands for high minus low: The factor of the book to market ratio is related to a stock universe which is ranked based on the ratio of book to market value, representing the return of the top 30% minus the bottom 30%. In other words, it is the difference in return between a portfolio of one of the low book to market stocks and the high book to market stocks at time t.

After estimating the portfolio's performance, we now evaluate the performance of each company's equity.

$$r_{i,t} = \alpha_i + \beta_i r_{m,t} + \gamma_i SMB_t + \delta_i HML_t + \varepsilon_{i,t} \qquad (3)$$

i=1,2,.......N   and t=1.....T

2.3. MEASUREMENT OF PERFORMANCE

Outperformance or underperformance based on the used market proxy is measured using the alpha (intercept) in the single-factor model using the CAPM as well as the four-factor model (if non-zero) and the three-factor model. In the Fama and French study, the intercepts can be reduced by including the market factor in the HML and SMB factors. Since the three-factor regressions have a very high market slope (beta) and the same strong intercepts in the SMB and HML regressions, stock returns can be absorbed or reduced by this average market risk premium, which means explaining the differences in average return on stocks by the factors of size and book to market ratio.

The book to market ratio is low for growth stocks and high for value stocks. So, in this study, we also calculate these variables by using the sample companies classified into size (small or large) and value (high or low) according to book-to-market and market capitalization. We collecteddata on market capitalization and book-to-market ratio for each company and we computed the Fama-French SMB and HML variables.

Moreover, the daily excess returns for each stock and index are calculated. The companies in this study are classified into six portfolios. Table 1 shows and calculates standard deviations, average portfolio returns, and betas for each portfolio.

Table1: Summary Statistics of daily Excess Returns of BIST 100 Market Index, SMB, HML Factors and six portfolios from January 2016 to December 2020

Variables	Mean	Std. Deviation	Minimum	Maximum	Skewness	Kurtosis
BIST-100	0,0079	0,0802	-17,205	17,267	-0,4592	5,5176
SMB	0,0278	0,0217	-3,1627	5,5317	0,7243	6,4247
HML	0,0102	0,0294	-3,8603	8,6198	1,2638	10,4849
S/L	0,1889	0,0439	-14,656	7,4044	-1,4887	11,8651
S/M	0,1858	0,0460	-13,530	8,9246	-1,1164	8,3708
S/H	0,1364	0,0454	-13,725	6,8382	-0,9495	8,8675
B/L	0,0921	0,0600	-16,231	8,7800	-1,4620	11,3503
B/M	0,1706	0,0390	-9,8954	7,3414	-1,2048	7,1371
B/H	0,165	0,0386	-9,2168	7,5284	-0,8873	6,8273

Summary of statistics of the daily excess return of Market Index, SMB, HML factors, and S/L, S/H, B/M, S/M, B/L, B/H different portfolios are given in Table 1. The average excess return of the SMB (0,0278); the average excess return of HML (0,0102) and the average excess return of six different portfolios S/L (0,1889); S/M (0,1858); S/H (0,1364); B/L (0,0921); B/M (0,1706); B/H (0,165) are above the market (0,0079). This suggests that these portfolios outperform the benchmark index in terms of average and shows that the size and the value of a portfolio are very important to outperform the market.

The BIST-100 variables and the six portfolios B/L; S/M; S/L; S/H; B/H; B/M have a negative skewness, which means that the distribution of these different variables is skewed to the left. On the other hand, the distribution of the HML and SMB variables is skewed to the right. Furthermore, the Kurtosis shows that all the variables have a leptokurtic distribution. The skewness and kurtosis for all series suggest that returns have no normal distribution. Comparing the variability of the average daily excess returns and the standard deviations indicates that the six portfolios S/L (0,0439); S/M (0,0460), S/H (0,0454), B/L(0,0600), B/M (0,0390) B/H (0,0386), and the two factors SMB (0,0217) and HML (0,0294) are lower than the market index (BIST-100) standard deviation (0,0802). This result shows that the volatility of the returns of these portfolios is lower than that of the benchmark.

Table 2: Summary Statistics: Cross Correlations from 2016 to 2020

	S/L	S/M	S/H	B/L	B/M	B/H	SMB	HML	BIST-100
S/L	1								
S/M	0,7949	1							
S/H	0,7024	0,7137	1						
B/L	0,6127	0,6075	0,5682	1					
B/M	0,7837	0,8195	0,7502	0,6361	1				
B/H	0,7506	0,7856	0,7059	0,6223	0,8078	1			
SMB	0,2472	0,2241	0,2841	-0,4329	-0,0332	-0,0963	1		
HML	-0,3379	-0,1478	0,1299	-0,6315	-0,1259	0,0045	0,4132	1	
BIST-100	0,3484	0,3847	0,3194	0,3042	0,3973	0,4368	-0,0476	-0,0377	1

Table 2 shows the results of the correlations between SMB, HML, market, size, and value difference portfolios S/M, S/L, B/M, S/H, B/H, B/L. The table result shows a positive correlation between the size and value six portfolios. Besides, the result indicates a positive correlation between the SMB factor and small company portfolios and a negative correlation with large stock portfolios. On the other hand, the result shows a negative correlation between an HML factor, the portfolio of a low and medium value company. Thus, a positive correlation with a high-value companies' portfolio is found. In addition, there is a positive correlation between the SMB and HML factors. The relationship between the market index and the two factors is found to be negative with both factors. However, the relationship is positive between the benchmark and all six portfolios.

This means that market size (SMB) and value (HML) factors better explain variations in average portfolio returns. The differences in returns between stocks and the market are explained by the HML and SMB (market excess return) factors, and the average return on stocks relative to the risk-free return is explained by the risk premium associated with being a stock (not a government bond).

3. EMPIRICAL RESULTS

3.1. The Single-Factor CAPM Model Results

Jensen's measure of performance is estimated using the standard CAPM security market line based on the BIST-100 benchmark. Ordinary Least Square (OLS) is used to estimate Equation (1) and Table 3 shows the results of the comparative performance.

Table 3: Brief Performance, CAPM Regressions Of BIST100 Market Index And 102

Company	Alpha	P.value	Beta	R^2	Observations
1	0,0783	0,3201	0,9931	0,5063	1256
2	-0,0122	0,8872	1,0217	0,4737	1256
3	0,0486	0,4704	1,0183	0,5955	1256
4	-0,0101	0,8535	0,9592	0,6622	1256
5	0,0832	0,2345	0,8321	0,4771	1256

6	0,0211	0,8013	0,9559	0,4562	1256
7	0,0058	0,9298	1,0131	0,6039	1256
8	0,1769**	0,0142	0,9499	0,5281	1256
9	0,1144	0,1915	1,0277	0,4702	1256
10	0,1752**	0,0256	0,9634	0,9634	1256
11	0,0515	0,5619	0,9178	0,4074	1256
12	0,1560**	0,0322	0,9952	0,5464	1256
13	0,1458	0,1279	0,9433	0,3849	1256
14	0,1017	0,1603	0,9987	0,5507	1256
15	0,0415	0,5647	0,9362	0,5201	1256
16	0,1057	0,1641	0,9739	0,5145	1256
17	0,1308	0,0575	0,9367	0,5441	1256
18	0,2363**	0,0171	0,9344	0,3647	1256
19	0,2031*	0,0667	0,9899	0,3403	1256
20	0,1378	0,1378	0,9722	0,5261	1256
21	0,0004	0,9951	0,8578	0,5366	1256
22	0,109	0,1339	0,9577	0,5281	1256
23	0,1147	0,2586	0,9746	0,3727	1256
24	0,0054	0,944	0,9588	0,4968	1256
25	0,2997***	0,0062	0,8879	0,2986	1256
26	0,1387	0,3008	0,9598	0,2485	1256
27	0,1529	0,0226	0,9973	0,5881	1256
28	0,1398*	0,0704	0,9248	0,4804	1256
29	0,1899*	0,0761	1,0172	0,3684	1256
30	0,0447	0,6564	0,9492	0,3651	1256
31	0,0936	0,3746	0,9912	0,363	1256
32	0,1104*	0,09	0,9449	0,5759	1256
33	0,1399**	0,0198	0,948	0,6173	1256
34	0,0393	0,4999	0,9971	0,6546	1256
35	0,0674	0,4652	0,9688	0,4152	1256
36	0,0335	0,7011	0,9769	0,4475	1256
37	0,0970*	0,0695	1,0004	0,6938	1256
38	0,1203	0,1783	0,8944	0,3927	1256
39	0,1804	0,2318	0,6938	0,1201	1256
40	0,1647	0,0583	0,9552	0,438	1256
41	0,0394	0,492	1,0131	0,6684	1256
42	0,1883	0,0059	1,0192	0,5896	1256
43	0,1015	0,256	0,9873	0,4407	1256

From 2016-2020

Table 3: Continuation

44	0,0673	0,3178	0,9939	0,5841	1256
45	0,1910*	0,0966	0,8952	0,2813	1256
46	0,1619	0,1451	1,0169	0,3508	1256
47	0,0654	0,2977	1,0299	0,6342	1256
48	0,1084	0,3298	0,9624	0,3256	1256
49	0,0065	0,8906	1,001	0,7389	1256
50	0,1982***	0,0061	0,9709	0,5386	1256
51	0,2743**	0,0112	0,8894	0,3042	1256

52	0,0623	0,5478	0,8948	0,3242	1256
53	0,0956	0,4362	1,0151	0,3061	1256
54	0,0778	0,2578	0,9891	0,572	1256
55	0,1236	0,1701	0,9426	0,4139	1596
56	0,1636*	0,0689	0,9775	0,433	1256
57	0,0509	0,5271	1,0379	0,5173	1256
58	0,1851**	0,0182	0,9863	0,5055	1256
59	0,1696	0,1449	0,9263	0,2904	1256
60	0,0481	0,4504	0,9413	0,5845	1256
61	0,0928	0,3107	0,9595	0,4147	1256
62	0,2621*	0,0545	0,8044	0,1836	1256
63	-0,0097	0,9082	0,985	0,4712	1256
64	0,1826*	0,0882	1,0174	0,3681	1256
65	-0,0563	0,5016	0,7802	0,3586	1256
66	0,0566	0,5911	0,9143	0,3266	1256
67	0,0536	0,5398	0,9838	0,4492	1256
68	0,0569	0,525	1,0083	0,4506	1256
69	0,0437	0,4946	0,909	0,566	1256
70	0,1257	0,402	0,8997	0,1883	1256
71	0,0476	0,4479	1,0033	0,6224	1256
72	-0,0004	0,9945	0,8386	0,5703	1256
73	0,1187	0,2176	1,005	0,4128	1256
74	0,0721	0,4822	0,9364	0,3493	1256
75	0,0314	0,6133	0,8542	0,5494	1256
76	0,0939	0,1891	1,0871	0,7738	1256
77	0,1007	0,2158	0,9679	0,4773	1256
78	2,24E-05	0,9997	0,9399	0,5693	1256
79	0,0364	0,6631	0,945	0,4553	1256
80	0,117	0,1521	0,9939	0,4886	1256
81	0,2174	0,1206	0,7414	0,1532	1256
82	0,1976	0,0806	0,8757	0,2791	1256
83	0,1603*	0,0581	0,9697	0,4591	1256
84	0,0244	0,7661	0,9811	0,4807	1256
85	0,1036	0,1795	0,9918	0,516	1256
86	0,0717	0,422	1,009	0,4513	1256
87	0,1076	0,1198	0,8937	0,5184	1256
88	0,1748	0,0504	0,9718	0,4333	1256
89	0,2427**	0,024	0,934	0,3276	1256
90	0,2659***	0,0088	0,9192	0,3463	1256

Table 3:Continuation

91	0,0278	0,6484	0,9662	0,6175	1256
92	0,008	0,8741	1,0849	0,7483	1256
93	0,1263	0,1488	0,9981	0,4564	1256
94	0,0803	0,1841	0,94	0,6091	1256
95	0,0528	0,5755	1,0336	0,4362	1256
96	0,116	0,2467	0,7676	0,2748	1256
97	0,1159	0,1139	0,8748	0,4786	1256
98	0,0262	0,719	1,0641	0,5789	1256

99	0,1248	0,1453	0,9731	0,4541	1256
100	0,0801	0,2173	0,9893	0,5997	1256
101	0,1647*	0,0717	1,0231	0,447	1256
102	0,1056	0,3027	1,0572	0,407	1256

*, ** and *** show statistically significant coefficient respectively at 10%, 5% and 1%.
a. Companies are listed in table 6.

Table 3 shows the alpha and beta of 102 companies relative to the market index BIST-100 over the period covered by this study. A positive alpha indicates an outperformance of equity and a negative alpha means an underperformance against the benchmark. The result shows that a large partion of the companies outperformed the market; the alpha is positive. But only twenty-two companies have their alpha significantly different from zero, the rest are not. The beta of all the companies studied is high and turns around 1. This means that the returns of these stocks are strongly and positively influenced by the market.

The R-square (R2) of each company is moderate. It implies that the market separately explains a moderate proportion of the variation in company returns, indicating the ability of the selected benchmark to explain the portfolio returns.

The robustness of this conclusion can be validated by extending the asset-pricing model to three-factor modeling based on Fama and French (1993).

3.2 Results of the Fama- French Three-Factor Model

The CAPM-based single-factor regression is extended to the Fama-French model. The factors in the model are the mimicking portfolios of the factors of book-to-market ratio and size and value-weighted index. An abnormal performance in such models is denoted by a non-zero intercept in the regression of the excess portfolio returns on the excess factor returns.

Excess returns (daily portfolio returns minus the risk-free rate) are separately estimated by the time-series regressions in this study as dependent variables and the value-weighted market factor excess return BIST-100, book-to-market factors, and the size as the explanatory variables. In Table 4, the estimated results of six portfolios of the Fama-French three-factor model results are shown.

Table 4. The Estimated Results Of Six Portfolios Of The Fama-French Three-Factor
Model Results

	Small Low	Small Medium	Small High	Big Low	Big Medium	Big High
Alpha	0,1024	0,1014	0,0517	0,0509	0,1029	0,1016
	(0.0000)***	(0.0005)***	(0.1300)	(0.1360)	(0.0002)***	(0.0000)***
β_{SMB}	1,0088	0,7979	0,6449	-0,5083	0,1044	-0,1444
	(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***	-0,008	(0,0012)***
β_{HML}	-0,7521	-0,411	0,0637	-1,0723	-0,1388	0,1117
	(0.0000)***	(0.0000)***	(0.0761)*	(0.0000)***	(0.0000)**	(0.0000)***
$\beta_{BIST-100}$	0,9478	0,9797	0,9444	0,9607	0,9471	0,9641
	(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***	(0.0000)***
R^2	0,9172	0,8849	0,8346	0,8676	0,8847	0,918

*, ** and *** statistically significant coefficient respectively at 10%, 5% and 1%

Table 4 result shows that all six portfolios abnormally outperform the market with positive alpha. But, the alpha is significant for four portfolios (Small-low, Small-medium, Big-medium, and Big-high) and the R-square of each model is high. This result implies that except for small-high and big-low, a portfolio built only on the stocks of the companies in this study outperforms the market.

The beta of factor SMB is positive for four portfolios (S/L; S/M; S/H; B/M) and negative for two portfolios (B/L; B/H) and the beta of factor HML is negative for four portfolios (S/M; B/M; S/L; B/L;) and positive for two portfolios (S/H; B/H).

Now to better understand the outperformance or underperformance, we estimate the stock of each company with the three F-F factors and compare it with the CAPM single variable. Table 5 below shows the estimation results.

Table 5: Performance of companies with F-F Three-Factor Model from 2016 to 2020.

(Regression based on daily returns, with the Number of Observations: 1256)

1	0,0591	0,444	0,7928	-0,2859	0,9993	0,526
2	0,0122	0,8771	-0,5224	-0,9633	1,0017	0,5579
3	0,0319	0,6229	0,7994	-0,5438	1,0211	0,6247
4	-0,0071	0,8973	-0,0366	-0,2	0,956	0,6666
5	0,0795	0,2559	0,145	-0,0398	0,8335	0,478
6	0,0117	0,8865	0,5532	-0,5895	0,955	0,4773
7	0,6079	0,91	0,0272	-0,2304	1,0103	0,6079

Table 5:Continuation

8	0,1781**	0,0133	-0,1384	0,2611	0,9518	0,5326
9	0,0856	0,3131	1,0923	-0,1606	1,0396	0,5042
10	0,1652**	0,0344	0,4272	-0,1926	0,9663	0,4994
11	0,0553	0,534	-0,1695	0,0929	0,9169	0,4084
12	0,1538**	0,0349	0,0853	-0,0198	0,9961	0,5467
13	0,1386	0,1478	0,2541	0,013	0,9468	0,3872
14	0,0894	0,2074	0,6213	-0,4896	0,9999	0,5704
15	0,0425	0,5559	-0,0922	0,1582	0,9373	0,5218
16	0,09	0,2288	0,4928	0,1888	0,9829	0,5309
17	0,1196*	0,0796	0,4916	-0,2426	0,9397	0,5539
18	0,2366**	0,0168	-0,1158	0,279	0,9368	0,3685
19	0,2009*	0,0699	0,0312	0,1244	0,9921	0,3412
20	0,1462**	0,0479	-0,3521	0,1398	0,9696	0,5304
21	0,0025	0,9682	-0,1789	0,2757	0,8593	0,5429
22	0,1111	0,1265	-0,0244	-0,1357	0,9555	0,5298
23	0,0844	0,386	1,3796	-0,7894	0,9815	0,4252
24	0,0275	0,6992	-0,4798	-0,8428	0,9409	0,5753
25	0,2769***	0,0095	1,0838	-0,7176	0,8919	0,3333
26	0,1167	0,3704	1,2018	-1,1121	0,9599	0,2923
27	0,1521**	0,023	0,1096	-0,2191	0,9957	0,5913
28	0,1357*	0,0776	0,0456	0,2724	0,9292	0,4867
29	0,1631	0,1147	1,2661	-0,8255	1,0222	0,4123
30	0,027	0,7818	0,9361	-0,8171	0,9499	0,402
31	0,0717	0,4865	1,0362	-0,6752	0,9952	0,3934
32	0,1202*	0,0633	-0,4054	0,1471	0,9417	0,5825
33	0,1398**	0,0199	-0,0062	0,0187	0,9482	0,6174
34	0,0321	0,5795	0,2978	-0,1137	0,9994	0,6582
35	0,0511	0,5699	0,8558	-0,7244	0,9698	0,4477
36	0,0372	0,6691	-0,2111	0,206	0,977	0,45
37	0,1015*	0,0552	-0,2605	0,26	1,0006	0,6997
38	0,0952	0,2705	1,1216	-0,5953	0,9006	0,4344
39	0,1618	0,2798	0,8947	-0,6136	0,6969	0,1361
40	0,1639*	0,0591	-0,0531	0,2132	0,9575	0,4406
41	0,0407	0,4765	-0,0052	-0,1203	1,0115	0,6697
42	0,1881***	0,0059	0,0474	-0,1078	1,0183	0,5904
43	0,0735	0,3966	1,0004	0,0014	1,0002	0,4738
44	0,0652	0,3316	0,1573	-0,2245	0,9928	0,5875
45	0,1654	0,1366	1,2635	-0,9372	0,8985	0,3298
46	0,1364	0,2077	1,1775	-0,7143	1,0222	0,3851
47	0,0585	0,3504	0,272	-0,0666	1,0325	0,6369
48	0,0808	0,457	1,2017	-0,5752	0,9699	0,3585
49	0,0026	0,9559	0,2397	-0,2637	1,0005	0,7451
50	0,2067***	0,004	-0,3979	0,2463	0,9693	0,5453
51	0,2536**	0,0175	0,8906	-0,4096	0,8953	0,3237
52	0,0796	0,4371	-0,7898	0,4577	0,891	0,3421
53	0,0721	0,5509	1,0431	-0,5489	1,0209	0,3278
54	0,0881	0,1969	-0,4282	0,1523	0,9857	0,5785
55	0,1066	0,2252	0,8469	-0,6434	0,9447	0,4434

56	0,1432	0,1058	0,8062	-0,2137	0,985	0,4509

Table 5:Continuation

57	0,0298	0,6991	1,0225	-0,718	1,0411	0,5584
58	0,1838**	0,0191	0,0959	-0,1319	0,9857	0,5066
59	0,1487	0,6998	0,796	-0,1369	0,9346	0,304
60	0,0471	0,4597	0,008	0,0688	0,9424	0,585
61	0,0755	0,3952	0,8984	-0,753	0,9607	0,4506
62	0,2404*	0,0728	1,0836	-0,8234	0,807	0,2131
63	-0,0205	0,8039	0,5721	-0,495	0,9855	0,4875
64	0,1617	0,1242	0,9629	-0,5795	1,0218	0,392
65	-0,0565	0,4996	-0,0479	0,155	0,7818	0,3603
66	0,0946	0,3157	-0,9144	-1,2092	0,8858	0,4624
67	0,0393	0,6485	0,6662	-0,4184	0,9866	0,4646
68	0,0419	0,6263	0,8585	-0,8715	1,0073	0,4926
69	0,0467	0,4637	-0,0583	-0,1431	0,9063	0,5685
70	0,0955	0,5092	1,581	-1,3456	0,9015	0,247
71	0,0479	0,4452	0,0163	-0,0754	1,0024	0,6229
72	-0,0133	0,817	0,4565	0,0189	0,8448	0,5832
73	0,0931	0,3124	1,2338	-0,8547	1,0091	0,4631
74	0,0483	0,6263	1,1465	-0,7964	0,9401	0,3918
75	0,011	0,8528	0,6644	0,1709	0,8652	0,5836
76	0,0997	0,1624	-0,1892	-0,0585	1,0839	0,6008
77	0,0814	0,3068	0,8391	-0,3967	0,9732	0,5004
78	-0,0207	0,7444	0,7623	-0,0453	0,9491	0,595
79	0,032	0,6998	0,2525	-0,2686	0,9495	0,4597
80	0,1063	0,1852	0,5842	-0,5454	0,9938	0,5078
81	0,1936	0,1601	1,1321	-0,7601	0,7454	0,1814
82	0,1794	0,1102	0,7187	-0,1827	0,8824	0,2905
83	0,1369*	0,0903	1,1148	-0,7516	0,9736	0,507
84	0,0168	0,8364	0,4026	-0,3537	0,9817	0,4892
85	0,0942	0,2193	0,4323	-0,2601	0,9938	0,5231
86	0,0556	0,5219	0,8387	-0,7072	1,0095	0,4824
87	0,1088	0,1161	-0,0514	0,0199	0,8933	0,5185
88	0,1572*	0,0679	0,9284	-0,8083	0,9726	0,4743
89	0,2489**	0,0205	-0,1527	-0,1893	0,9295	0,331
90	0,2755***	0,0064	-0,2463	-0,2697	0,9123	0,3543
91	0,0223	0,7146	0,2092	-0,0289	0,9685	0,6194
92	0,0137	0,7847	-0,2201	0,036	1,0826	0,7502
93	0,1082	0,1992	0,9398	-0,7887	0,9993	0,4965
94	0,0881	0,1436	-0,3001	0,0546	0,9369	0,613
95	0,0692	0,4218	-0,1166	-1,2741	1,0144	0,5306
96	0,1145	0,2533	0,0691	-0,0451	0,7679	0,275
97	0,1177	0,1087	-0,0255	-0,0995	0,873	0,4796
98	0,0075	0,9139	0,9218	-0,6797	1,0666	0,6162
99	0,1191	0,1634	0,3022	-0,2651	0,9733	0,4587
100	0,0829	0,2018	-0,0949	-0,0185	0,9878	0,6002
101	0,1679*	0,0665	-0,0903	-0,0687	1,0211	0,4477
102	0,0805	0,418	1,158	-0,703	1,0624	0,4427

*, ** and *** statistically significant coefficient respectively at 10 % and 5% and 1% level.

As in the estimation of the single variable model, the result inTable 5 shows that except for five stocks, the majority comes out with a positive Alpha, which means an outperformance of these stocks in the market. The remaining stocks showed a negative alpha which indicates an underperformance of these stocks in the market. Despite the outperformance of the stocks in the market, only twenty-four of them have a significant positive alpha (companies are highlighted in Table 6) with R-square around 50%; for the others, alpha is statistically insignificant. This result means that the variation in companyreturns is also explained by other sources thatare not market-related. These could be due to factors internal to the company such asthe relationship with customers (customer loyalty, confidence in the activity of the company, etc.).

Both models show the positive abnormal performance of most companies against the market proxy. Our findings are in line with many studies (Abdullah (2007); Osamah et al. (2013) for Islamic funds)and argue that participation funds outperform the market. The portfolios constructed by this type of stock are well diversified and can provide a low risk return for investors. High-risk activities yield significant returns or losses. For an investor whose investments are speculative and risky funds, the cumulative gains and losses over a long period of time would be virtually small or null. However, for equity funds that have relatively moderate gains relative to business sectors, these funds perform better over the long term. This performance is the result of a reduction in the risk effect due to loan interest charges.

CONCLUSION AND DISCUSSIONS

This study aims to evaluate the excess return performance of mutual fundcompanies based on benchmarks, using the CAPM model extended on multiple factors analysis. İn this paper, performance analyses are based on the data of Turkish companies from 2016 to 2020. It was mentioned earlier that the Islamic unit trust companies should be evaluated, due to the effect of potential loss of capital market on conventional unit trusts while the Islamic unit trusts are affected by the potential loss of capital market and the constraints under Shari'ah principles. As a result, the performance of Islamicunit trust is expected to differ. Analytical data from a panel of mutual fund companies is analyzed to measure the performance of these companies against the market benchmark, using the Fama-French three factors model. The main result shows that the performance of the returns of most of the mutual fund companies is superior to the market benchmark. The result also shows a statistically significant difference in the excess return performance of the mutual funds based on the single benchmark of most companies. The results are similar to those obtained by many studies, which show that Islamic unit funds or also mutual funds outperformed during economic crisis and underperformed duringprosperous times. This study is one of the few to deal with equity funds in Turkey. These results will help guide investors or financial asset managers to profitable and Islamically eligible equity companies. The companies concerned will have to invest more in regulatory and non-speculative activities with the support of equity from shareholders and lenders complying with the terms of the doctrine. But our study is limited because we do not take many time periods for the analysis which can be subdivided into a few part-time series to see a real influence of the time period on the performance of companies. On the other hand, the set of holding fund companies was not considered in the analysis due to the lack of data, and this can be a limit of this study which could be noted by other studies in Turkey. The studyonly investigates a hundred and two companies and the indicative results may not include the Turkish participation fund industry in general. Since the number

of participating companies is increasing in the country, there should be more inclusive studies to examine those funds' efficiency regarding the market data.

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Annex 1.

Table 6: List of Companies

No	Company	Denominated	Sector
1	ACSEL	Acıpayam Selüloz	Basic Materials
2	AFYON	Afyon Çimento	Capital Goods
3	AGYO	Atakule GMYO	Services
4	AKCNS	Akçansa	Capital Goods
5	AKMGY	Akmerkez GMYO	Services
6	AKSUE	Aksu Enerji	Utilities
7	ALBRK	Albaraka Türk	Financial
8	ALCAR	Alarko Carrier	Capital Goods
9	ALCTL	Alcatel Lucent Teletaş	Technology
10	ALKA	Alkim Kağıt	Basic Materials
11	ALKIM	Alkim Kimya	Basic Materials
12	ARENA	Arena Bilgisayar	Technology
13	ARMDA	Armada Bilgisayar	Technology
14	ARSAN	Arsan Tekstil	Consumer Cyclical
15	ASELS	Aselsan	Capital Goods
16	ATEKS	Akın Tekstil	Consumer Cyclical
17	BAKAB	Bak Ambalaj	Basic Materials
18	BANVT	Banvit	Consumer Non Cyclical
19	BERA	Bera Holding	Capital Goods
20	BFREN	Bosch Fren Sistemleri	Consumer Cyclical
21	BIMAS	Bim Mağazalar	Services

22	BLCYT	Bilici Yatırım	Consumer Cyclical
23	BNTAS	Bantaş Ambalaj	Basic Materials

Table 6:Continuation

24	BUCIM	Bursa Çimento	Capital Goods
25	BURVA	Burçelik Vana	Basic Materials
26	CEMAS	Çemaş Döküm	Basic Materials
27	CEMTS	Çemtaş	Basic Materials
28	CMBTN	Çimbeton	Capital Goods
29	DAGHL	Dagi Yatırım Holding	Basic Materials
30	DAGI	Dagi Giyim	Consumer Cyclical
31	DITAS	Ditaş Doğan	Consumer Cyclical
32	EGEEN	Ege Endüstri	Consumer Cyclical
33	EGGUB	Ege Gübre	Basic Materials
34	EGSER	Ege Seramik	Capital Goods
35	EMKEL	Emek Elektrik	Technology
36	ERBOS	Erbosan	Capital Goods
37	EREGL	Ereğli Demir Çelik	Basic Materials
38	ERSU	Ersu Gıda	Consumer Non Cyclical
39	FLAP	Flap Kongre Toplantı Hiz.	Services
40	FMIZP	F-M İzmit Piston	Consumer Cyclical
41	GOODY	Good-Year	Consumer Cyclical
42	GUBRF	Gübre Fabrik.	Basic Materials
43	HATEK	Hatay Tekstil	Consumer Cyclical
44	HLGYO	Halk GMYO	Services
45	IDGYO	İdealist GMYO	Services
46	IHEVA	İhlas Ev Aletleri	Consumer Cyclical
47	INDES	İndeks Bilgisayar	Technology
48	INTEM	İntema	Capital Goods
49	ISGYO	İş GMYO	Services
50	JANTS	Jantsa Jant Sanayi	Consumer Cyclical
51	KAPLM	Kaplamin	Basic Materials
52	KARTN	Kartonsan	Basic Materials
53	KLGYO	Kiler GMYO	Services
54	KONYA	Konya Çimento	Capital Goods
55	KRGYO	Körfez GMYO	Services
56	KRONT	Kron Telekömünikasyon	Technology
57	KRSTL	Kristal Kola	Consumer Non Cyclical
58	KUTPO	Kütahya Porselen	Consumer Non Cyclical
59	LINK	Link Bilgisayar	Technology
60	LOGO	Logo Yazılım	Technology
61	MAKTK	Makina Takım	Capital Goods
62	MARKA	Marka Yatırım Holding	Financial

63	MEPET	Metro Petrol ve Tesisleri	Energy

Table 6:Continuation

64	MIPAZ	Milpa	Services
65	NETAS	Netaş Telekom.	Technology
66	OLMIP	Olmuksan-IP	Basic Materials
67	ORGE	Orge Enerji Elektrik	Capital Goods
68	OSTIM	Ostim Endüstriyel Yat	Capital Goods
69	OYAKC	Oyak Çimento	Capital Goods
70	OZGYO	Özderici GMYO	Services
71	OZKGY	Özak GMYO	Services
72	PAGYO	Panora GMYO	Services
73	PEGYO	Pera GMYO	Services
74	PENGD	Penguen Gıda	Consumer Non Cyclical
75	PETUN	Pınar Et Ve Un	Consumer Non Cyclical
76	PGSUS	Pegasus	Transportation
77	PKART	Plastikkart	Services
78	PNSUT	Pınar Süt	Consumer Non Cyclical
79	POLHO	Polisan Holding	Basic Materials
80	PRKAB	Türk Prysmian Kablo	Technology
81	RALYH	Ral Yatırım Holding	Consumer Cyclical
82	RTALB	RTA Laboratuvarları	Healthcare
83	SAMAT	Saray Matbaacılık	Services
84	SANEL	Sanel Mühendislik	Technology
85	SANKO	Sanko Pazarlama	Consumer Cyclical
86	SAYAS	Say Yenilenebilir Enerji	Capital Goods
87	SELEC	Selçuk Ecza Deposu	Healthcare
88	SILVR	Silverline Endüstri	Consumer Cyclical
89	SNPAM	Sönmez Pamuklu	Consumer Cyclical
90	SONME	Sönmez Filament	Consumer Cyclical
91	TATGD	Tat Gıda	Consumer Non Cyclical
92	THYAO	Türk Hava Yolları	Transportation
93	TIRE	Mondi Tire Kutsan	Basic Materials
94	TKFEN	Tekfen Holding	Consumer Non Cyclical
95	TKNSA	Teknosa İç ve Dış Ticaret	Services
96	TUKAS	Tukaş	Consumer Non Cyclical
97	ULUSE	Ulusoy Elektrik	Technology
98	USAK	Uşak Seramik	Capital Goods
99	VAKKO	Vakko Tekstil	Services
100	VESBE	Vestel Beyaz Eşya	Consumer Cyclical
101	YATAS	Yataş	Consumer Cyclical
102	YKGYO	Yapı Kredi Koray GMYO	Services

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