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EVALUATION OF BANKS' EQUITY UMBRELLA FUNDS PERFORMANCE IN TURKEY

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ABSTRACT

The most important objectives in portfolio management are to have the highest average return at a certain level of risk and to eliminate the unsystematic risk through diversification. Measuring the performance of their portfolios has an important place in investment decisions for investors who want maximum return for a certain risk. In order to measure portfolio performance, there are three basic methods which are most used in practice; Sharpe, Treynor and Jensen's Alpha performance indices. In this study, the performance of 30 banks equity umbrella funds between May 2015 and April 2020 was evaluated. According to the results the performances of the three indices were listed in descending order. When the funds with the highest returns in three performance indices were analyzed, it was found that Yapı Kredi Asset Management Foreign Technology Sector Equity Fund in both Sharpe index and Treynor Index, and Yapı Kredi Asset Management BIST Dividend 25 Index Equity Fund in Jensen index were the funds with the highest performance. In addition, when the rank correlation coefficients calculated to reveal the relationships between the indices were examined, it was concluded that the correlation levels were high

Key Words: Umbrella funds, Portfolio Performance Indices, Performance Ranking.

TÜRKİYE'DE BANKALARA AİT HİSSE SENEDİ ŞEMSİYE FONLARININ PERFORMANS DEĞERLENDİRMESİ

ÖZET

Portföy yönetiminde belli bir risk düzeyinde en yüksek ortalama getiriye sahip olmak ve çeşitlendirme yaparak sistematik olmayan riskleri ortadan kaldırmak en önemli amaçtır. Belirli bir riske karşılık maksimum getiri isteyen yatırımcılar için portföylerinin performansını ölçmek yatırım kararlarında önemli bir yere sahiptir. Portföy performansının ölçülmesinde üç temel yöntem olup bunlar Sharpe, Treynor ve Jensen performans endeksleridir. Bu çalışmada bankalara ait 30 adet hisse senedi şemsiye fonunun Mayıs 2015 – Nisan 2020 tarihleri arasındaki performanslarının değerlendirilmesi yapılmıştır. Çıkan sonuçlara göre üç endeksin performansları büyükten küçüğe doğru sıralanmıştır. Üç performans endeksinde getirileri en yüksek fonlar incelendiğinde hem Sharpe endeksinde hem de Treynor Endeksinde Yapı Kredi Portföye ait olan Yabancı Teknoloji Sektörü Hisse Senedi Fonu, Jensen endeksinde ise Yapı Kredi Portföye ait BİST Temettü 25 Endeksi Hisse

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Senedi Fonu en yüksek performansa sahip fonlardır. Ayrıca endeksler arasındaki ilişkileri ortaya koymak amacıyla hesaplanan sıra korelasyon katsayılarına bakıldığında ilişki düzeylerinin yüksek olduğu saptanmıştır.

Anahtar Kelimeler: Şemsiye Fonları, Portföy Performans Endeksleri, Performans Sıralaması.

INTRODUCTION

The major concern in portfolio management is to maintain the highest return at a certain level of risk. However, it is important for an investor to mitigate unsystematic risk through diversification (Dağlı, 2018:307). The investment outcome of a portfolio is measured by comparing them with other investments (Aksoy & Tanrıöven, 2007:659). In fact, there are several reasons behind understanding the subject of portfolio evaluation. On the one hand, fund managers, who manage portfolios on behalf of other investors, keen to measure their performance and evaluate their future opportunities. On the other hand, operating fund management firms are interested in evaluating their fund managers. In evaluating portfolio performance, the return of a certain portfolio and the risk it may exposed to are put into comparison. Thus, some common performance indices that measure the return against risk are; Sharpe, Treynor and Jensen alpha performance indices.

The aim of this study is to measure the performance of 30 equity umbrella funds of banks operate in Turkey during the timeframe of May 2015 to April 2020 using the three performance indices. The performances of the three indices are ranked in descending order and the statistical significance of this ranking is analyzed and explained in the paper. The purpose of doing this is to reveal the performance of the current umbrella funds of banks. At the same time, to compare the three performance indices through funds. Although there are some studies on performance of equity umbrella funds (Aksoy et al., 2021; Güçlü, 2022), there are no studies on equity umbrella funds belonging to banks in Turkey. In this respect, this study will fill the gap in the literature. In addition, as a result of the high profitability rates that banks have shown in recent years in Turkey, the demand for these banks' funds has increased. Therefore, this study is considered to be a guide for investors.

In the first part of the study, a literature review is included. In the second part, portfolio performance indices are given, and in the third part, information about what the stock umbrella funds are. The fourth part of the study includes dataset, method, findings and conclusion.

1. LITERATURE STUDY

When the studies are examined by making a literature review, there are various studies in which three basic performance indices are used. These three methods are mainly used in evaluating the performance of funds. These studies are given below in chronological order.

In their study, Giles et al. (2002) examined the performance continuity of the fund of 508 investments that were traded between 1981-2001. As a result of this study, it has been concluded that the performance of equity mutual funds is higher than the expected level and statistically significant. In addition, the result that most of the funds show performance continuity is another result reached as a result of this study.

Vuran (2002) aimed to examine the performance of 53 A-type mutual funds in total with Sharpe, Treynor and Jensen performance indices in his study. As a result of the measurements made, it was concluded that the majority of the funds performed lower than the benchmark in the study, which gave equivalent results in all performance indices.

Papadamou and Siriopoulos (2004) analyzed the performances of 19 equity funds traded in the European capital market between 1996-2001 using Sharpe, Treynor and Jensen indices. As a result of the study, although it was concluded that mutual funds, which showed high performance in the short term, also displayed high performance in the next period, it was concluded that their performance remained below the market benchmark indice value.

In their study, Akel (2007) investigated the stability of the performances of mutual funds in the short term and in the long term by using the monthly returns of 51 type A and 51 type B mutual funds operating in Turkey between January 2000 and December 2004. For this purpose, it was evaluated according to traditional performance measurement methods (Sharpe, Treynor, Jensen) and the market timing capabilities of fund managers were analyzed by Treynor-Mazuy and Henriksson Merton methods. As a result of the analyzes made, it has been observed that type A fund managers do not have the ability to both selectivity and market timing. Another result is that B-type fund managers only have the ability to selectivity. He concluded that while type A funds were relatively stable only in the short term, type B funds were relatively stable in performance both in the short term and the long term.

Korkmaz and Uygurtürk (2008) aimed to compare the performances of pension funds and mutual funds in 2004-2006 period and to determine the timing capabilities of fund managers in their study. For this purpose, Quadratic Regression Model and Unit Root Test were applied on the data belonging to the 24-month period. As a result of the analysis, it was observed that the order of mutual funds was not different when the values of Sharpe, M2 and Sortino, Jensen, Treynor, T2 and valuation ratio and Fama criteria were listed in descending order. In other words, it has been observed that the order is the same in all performance criteria. According to the results of quadratic regression analysis, it was observed that in all but one of the 34 mutual funds, mutual fund managers did not have the time ability statistically.

Dağlı et al. (2008) aimed to examine private pension mutual funds operating in the period of March 2003 to November 2007 through traditional portfolio performance evaluation methods (Sharpe, Treynor, Jensen). As a result of the comparison of the results of the Sharpe, Treynor, and Jensen indices calculated for the weekly returns of pension mutual funds and market portfolios traded between March 2003 and March 2007 it was concluded that pension mutual funds were lower than the market portfolio returns. In addition, it was concluded that the investment fund manager, who was expected to make accurate predictions about the development of the market due to his knowledge and expertise through the performance measurement methods applied, did not make accurate predictions about the market contrary to what was expected. In addition, as a result of the performance evaluations of pension mutual funds based on three different performance indices, Anadolu Hayat Emeklilik was the most successful fund in terms of Treynor and Jensen indices, while Yapı Kredi Emeklilik was the most successful pension mutual fund according to the Sharpe index. When the reason for this difference was investigated, it was concluded that only systematic risk was used as the risk measure in Treynor and Jensen measurement methods, whereas in the Sharpe index, it was concluded that the sum of systematic risk and non-systematic risk was used as the risk measure.

In another study, Eken and Pehlivan (2009) used Sharpe, Treynor and Alfa indices to measure the performance of a total of 45 mutual funds, 46 of which are A-type and 49 B-type traded in 2000 and 2006, and evaluated and ranked according to these indices. The funds used in the study were also analysed using the data envelopment Method and aimed to compare the results obtained. In the light of the results obtained, it was concluded that the results of portfolio performance methods were in parallel with the results of data envelopment analysis.

Arslan (2010) evaluated the risk return relationships of 4 different investment funds, which included A type variable fund, B type variable funds, A type equity fund and A type equity exchange funds, and the performance of investment funds with portfolio performance evaluation methods. In order to determine the performance of these funds, Sharpe, M2 criterion, Treynor , Jensen , Sortino, T2 indice performance evaluation methods were used. Daily data covering the period between 02.01.2006 and 05.02.2010 and daily data of GDS were preferred to represent the risk-free interest. Regression analysis and Manova test, which is known as analysis of variance, were applied in order to analyse the data used in the study. As a result of the regression analysis, it was concluded that the high-risk high return relationship in the literature was contrary to the assumptions. In addition, according to the Manova test, which was applied to measure whether the ISE100 indice and risk-free interest rate differed from each other at a statistically significant level, it was observed that the earnings of investment funds were unstable for years, therefore the estimation of the investment funds' returns are limited. Another result is the result that investment managers have high timing and selective abilities.

In another study, Ege et al. (2011) It is aimed to determine the funds with the highest and lowest performance by evaluating 80 pension mutual funds operating between 2008 and 2010 using the Sharpe and Modigliani method. As a result of the results obtained, it was concluded that pension mutual funds did not perform well within the period of approximately 24 months.

Ayaydın (2013), 2010-2013 date in the study which was conducted among 34 units operating in Turkey and flexible performance of a balanced pension funds, Sharpe, Modigliani, Sortino, Treynor, and aimed to measure T2 and Jensen indiceces performance by evaluating fund performance indices. According to the results obtained, it is concluded that the performances of the funds mentioned are lower than the risk-return combination of the market portfolio. In addition, it was found that mutual fund managers were not successful in their predictions about the development of the market.

Gümüş and Üngir (2014) tested the performance of A-Type, B-Type and Variable Funds operating between 2008 and 2012 with the criteria of Sortino, Treynor, Sharpe, Jensen, M2 and T2. As a result of this test, it was concluded that the criteria based on total risk performed above the expected level, and the criteria based on systematic risk could not achieve the same success.

Uyar and Gökçe (2015) aimed to measure the daily returns of equitys operating between 2005 and 2009 with the method of Sharpe Ratio and Jensen Alpha by optimizing them with the Markowitz Mean-Variance Model. In the light of the results obtained from the measurement, it was concluded that although the equitys performed poorly during the crisis period, they outperformed the market performance.

Kök and Erikçi (2015) conducted a study whether there is a difference in the performance of mutual funds through the data of the 2004-2013 period of 44 A-type mutual funds in total, consisting of index funds, equity funds, variable funds and mixed funds, which are traded in the capital market. and to investigate how successful the performance of mutual funds is compared to BIST100 performance. For this purpose, Average Return, Sharpe, Treynor and Jensen Indices, M2 and T2 approaches were used in evaluating the performance of mutual funds, and as a result of the results, it was concluded that the yield performance and performance criteria of A type mutual funds differ according to the fund type.

Arslan and Çelik (2018) aims to measure the performance of pension systems in their study. For this purpose, in order to measure the performance of 157 mutual funds in the pension system, the portfolio performance measurement methods Sharpe, Treynor and Jensen Indices were used and the results obtained from these measurements were compared with BIST 100 indices. As a result of the

measurements made, it was concluded that 120 of the 150 private pension mutual funds performed better than the BIST 100 indices.

Khanehbargh (2018) study is made of type a total of 30 mutual funds operating in Turkey, aimed at measuring their performance in the period between January 2013 and December 2017. Sharpe, Treynor and Jensen performance indices were used to achieve this goal. In the study, a total of 30 A-type mutual funds, consisting of 10 variable funds, 10 gold funds and 10 equity funds, were used as data in three different groups. As a result of the calculations, it is concluded that equity funds have the highest performance, while variable funds have the lowest performance in terms of the Sharpe index. In terms of the Treynor index, it is another result that variable funds have the highest performance, while equity funds have the lowest performance and in terms of Jensen index, equity funds have the highest performance, while variable funds have the lowest performance.

Aksoy et al. (2021) examined the performance of total equity umbrella funds between 2016 and 2020 with OMEGA performance analysis. As a result of the analysis, rankings from 1 to 10 were made at different threshold values. It has been determined that there is a change in the stock fund ranking when the expected return rate is increased.

Güçlü (2022) compared the performance of participation stock umbrella funds with conventional umbrella funds. In the study, it is concluded that participation stock umbrella funds provide a better risk-return performance than most of their conventional counterparts

When the studies are examined, the performances of the funds in different periods are measured by using three basic performance methods. Studies have generally been done on mutual funds. There are no studies on equity umbrella funds belonging to banks. In this respect, this study will fill the gap in the literature. In addition, as a result of the high profitability rates that banks have shown in recent years in Turkey, the demand for these banks' funds has increased. In this study, the performances of the equity umbrella funds belonging to the banks were revealed.

2. PORTFOLIO PERFORMANCE INDICES

In measuring portfolio performance, the return portfolio's risk and return are compared. Here are some common performance indices that measure the return against risk; Sharpe, Treynor and Jensen alpha performance indices. These performance evaluation indices assume a linear relationship between the return of the portfolio and the market portfolio. These indices also do not explain why portfolio managers express high or low performance (Fabbozi & Drake, 2009: 617, Anbar & Karabıyık, 2018: 485).

2.1. SHARPE RATIO

Sharpe index, developed by William Sharpe in 1966, calculates the risk premium, which is the difference between the portfolio return and the risk-free interest rate, by dividing the standard deviation of the portfolio return (Anbar & Karabıyık, 2018: 485). The standard deviation of the portfolio is the sum of systematic and unsystematic risks.

The Sharpe ratio reveals the additional risk premium corresponding to one unit of total risk. In other words, the index considers risk and return at the same time and is measured by the slope of the curve that starts from the risk-free interest rate and reaches the portfolio (Konuralp, 2005: 347). Sharpe index is presented in the following equation 1;

$$Sharpe\ Ratio = \frac{Return\ on\ the\ portfolio - Return\ on\ the\ riskfree\ rate}{Standard\ deviation\ of\ the\ portfolio} = \frac{R_p - R_f}{\sigma_P} \qquad (1)$$

Here, the higher the value of the index, namely its standard deviation, the higher the performance of the portfolio. So higher value means better success. However, the result of the index itself could be meaningless. In order interpret Sharpe ration results more effectively, it should be compared with certain other portfolios' performances or market portfolio as whole. That is why the results that may be evaluated as high indicator would mean low performance against other investments in the market. Based on that, reliable and objective results are accomplished after comparisons conducted with other portfolios (Sharpe, 1998:173).

2.2. TREYNOR RATIO

Treynor indidex, developed by Jack Treynor in 1965, measures the performance of an investment portfolio by establishing a relationship between risk and risk premium. This index, is similar to the Sharpe index that uses the beta coefficient to measure the systematic risk. In other words, the returns on portfolio and the risk-free interest rate are divided to the beta, which is systematic risk (Dağlı, 2018: 310). As of Treynor index assumes that unsystematic risk can be neglected in a well-diversified portfolio (Anbar and Karabıyık, 2018: 487). Treynor indice is calculated as in formula 2 below;

$$Treynor\ Ratio = \frac{Return\ on\ the\ portfolio - Riskfree\ rate}{Beta\ of\ the\ portfolio} = \frac{R_p - R_f}{B_P} \quad (2)$$

Comparing the formulas of Sharpe and Treynor indices, their calculation method is similar. While the Sharpe index considers the total risk, that is, systematic and unsystematic risks, the Treynor index uses only systematic risk. In general, Sharpe index is used in well diversified portfolios while Treynor index is used in portfolios that are not well diversified or managed by more than one fund manager (Aksoy and Tanrıöven, 2007: 659).

In Treynor index, it is desirable to have higher ratio. Because the higher the value is, the better the performance of the portfolio. If the ratio is higher than the market value, it means that the portfolio achieves higher returns than the market does.

2.3. JENSEN PERFORMANCE INDICE

Jensen performance index, developed by Michael Jensen in 1968, uses the capital asset pricing model (CAPM) to evaluate the performance of the portfolio manager. In the index, the alpha number is acquired by calculating the return that should be obtained according to CAPM by using the realized risks and returns and subtracting it from the realized return and the performance is determined according to whether the alpha is positive or negative. Jensen Performance indice is calculated as in formula 3 (Küçükkocaoğlu, 2010: 11);

$$Alpha\ =\ R(i) - \Big(R(f) + B\ x\ \big(R(m) - R(f)\big)\Big) \quad (3)$$

where:

R(i) = the realized return of the portfolio or investment

R(m) = the realized return of the appropriate market index

R(f) = the risk-free rate of return for the time period

B = the beta of the portfolio of investment with respect to the chosen market index

3. UMBRELLA FUNDS

Umbrella fund is an investment fund that include all sub-funds in which shares are issued under one single internal regulation (Çelepkolu 2011: 12). In recent years, the Capital Markets Board of Turkey (SPK), categorize funds as "Type A Mutual Fund" or "Type B Mutual Fund" as illustrated below (SPK ty; 1).

- **Money Market Umbrella Fund;** "Mutual funds of capital market instruments with a maturity up to 184 days, and a maximum daily calculated weighted average maturity of 45 days".
- **Debt Instruments Umbrella Fund;** "Mutual funds that include funds invested in domestic or foreign, public or private sector debt instruments (Bonds, Eurobonds, Bills, etc.) at least 80% of the total assets.
- **Equity Umbrella Fund;** "Mutual funds with funds invested in equitys at least 80% of the total assets on a continuous basis ".
- **Participation Umbrella Fund;** "Mutual fund portfolio that includes funds such as (shareholding, lease certificates, etc.), all of which are made up of non-interest-based money and capital market instruments approved by the SPK.
- **Precious Metals Umbrella Fund;** "These are investment funds that consist of capital market instruments that cover the precious metals or traded on the precious metals exchange, with a minimum of 80% of the total assets continuously.
- **Fund Basket Umbrella Fund;** "Mutual funds that consist of equity exchange funds and various other funds, with a minimum of 80% of the total fund value on a continuous basis".
- **Variable Umbrella Fund;** "The funds which are not comply the limitations specified in the fund types above".
- **Hedge Umbrella Funds;** "Mutual funds in which shares are sold only to persons defined by the SPK as qualified investors".
- **Guaranteed Umbrella Funds;** "Include the funds that are committed to guarantee the amount to be paid to investors as guarantors of domestic or foreign banks and insurance companies".
- **Umbrella Funds for Protection Purposes;** "The funds that aim to protect investors against capital losses within the framework of the best effort based on an appropriate investment strategy".

For this study, the banking sector's umbrella funds have been chosen.

4. PERFORMANCE EVALUATION OF EQUITY UMBRELLA FUNDS OF BANKS IN TURKEY

4.1. DATASET AND METHODOLOGY

This study examines the equity umbrella funds of the banking sector in Turkey in terms of risk return as for the period from May 2015 until April 2020. The purpose of choosing these dates is to measure the performance of the last five years from the date of the study. The dataset of the Banks' umbrella funds were extracted from Turkey Electronic Fund Distribution Platform (TEFAS) website. According to market information, there are a total of 36 equity umbrella funds belonging to the banking sector. However, 6 of them were excluded from the analysis because their establishment years are after 2015 compared to the rest majority of the umbrella funds under the banking sector. The distribution of the remaining 30 funds is as follows; 9 AK Portfolio, 2 Deniz Portfolio, 2 Garanti Portfolio, 2 HSCB Portfolio, 7 Is Portfolio, 1 QNB Finans Portfolio, 1 TEB Portfolio, 5 Yapı Kredi Portfolio, 1 Ziraat Portfolio. 5-year government bond interest rate is used as the risk-free interest rate in the study. The data used in the study is in weekly basis, and BIST-100 index return values are used as the market portfolio component.

The titles and codes of the funds are listed in table 1 hereafter.

Table 1. Banks' Equity Umbrella Funds

Equity Umbrella Funds	**Code**
AK ASSET MANAGEMENT AMERICA FOREIGN EQUITY FUND	AK3
AK ASSET MANAGEMENT EUROPEAN FOREIGN EQUITY FUND	AFV
AK ASSET MANAGEMENT BIST 30 INDEX EQUITY FUND (EQUITY INTENSIVE FUND)	AKU
AK ASSET MANAGEMENT BIST BANK INDEX EQUITY FUND (EQUITY INTENSIVE FUND)	ADP
AK ASSET MANAGEMENT BIST DIVIDEND 25 INDEX EQUITY FUND (EQUITY INTENSIVE FUND)	ALC
AK ASSET MANAGEMENT DEVELOPING COUNTRIES FOREIGN EQUITY FUND	AFS
AK ASSET MANAGEMENT EQUITY FUND (EQUITY INTENSIVE FUND)	AFA
AK ASSET MANAGEMENT FOREIGN EQUITY FUND	AOY
AK ASSET MANAGEMENT NEW TECHNOLOGIES FOREIGN EQUITY FUND	AFT
DENİZ ASSET MANAGEMENT BIST 100 INDEX EQUITY FUND (EQUITY INTENSIVE FUND)	DZE
DENİZ ASSET MANAGEMENT EQUITY FUND (EQUITY INTENSIVE FUND)	DAH
GARANTİ ASSET MANAGEMENT BIST 30 INDEX EQUITY FUND	GAE
GARANTİ ASSET MANAGEMENT EQUITY FUND	GHS
HSBC ASSET MANAGEMENT BIST 30 INDEX EQUITY FUND	HBU
HSBC ASSET MANAGEMENT EQUITY FUND	HVS
İŞ ASSET MANAGEMENT BIST 30 INDEX EQUITY FUND	TIE
İŞ ASSET MANAGEMENT BIST BANK INDEX EQUITY FUND	TAU
İŞ ASSET MANAGEMENT BIST TECHNOLOGY WEIGHT LIMITED INDEX EQUITY FUND	TTE
İŞ ASSET MANAGEMENT EQUITY FUND	TI2
İŞ ASSET MANAGEMENT İŞ BANK SUBSIDIARIES INDEX EQUITY FUND	TI3
İŞ ASSET MANAGEMENT PY EQUITY SPECIAL FUND	TPR

İŞ ASSET MANAGEMENT FOREIGN EQUITY FUND	TMG
QNB FİNANS ASSET MANAGEMENT FIRST EQUITY FUND	FYD
TEB ASSET MANAGEMENT EQUITY FUND	TYH
YAPI KREDİ ASSET MANAGEMENT BIST 100 INDEX EQUITY FUND	YAU
YAPI KREDİ ASSET MANAGEMENT BIST 30 INDEX EQUITY FUND	YEF
YAPI KREDİ ASSET MANAGEMENT BIST DIVIDEND 25 INDEX EQUITY FUND	YDE
YAPI KREDİ ASSET MANAGEMENT KOÇ HOLDİNG SUBSIDIARY AND EQUITY FUND	YAS
YAPI KREDİ ASSET MANAGEMENT FOREIGN TECHNOLOGY SECTOR EQUITY FUND	YAY
ZİRAAT ASSET MANAGEMENT EQUITY FUND	TZD

4.2. FINDINGS

The Sharpe, Treynor and Jensen indices are used to evaluate the performance of the umbrella funds of the banking sector in Borsa Istanbul. The returns of the equity umbrella funds are calculated in accordance to each index. after that, the results are ranked for each index in descend order as represented in the following table 2.

Table 2. Ranking of Funds According to Sharpe, Treynor and Jensen Indices

Rank	Fund Code	Sharpe Index	Fund Code	Treynor Index	Fund Code	Jensen Index
1	YAY	0.2020	YAY	0.0825	YDE	0.0361
2	AFT	0.1996	AFT	0.0515	TTE	0.0207
3	TTE	0.1592	YDE	0.0508	AFT	0.0178
4	AFA	0.1459	TMG	0.0498	YAY	0.0168
5	AOY	0.1260	AFA	0.0491	AFA	0.0120
6	YDE	0.1138	AOY	0.0425	HVS	0.0099
7	TMG	0.1056	AFV	0.0300	AOY	0.0099
8	AFV	0.0745	TTE	0.0147	TMG	0.0081
9	HVS	0.0709	AFS	0.0093	AFV	0.0060
10	AFS	0.0517	HVS	0.0048	AFS	0.0058
11	TI3	0.0149	TI3	0.0011	TI3	0.0054
12	YDE	-0.0031	YDE	-0.0002	YDE	0.0045
13	GHS	-0.0113	GHS	-0.0008	GHS	0.0040
14	TZD	-0.0232	TZD	-0.0016	TZD	0.0035
15	AK3	-0.0310	AK3	-0.0021	AK3	0.0029
16	TPR	-0.0347	TPR	-0.0023	TPR	0.0027

17	ALC	-0.0395	ALC	-0.0027	ALC	0.0023
18	YAS	-0.0485	YAS	-0.0035	YAS	0.0015
19	TI2	-0.0565	TI2	-0.0038	TI2	0.0013
20	DAH	-0.0601	AKU	-0.0040	AKU	0.0011
21	AKU	-0.0611	DAH	-0.0041	DAH	0.0011
22	HBU	-0.0637	HBU	-0.0042	HBU	0.0010
23	DZE	-0.0667	DZE	-0.0044	DZE	0.0007
24	TIE	-0.0707	TIE	-0.0047	TIE	0.0005
25	YEF	-0.0709	YEF	-0.0047	YEF	0.0004
26	GAE	-0.0712	GAE	-0.0047	GAE	0.0004
27	FYD	-0.0823	TYH	-0.0066	TYH	-0.0015
28	TYH	-0.0835	TAU	-0.0076	TAU	-0.0028
29	TAU	-0.1046	ADP	-0.0077	ADP	-0.0030
30	ADP	-0.1078	FYD	-0.0137	FYD	-0.0043

During examining the umbrella funds of the banks according to the three performance indices, the rank of some funds shown constant, while the ranks of the majority of the funds are vary according to the calculations. However, this change remains immaterial. According to the results, Foreign Technology Sector Equity Fund of Yapı Kredi Portfolio occupy the first place in both Sharpe and Treynor Indices. While BIST Dividend 25 Index Equity Fund of Yapı Kredi Portfolio is listed the first based on Jensen index.

The following Table 3 shows the descriptive statistics of the study's dataset;

Table 3. Descriptive Statistics

Indices	**N**	**Distribution Range**	**Min.**	**Max.**	**Mean**		**Std. Deviation**	**Variance**
					Value	**Statistical Error**		
Average Return	30	0.042	0.002	0.043	0.012	0.002	0.009	0.000
Treynor Index	30	0.096	-0.014	0.083	0.010	0.004	0.025	0.001
Sharpe Index	30	0.310	-0.108	0.202	0.006	0.017	0.094	0.009
Jensen Index	30	0.040	-0.004	0.036	0.005	0.002	0.008	0.000
Valid N (listwise)	30							

In the descriptive statistics above, the distribution range, minimum and maximum values, mean, standard deviations, standard error and variances of each index are shown in Table 3 accordingly.

For the total of 30 equity umbrella funds, the values of the Sharpe indice remain in the range between 0.202> SI> -0.108. In this case as the ratio is below 1, it means that the risk versus return is low. Moreover, none of the banks' umbrella funds' ratios in this study observed more than 1. As well as, the returns of 18 funds are below zero according to Sharpe performance indice. This means that these funds have a lower return than the risk-free interest rate.

In Treynor indice, the distribution range of the thirty funds is between 0.083> TI> -0.014. The higher the ratio, the better the portfolio's performance. For the period between May 2015 and April 2020, 18 out of 30 funds reported yields below the risk-free interest rate.

In Jensen indice, known as (Alpha), the returns is between 0.036> JI> -0.004. The mean of the funds is 0.005, which is lower than other indices. The alpha coefficient indicates that the portfolio's performance is high. In other words, the way the actual return is far from the market line, the greater the alpha and the higher the performance. Four of the funds in this study have negative Alpha rates. These; TEB Portfolio Equity Fund (THY), IS Portfolio BIST Bank Index Equity Fund (TAU), AK Asset Management BIST Bank Index Equity Fund (ADP) and QNB FINANS Portfolio First Equity Fund (FYD). All in all, the most successful fund according to Jensen Alpha indice is Yapı Kredi Portfolio BIST Dividend 25 Index Equity Fund (YDE) with a value of 0.0361.

Although the provided rankings is made according to different performance indices, the correlation coefficients of the relationships between these different performance criteria are noted high. In numbers, the coefficient between Sharpe and Treynor indices is 0.940, the coefficient between Sharpe and Jensen indices is 0.920, and the coefficient between Treynor and Jensen indices is 0.953. Accordingly, the correlation coefficient between Treynor and Jensen indices is the highest among other relations. This is caused due to the use of beta (β) coefficient in calculations in the tow performance indices.

Table 4. Correlation Coefficients

		Sharpe	**Treynor**	**Jensen**
Sharpe	Pearson Correlation	1	,940**	,920**
	Sig. (2-tailed)		,000	,000
	N	30	30	30
Treynor	Pearson Correlation	,940**	1	,953**
	Sig. (2-tailed)	,000		,000
	N	30	30	30
Jensen	Pearson Correlation	,920**	,953**	1
	Sig. (2-tailed)	,000	,000	
	N	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

CONCLUSION

In this paper, the performance of the equity umbrella funds of the banks operates in Turkey have been examined for the timeframe between May 2015 and April 2020. The study uses three methods of calculations, they are; Sharpe, Treynor and Jensen performance indices. This is applied on a total number of banks' equity umbrella funds of 36. However, six of them were omitted as they were established after the starting date of this paper's timeframe. As shown in the results, the return performances of the funds are ranked according to their performance based on the mentioned indices. The ranking shows that some of the funds occupy the same rank in all methods, while the ranks of the majority have changed. Moreover, according to the results none of the performance indices is equal or greater than 1. However, most of the findings are negative. The higher the performance is when the ratio is higher compared to others. The negative value means that the return on the funds is lower than the risk-free interest rate. Thus, it is a negative sign that is not a desired at all. According to the analysis, Yapı Kredi Asset Management Foreign Technology Sector Equity Fund in both Sharpe and Treynor indices, and Yapı Kredi Asset Management BIST Dividend 25 Index Equity Fund in Jensen indice are the funds with the highest performance. The reason for the difference is that sharpe and treynor indices characterize the additional return to be obtained for one unit of risk to be taken, while the jensen indices qualifies the alpha term, which is usually added to asset pricing models that conform to the linear regression model. In addition, the results show that the correlation coefficients of the relationships between the indices are high as follows; the correlation coefficient between the Sharpe and Treynor indices is 0.940, the correlation coefficient between the Sharpe and Jensen indices is 0.920, and the correlation coefficient between the Treynor and Jensen indices is 0.953.

When the studies are examined, the performances of the funds in different periods are measured by using three basic performance methods. Studies have generally been done on mutual funds. There are no studies on equity umbrella funds belonging to banks in Turkey. In this respect, this study will fill the gap in the literature. In addition, as a result of the high profitability rates that banks have shown in recent years in Turkey, the demand for these banks' funds has increased. Therefore, this study is considered to be a guide for investors.

In this study, only equity umbrella funds belonging to banks are discussed. In other studies, umbrella funds and other funds of other institutions can be examined. it is also recommended to study different types of fund in a single study Also this analysis can also be applied to different financial assets in different country markets.

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