Araştırma Makalesi / Research Article

BİST KURUMSAL YÖNETİM ENDEKSİNDE YER ALAN BANKALARIN PERFORMANS ANALİZİ
PERFORMANCE ANALYSES OF THE BANKS IN THE BIST CORPORATE GOVERNANCE INDEX

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ÖZET

Kurumsal yönetim, vekalet sorunlarının üstesinden gelmek ve yönetimde şeffaflık ve organizasyon kültürünü geliştirmek için önemli bir rol oynamaktadır. Kurumsal yönetim içerisinde yöneticiler pay sahiplerinin yerine vekalet ile yönetim ile ilgili kararlar alarak hissedarın beklentilerini gerçekleştirmektedirler. Vekâlet teorisine göre, yönetim kurulunun başlıca sorumlulukları, şirketin dürüstlüğünü, tarafsızlığını, hesap verebilirliğini ve şeffaflığını korumak için yönetimin faaliyetlerini etkin bir şekilde belirlemektedir. Artan rekabet koşullarında bankaların performansı kurumsal yönetim performansı ile ilişkilidir. Kurumsal yönetim esaslarına göre yönetilen bankaların karlılıkları pozitif olarak etkilenmektedir. Finansal performansın değerlendirilmesinde bir bankanın performansını değerlendirmek için uygun ve doğru bir analize ihtiyaç duyulmaktadır. Bir bankanın finansal verilerini analiz etmek için finansal oranlar oluşturulmaktadır. Finansal oranlar bankanın belirli bir süre için finansal performansını gözlemlemek için hem yatırımcılar hem de analistler için gerekli göstergeleri içermektedir. Bu çalışmada Kurumsal Yönetim Endeksine dahil olan bankacılık sektörünün hisse senetlerinin getirisinin pozitif yönde daha fazla olduğu tespit edilmiştir. Buna ek olarak BİST kurumsal yöntemin endeksinde bulunan 4 bankanın performansı finansal oranların karar faktörü olarak belirlendiği MABAC yöntemi ile karşılaştırılmıştır. Karşılaştırmada önem ağırlıkları entropi yöntemi ile hesaplanmıştır. Böylece Bankacılık sektöründe Kurumsal Yönetim Endeksi paylarının tam anlamıyla analizlerle değerlendirilmesi yapılmıştır. MABAC yöntemi bulgularına göre en etkin banka tüm yıllar için Garanti BBVA'dır. İkinci en etkin bankanın ise Yapı ve Kredi Bankası olduğu görülmektedir. Etkinlik puanlarına göre en son sırada Şekerbank yer almaktadır.

ABSTRACT

Corporate governance plays an important role in overcoming agency issues and improving transparency in management and organizational culture. In corporate governance, managers fulfil the expectations of the shareholders by making decisions about the management by proxy instead of the shareholders. According to the agency theory, the primary responsibilities of the board of directors are effectively determining the activities of management to maintain the integrity, impartiality, accountability and transparency of the company. In the conditions of increasing competition, the performance of banks is related to corporate governance performance. The profitability of banks managed according to corporate governance principles is positively affected. An appropriate and accurate analysis is needed to evaluate the performance of a bank in the evaluation of financial performance. Financial ratios are created to analyze the financial data of a bank. Financial ratios contain indicators necessary for both investors and analysts to monitor the financial performance of the bank for a certain period of time. In this study, the return of the bank stocks that are traded under the corporate governance index is higher compared with the other sectors. In this study, secondly the performance of 4 banks in the BIST corporate governance index is compared with the MABAC method, in which financial ratios are determined as the decision factor. In comparison, importance weights were calculated using the entropy method. According to the MABAC method findings, the most efficient bank is Garanti BBVA for all years. It is seen that the second most efficient bank is Yapı ve Kredi Bankası. According to the activity scores, Şekerbank takes the last place.

INTRODUCTION

In 1980, with the financial liberalization movement, capital markets improved their quality processes. The transition to innovation and corporate governance took place especially in this period. With the financial liberalization, institutions serving in the market have started to face more financial and operational risks. By the end of 1980, traditional banking was no longer a profitable organization. Banks have been forced to become more innovative and institutional. In particular, the increase in competition has enabled banks to develop in the managerial context.

The banking sector and economic structure of a country are important structures that are intertwined and affect each other. Factors such as the economic crisis faced by the countries cause banks to have financial difficulties and this situation is reflected mostly on small businesses. On the other hand, the failures in the banks similarly affect the country's economies. In this respect, it is very important for banks to carry out their activities in a healthy way (Gökmen, 2021).

Bhagat and Bolton (2008) clarify that, good corporate governance has a positive effect on the performance of companies. The most important share in the efforts to improve corporate governance is the shareholding of the members of the board of directors. Because discipline management is directly related to ownership in both future operating performance and poorly performing companies. The independence of the board of directors may reveal the negative relationship between the conflict of interest that will arise and the future operating performance. Therefore, if the purpose of board independence is to improve performance, the expected performance may not be achieved as a result. However, if the purpose of board independence is to discipline the management of underperforming companies, then board independence contributes positively to the company. La Porta et al. (2000), corporate governance is a form of management that makes people believe that the rights of equity participants, who are largely outside the management, are protected and that they will not be harmed by the decisions of the managers. As a general rule, corporate administration manages more proprietorship and control. The intermediary issue to be settled by corporate administration instruments among investors and directors uncovers the requirement for a viable and solid corporate administration control system. Corporate administration particularly has systems to secure financial backers. In numerous nations, guidelines directing the privileges of lenders and minority investors are offered significance to make the working of the capital market safer (La Porta et al., 2000).

7 principles still up in the air for the execution of corporate administration norms; (1) assurance of the commitments and obligations of the top managerial staff and magistrates, (2) full satisfaction of the commitments of the advisory groups and work units that play out the interior control capacities, (3) execution of the consistence work, inward review and outside review, (4) execution of hazard the executives, (5) orchestrating stores and masterminding critical stores to related gatherings, (6) satisfying essential plans for the endurance of the firm, and (7) deciding money related and non-monetary terms. Along these lines, on account of an arranged hierarchical vital change in administration, what is required is the progression of gaining from the association to the people (Limba et al., 2019).

In our study, we examined banking sector stocks that are in the corporate governance index, which is a sample from the financial stocks and compared them with the other banking sector stocks that are not included in the corporate governance index. As mentioned in the previous literature the return evidence was on both sides about the returns. When we examined all the stocks in the Corporate Governance Index, we found no significant difference in the market quality and market activity in the index stocks. However, when we analyzed the banking sector stocks, which are in the Corporate Governance Index we found out that they performed better compared with the other banking sector stocks which are not included in the aforementioned index.

Obtaining these results, we also wanted to analyze the four banking stocks according to the entropy-weighted MABAC (Multi-Attributed Boundary Approach Area Comparison) method to compare the performance of them between each other the years from 2018 to 2020.

1. CORPORATE GOVERNANCE

Corporate governance can be understood with four generally accepted basic principles. The four principles mentioned are; transparency, fairness, responsibility and accountability. Regulations regarding corporate governance in Turkey are determined by the Capital Markets Board (CMB). In addition, various regulations are made by different institutions and organizations.

By designating the governing body, investors have a way to control chiefs and guarantee that the firm is run in their own wellbeing. The two most significant jobs of a governing body are observing and counselling. As a spectator, the directorate supervises leaders to guarantee their conduct is in accordance with the interests of investors, while as a counsellor, the board gives assessments and rules to supervisors for key vital business choices. Many provisions are characterized as "acceptable administration" in the corporate administration writing (De Haan and Vlaru, 2016).

According to the agency theory, managers prefer less risk than shareholders desire because they enjoy the special benefits of control and also because of human capital investments that cannot be diversified in the companies they manage (Faleye and Krishnan, 2017). However, due to the structure of banking, people who fulfil their managerial duties have to take risks in order to generate returns. Banks depend on investors for their subsidizing, which makes a motivating force to take a lot of hazard. This is on the grounds that high-hazard ventures can carry more accumulated pay to the merchant, and if there should be an occurrence of disappointment, a critical piece of the expenses is borne by the contributors. While non-monetary foundations are inclined to over the top danger taking, particularly in case they are undercapitalized, banks' office issues are exacerbated by the presence of government certifications and store protection, which mutilate financiers' motivators and empower hazard taking. Furthermore, the unique job of banks and the negative externalities of their disappointments make the office issues of banks all the more exorbitant for the economy overall (Tahir et al., 2020).

Hypothetically, the effect of corporate administration plans on the adequacy of corporate administration is indistinct. From one perspective, investors might require less components to screen chiefs if guideline limits administrative prudence and the degree to which it antagonistically influences investor abundance. All in all, guideline can supplant checking by sheets. Then again, severe administrative conditions can empower firm-level administration that is successful in controlling organization cost so a corresponding relationship exists among the board and guideline (Vallascas and Hagendorff, 2013).

G20/OECD Corporate Governance Principles have been a guide for policies, legal regulations, evaluations, and development to be put forward in this field in the world. These principles were first published in 1999 and updated in 2015 (BIST, 2020). In Turkey, in accordance with the provision regarding the corporate governance principles discussed in Article 1529 of the Turkish Commercial Code; It has been stated that in publicly held joint stock companies, the principles of corporate governance, the principles of the board of directors' statement on this matter, and the rating rules and results of companies in this respect can be determined by the Capital Markets Board (CMB). " is stipulated.

1.1. The Organization for Economic Cooperation and Development Principles of Corporate Governance

The Organization for Economic Cooperation and Development (OECD) and OECD Ministers adopted the OECD Principles of Corporate Governance in 1999 and have since become an international benchmark for policy makers, investors, firms and other stakeholders around the world. The Principles have been selected by the Financial Stability Forum as one of the 12 core standards for stable financial

systems. The Corporate Governance Principles were first endorsed in 1999 by OECD Ministers. It has become an international benchmark for policy makers, investors, companies and other stakeholders around the world. It has defined corporate governance topics and has become a guide for legal and regulatory initiatives in both OECD and non-OECD countries. The Financial Stability Forum has set 12 basic standards for financial systems. The Principles also laid the groundwork for a comprehensive program of cooperation between OECD and non-OECD countries and supports corporate governance cooperation of the World Bank/IMF Standards and Codes Compliance Reports (ROSC) (OECD, 2004).

The OECD Corporate Governance Steering Group reviewed the Principles in 2002, following mandate from OECD Ministers. Extensive research into how member countries deal with various corporate governance concerns was used to support the study, with the World Bank, Bank for International Settlements (BIS) and the International Monetary Fund (IMF) Group participating as observers. The Steering Group for Evaluation also invited the Financial Stability Forum, the Basel Committee, and the International Organization of Securities Commissions (IOSCO) as interim observers.

The basic principles cover the following areas:
1. The corporate governance structure should promote open and efficient markets, adhere to the rule of law and clearly define the roles and duties of the various supervisory, regulatory and executive bodies.
2. Shareholders' rights and basic property functions: Shareholder rights should be protected and facilitated through the corporate governance structure.
3. Fair treatment of shareholders: All shareholders, including minority and foreign shareholders, should be treated equally within the framework of corporate governance. All shareholders should be able to seek their rights in an appropriate way when their rights are violated.
4. Role of stakeholders: The corporate governance framework should recognize stakeholder rights established by law or by mutual agreement and encourage active collaboration between firms and stakeholders in creating wealth, employment and the long-term viability of financially sound businesses.
5. Disclosure and transparency: The corporate governance structure should ensure that all important information about the firm, such as its financial condition, performance, ownership and management, is disclosed in a timely and accurate manner.
6. Responsibilities of the Board of Directors: The corporate governance structure should ensure that the firm's strategy is well-directed, that the board of directors effectively monitors management, and that the board is accountable to the company and its shareholders.

1.2. Capital Market Board (CMB) Corporate Governance Compliance Report

"Corporate Governance Principles" were first published by the CMB in 2003 after various updates. "Corporate Governance Communiqué No. II-17.1" was issued in 2014 during the process of harmonization with the Capital Markets Law. Regarding the implementation of the Communiqué, the CMB has decided that since 2019, compliance reporting will be done via KAP using the Compliance Report Form (URF) and Corporate Governance Information Form (CGIF) templates (BIST, CMB, 2020).

Corporate Governance Compliance Report (CGCR) via the Corporate Governance Compliance Reporting Public Disclosure Platform (PDP) in accordance with the "Corporate Governance Communiqué" published in the Capital Markets Board (CMB) Bulletin with the Decision dated 10.01.2019 and numbered 2/49 at the beginning of 2019; and It was made using Corporate Governance Information Form (CGIF) templates. It is emphasized that listed companies should prepare a separate section on corporate governance in their annual reports and/or include this report on their websites.

Headings related to corporate governance in the report;
• "Statement of compliance with corporate governance principles,

- Shareholders,
- Public disclosure and transparency,
- Stakeholders and
- It should include the Board of Directors."

2. CORPORATE GOVERNANCE INDEX

BIST Corporate Governance Index (XKURY) is one of the stock indices of Borsa Istanbul and is the index that includes companies that implement corporate governance principles. BIST Corporate Governance Index (XKURY) was created to measure the price and return performance of companies traded in BIST markets (excluding the Custody Market) and having a rating determined for their compliance with corporate governance principles within the scope of the Rating Communiqué. BIST Corporate Governance Index shows the price and return performance of publicly traded companies whose shares are traded in Borsa Istanbul markets (excluding the Close Monitoring Market and C and D lists), with a compliance score of at least 7 out of 10, and a minimum of 6.5 for each main heading. was created to measure (Sakarya et al., 2017).

Pursuant to the change in the listing fees tariff, which was decided at the meeting of the BIST Board of Directors on 18.03.2004 and approved at the meeting of the Capital Markets Board dated 07.02.2005 and numbered 4/99, to encourage the BIST companies that implement the Corporate Governance Principles, the price of the listing fee is reduced. It has been stated that, as of the accrual date, companies whose stocks are traded on the BIST will be included in the Corporate Governance Index, with a 50% discount on the "Not Listed" or "Registered" fees.

The rating of compliance with corporate governance principles is the activity of independent, impartial, and fair evaluation and classification of the compliance of enterprises with corporate governance principles published by the Capital Markets Board. In the rating of compliance with corporate governance principles, the main sections of shareholders, public disclosure and transparency, stakeholders and the board of directors are given a grade between 1 and 10. The fractional grades (up to two digits) falling between these values are disclosed to the public without being finalized (SPK, 2016).

Corporate governance is part of a broader economic context that consists of macroeconomic policies and market factors such as the legal, regulatory and institutional environment. It also includes business ethics and companies' responsibilities towards the environmental and social development of society. In many studies in the literature, companies traded in the Corporate Governance Index (XKURY) have been examined. In the same parallel, the interaction of corporate governance and financial performance has been examined in international studies. Different empirical findings are seen in the literature.

2.1. The Stock Returns of the Firms in the Corporate Governance Index (XKURY)

The stock returns of the firms in the Corporate Governance Index (XKURY) has been the subject of research in the literature in recent years widely. In the study of Sakarya (2011), the stock returns of 11 companies in the index by getting a good corporate governance rating for the first time in 2009 has been examined. According to the event study findings, the stock returns of the companies that get a good grade are positively affected. In another study using the event study methodology, Aksu and Aytekin (2015) investigate the effect of the announcement of the corporate governance rating on the stocks of 50 firms between the years 2009-2014. The results show that statistically significant abnormal returns existed for these stocks.

In their study Turnacıgil, S., Güler, H. and Doğukanlı, H. (2019) explore the returns of nineteen non-financial stocks that are in the corporate governance index, which has at least five years of corporate governance ratings between 2009 and 2016. Using Panel Vector Autoregressive (PVAR) model they find no significant effect on the investor preferences for these stocks. They also figure out that in the long run these stocks have negative returns compared with the other stocks. Saldanlı, A. (2012) studies

the performance of Corporate Governance Index with different ratios and compares the results with other indexes calculated by Borsa Istanbul. The estimates show that the other three main indexes named as IMKB National 100, IMKB National 50, IMKB National 30 by then, outperforms the Corporate Governance Index.

Anginer et al. (2016) researched the connection between the capitalization methodologies of banks, their corporate administration and leader remuneration plans for a worldwide bank test somewhere in the range of 2003 and 2011. Investor cordial corporate administration as partition of CEO and administrator jobs, board size, and nonappearance of takeover arrangements are related with lower bank capitalization. Higher upsides of banked administrator choice and value abundance are related with higher capitalization as an expected impression of director hazard avoidance, yet hazard taking motivating forces installed in chief remuneration bundles are related with lower capitalization. As indicated by the creators, more significant levels of director alternatives and stock possession in the bank are related with the bank's inclination to keep paying bank stock financial backers, regardless of whether failing to meet expectations. Since chief's dread that pay cuts could imperil their business or riches, they will think about safer bring alternatives back.

Bolton et al. (2015) bases banks' excessive risk taking on executive compensation, which is dependent on both the stock price and the bank's CDS margin. shows that it can be addressed. However, it is stated that this situation does not protect the interests of the shareholders and even puts them at greater risk.

In Edmans and Liu (2011) study, it was stated that debt-like instruments such as pension rights are often included in the optimal executive compensation package to reduce the agency costs of debt. Thus, a step has been taken to protect the stockholders within the power of attorney.

The Fahlenbrach and Stulz (2011) study examined the performance of a sample of approximately 95 banks and investment companies from 2006 to the 2008 crisis. Performance in the study was measured on the basis of returns from July 1, 2007 to December 31, 2008. This performance measure examines five different classes of CEO incentives. These; cash bonus and salary, deposit ownership, equity risk sensitivity, percent ownership and percent risk sensitivity. Considering that improperly determined compensation was one of the causes of the 2008 crisis, bank managers whose incentives were less aligned with shareholders were more likely to harm their competitors. Therefore, the lower the manager's deposit ownership in a bank, the lower the bank's performance in this context.

In one more review on CEO impetuses, Acrey et al. (2011) researched the connection between CEO pay and bank default hazard assessors to decide if transient motivators could clarify unpredictability in bank hazard. Early admonition off-site reconnaissance boundaries and expected default recurrence, just as hazardous bank exercises identified with the emergency, were remembered for the review. Proof that CEO remuneration structures support critical firm-explicit heterogeneity in bank hazard measures or dangerous exercises comes from the exploration. Remuneration things, alternatives and rewards, which are for the most part thought to be the least secure parts, were observed to be either immaterial or contrarily associated with normal danger factors.

In addition to the studies carried out in the international literature, many studies have been carried out based on Borsa Istanbul. In the study of Aygün and İç (2010), 183 companies listed in Borsa Istanbul in 2006 and 2007 were analyzed by regression analysis. The existence of a positive relationship between the size of the board of directors and the size of the asset was determined according to the findings of the regression analysis. Aygun et al. (2010), on the other hand, analyzed the data of 12 companies listed in Borsa Istanbul between the years 2006-2008. According to the regression analysis findings, a positive relationship was determined between the size of the board of directors and the size of the assets.

Sengul et al. In the study (2011), 24 companies in the Borsa Istanbul (XKURY) index were examined. According to the t-test findings, the stocks of companies with corporate governance committees and audit committees differ significantly.

In the study of Turan and Bayyurt (2013), the effect of corporate governance on business performance was investigated by using the data of 100 companies for the years 2008, 2009, 2010 and 2011. It has been determined that the number of board members, the number of supervisory board members and the number of independent members are positively related to financial performance.

In the study of Beycan (2013), 20 companies listed in Borsa Istanbul were examined through panel data analysis. A positive relationship was found between the free float ratio, the number of members of the board of directors and the number of meetings and the return on assets.

Karakoç et al. (2016) compared the financial performances and corporate governance ratings of companies included in the corporate governance index in Borsa Istanbul between 2007 and 2014. Financial ratios were calculated and financial performances were analyzed with multi-criteria decision analysis. As a result, no relationship was found between financial performances and corporate governance ratings.

Ozdagoglu et al. (2017), financial ratios related to liquidity, debt structure, activity and profitability were used to measure the efficiency of 98 companies in the manufacturing sector traded in Borsa Istanbul. According to the results of the decision analysis, although a stationery company has the highest performance, cement and fertilizer companies constitute the majority among the top performing companies.

3. DATA ANALYSIS

Our primary data is three years trading data between 2018 and 2020. It has information on all stocks that are traded in the BIST Markets. The data include price information like daily closing, minimum, maximum and weighted average prices together with trading statistics like daily traded volume, amount and contract numbers. Overall, the study sample covers 441 distinct companies in a daily frequency.

Our primary purpose is to assess the effect of the Corporate Governance Index inclusion on six outcomes. First, we test the price impact through day end closing price. Second, we estimate for trading activity using volume, turnover and number of contracts. Moreover, we calculate daily return for a given stock as follows:

Let P_it be the daily closing price of stock i in day t. Similarly, let $P\_(it-1)$ be the daily closing price of the corresponding stock in the preceding day. Then, we define daily return as follows:

$$r_{it} = \ln\frac{P_{it}}{P_{it-1}} \quad (1)$$

Finally, we explore how the inclusion in the Corporate Governance Index affects daily volatility at the stock level. As a measure of volatility, we use intraday high-low price range estimator, originally provided by Parkinson (1980) and the relevant measure is in the following form:

$$\sigma_{it}^2 = \frac{(lnhigh_{it} - lnlow_{it})^2}{4ln2} \quad (2)$$

This range-based volatility measure is often used in the literature (Li and Wang (2010) since it is highly efficient and fairly close to Gaussian distribution and robust to microstructure noise (Alizadeh et al. (2002)).

Secondly, in this study, four banks in the Borsa Istanbul (XKURY) index were examined. The years 2018, 2019 and 2020 were chosen as the data period. The financial ratios to be used for comparison were decided by the literature review and the opinions of banking senior executives. Liquidity ratio (D1), capital adequacy ratio (D2), non-performing loans to loans ratio (D3), personnel expenses and severance pay to total assets ratio (D4) and average return on assets (D5) were used as decision-making factors.

Table 1: XKURY Banks

Garanti BBVA (B1)	Halkbank (B2)
Yapı ve Kredi Bank (B3)	Şekerbank (B4)

4. METHOD OF THE STUDY

We employ a Panel Data Fixed Effect method to estimate the effect of Corporate Governance Index on the set of outcomes. We cover a variety of trading activity and return indicators. The estimating equation for a given outcome is as follows:

$$y_{it} = \alpha_i + \beta\, CGI_{it} + \theta_t + \varepsilon_{it} \quad (3)$$

where y_{it} is the outcome variable and CGI_{it} is an indicator variable taking value of 1 if a given stock is included in the Corporate Governance Index. α_i, and θ_t account for stock and time fixed effects respectively. Lastly, ε_{it} stands for idiosyncratic disturbance term.

A possible concern might arise from the non-random inclusion of stocks in the Corporate Governance Index. Thus, we address this concern by adding stock fixed effects to consider time-invariant characteristics and time-fixed effects accounting for time specific accompanying events. Consequently, conditional on time and stock fixed effects we assume that inclusion in the index is almost plausibly random.

In the second part of the analysis, the entropy-weighted MABAC (Multi-Attributed Boundary Approach Area Comparison) method was used to compare the performance of banks in the BIST corporate method index. MABAC, which was introduced to the literature by Pamučar and Čirović in 2015, is a contemporary method. The number of articles on the combined use of entropy and MABAC methods are few in number in the literature. We think this is one of the main contributions of this study to the literature. There is not any study in the literature in which both methods were used together. In this context, only Ulutas (2019) used Entropy-weighted MABAC to make the personnel selection decision.

The entropy method is a method used for objective weighting. First, the elements of the decision matrix are normalized by dividing by the column sum. With this normalization calculation process, the p value will be found. P values are converted to Ej using the formula below. The weights are found by subtracting the converted data from 1.

$$E_j = -k \sum_{i=1}^{m} p_{ij} \ln p_{ij} \qquad (4)$$

MABAC (Multi-Attribute Boundary Approach Field Comparison) is a newer multi-criteria decision making method developed by Pamučar and Čirović (2015). The main feature of this method is that it defines the distance of each observed alternative from the approximate limit value of the criterion function. The mathematical formulation of the MABAC method consists of the following steps:

Step 1: First, the decision matrix is created. In the matrix, n represents the number of criteria and m represents the decision alternatives.

$$X = \begin{bmatrix} X_{11} & X_{12} & \ldots & X_{1n} \\ X_{21} & X_{22} & \ldots & X_{2n} \\ . & & & . \\ . & & & . \\ . & & & . \\ X_{m1} & X_{m2} & \ldots & X_{mn} \end{bmatrix} \quad (5)$$

Step 2: By determining the minimum and maximum criteria, the matrix is normalized according to the following equations.

$$\text{Max. } n_{ij} = \frac{x_{ij} - \min x_i}{\max x_i - \min x_i} \quad (6)$$

$$\text{Min. } n_{ij} = \frac{x_{ij} - \max x_i}{\min x_{ii} - \max x} \quad (7)$$

Step 3: The matrix is weighted according to the following equation.

$$V_{ij} = w_i(n_{ij} + 1) \quad (8)$$

Step 4: With the equation number 6, the boundary proximity matrix is arranged.

$$g_i = \left(\prod_{j=1}^{m} v_{ij} \right)^{1/m} \quad (9)$$

Step 5: In this step, boundary proximity matrix elements are extracted from the decision matrix elements.

Q= V-G (10)

Step 6: Distance values are determined according to the following equation.

$$A_i \in \begin{array}{l} Upper\ approximation\ area\ q_{ij} > 0 \\ Border\ approximation\ area\ q_{ij} = 0 \\ Lower\ approximation\ area\ q_{ij} < 0 \end{array} \quad (11)$$

Step 7: Decision alternatives are determined by using the distance values found in the previous step.

$$S_i = \sum_{j=1}^{n} q_{ij} \quad (12)$$

5. RESULTS AND FINDINGS

The returns of the sample stocks are higher than the other banking sector stocks around 21.43% and point estimate is distinguishable from zero at conventional significance levels. This gives the idea that the investors of the banking sector give value to the stocks that are included into the Corporate Governance Index or it might be concluded that banking sector stocks which can be selected eligible for inclusion in the Corporate Governance Index might have higher returns compared with the other banking sector stocks.

Findings in columns 2 - 4 of Table 2 imply that trading activity in all domains are affected statistically significantly. Although the trading volume of the banking sector stocks in TL seems to be less on the average for the treatment group as the number of contracts do, turnover estimates indicate that in total more shares are traded. Relatedly, we argue that traders submit large orders for the stocks in the Corporate Governance Index. Employing the range volatility estimator in equation (2), conditional on time and stock fixed effects regression estimates imply that it is more likely to have greater volatility for the banking sector stocks in the relevant index. We also note that the impact of the index inclusion on the outcome variables we study for the stocks in the banking sector is not evident in the full sample. That is to say, being included in the index has null effects in all measures of interest in the full sample. Consequently, it would be good to check heterogeneous effects before reaching a conclusion about how the Corporate Governance Index plays a role in the returns and trading activity.

Table 2: Analysis of the trading statistics of the stocks included in the Corporate Governance Index compared with the all other stocks that are not included in the Index.

VARIABLES	(1) Closing Price (TL)	(2) Volume (1.000.000 TL)	(3) Turnover (100.000 shares)	(4) Number of Contracts (1000 contracts)	(5) Return (Daily)	(6) Volatility (Daily)
Corporate Governance						
Index Indicator	-0.4625	5.4489	-26.8330	-0.4157	-0.0001	-0.0066
	(3.8790)	(19.2155)	(48.5602)	(0.7795)	(0.0004)	(0.0063)
Observations	302,591	302,591	302,591	302,591	302,150	302,591
R-squared	0.5317	0.4729	0.3554	0.4370	0.1766	0.1447
Stock FE	YES	YES	YES	YES	YES	YES
Trading Day FE	YES	YES	YES	YES	YES	YES
Number of Clusters	441	441	441	441	441	441
Control Mean	14.89	26.80	61.61	3.374	0.00181	0.123

Notes: Sample covers all stocks traded in the Borsa İstanbul Stock Markets. The dependent variables are reported at the top of columns. The explanatory variable is a dummy variable equal to 1 if the stock is included in the Corporate Governance Index. Control mean displays the average of dependent variable in the control group. Standard errors are clustered at the stock level. Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 3: Analysis of the trading statistics of the banking sector stocks compared by the other banking sector stocks that are not included in the Corporate Governance Index.

VARIABLES	(1) Closing Price (TL)	(2) Volume (1.000.000 TL)	(3) Turnover (100.000 shares)	(4) Number of Contracts (1000 contracts)	(5) Return (Daily)	(6) Volatility (Daily)
Corporate Governance Index Indicator	-4.2899***	- 103.7236***	515.8455***	-5.8203***	0.0003***	0.0049***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Observations	9,491	9,491	9,491	9,491	9,477	9,491
R-squared	0.4896	0.5362	0.4025	0.5430	0.3557	0.2221
Stock FE	YES	YES	YES	YES	YES	YES
Trading Day FE	YES	YES	YES	YES	YES	YES
Number of Clusters	14	14	14	14	14	14
Control Mean	10.21	131.3	231.4	7.885	0.00140	0.127

Notes: Sample covers all stocks in banking sector traded in the Borsa İstanbul Stock Markets. The dependent variables are reported at the top of columns. The explanatory variable is a dummy variable equal to 1 if the stock is included in the Corporate Governance Index. Control mean displays the average of dependent variable in the control group. Standard errors are clustered at the stock level. Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

According to the above results, the banks in Corporate Governance Index were also examined by MABAC method in order to analyze the performance of the stocks further. MABAC method give the chance to examine the relative advantage of these stocks to each other; and help the investors for decision making about better portfolio formation. As an example in the study, the application of 2018 is given below. In the first step, a decision matrix was created according to the criteria and decision alternatives.

Table 4: Decision Matrix

Banks	D1 (MAX)	D2 (MAX)	D3 (MIN)	D4 (MIN)	D5 (MAX)
B1	33.40609	18.308003	5.108683	0.859962	1.938993
B2	17.84044	13.797892	3.40265	0.651904	0.737612
B3	31.5899	16.069844	5.857843	0.818315	1.44535
B4	21.68671	15.141046	5.738741	1.382375	0.275606

In the second step, the decision matrix is normalized according to the highest and lowest values.

Banks	D1	D2	D3	D4	D5
B1	1	1	0.305133	0.7151	1
B2	0	0	1	1	0.27775
B3	0.88332	0.5037464	0	0.7721	0.70323
B4	0.2471	0.2978094	0.04851	0	0

In the third stage, a new decision matrix was created by weighting the decision units with entropy.

Table 6: Weighted Decision Matrix

Banks	D1	D2	D3	D4	D5
B1	0.224649	0.0374458	0.093429	0.24588	1.308022
B2	0.112324	0.0187229	0.143172	0.28671	0.835663
B3	0.211543	0.0281545	0.071586	0.25405	1.113931
B4	0.14008	0.0242987	0.075058	0.14335	0.654011

In the fourth stage, the boundary proximity domain matrix is arranged.

Table 7: Boundary Proximity Field Matrix

	D1	D2	D3	D4	D5
gj	0.449406	0.198554	0.346432	0.479202	0.975012

In the fifth stage, the distances of the decision units from the border proximity area are calculated.

Table 8: Distance from Boundary Proximity Area

Banks	D1	D2	D3	D4	D5
B1	-0.22476	-0.161108	-0.253	-0.26955	0.33301
B2	-0.33708	-0.179831	-0.20326	-0.22872	-0.13935
B3	-0.23786	-0.1704	-0.27485	-0.26137	0.138919
B4	-0.30933	-0.174255	-0.27137	-0.37207	-0.321

In the last stage, decision alternatives are listed according to the determined distance values.

Table 9: Performance Ranking of Banks in 2018

Banks	Si	Rank
Garanti BBVA	-0.57541	1
Halkbank	-1.08824	3
Yapı ve Kredi Bank	-0.80556	2
Şekerbank	-1.44803	4

As can be seen in practice, analyses were also carried out for other years and are given below.

Table 10: Ranking by Years

	2018		2019		2020	
	Si	Rank	Si	Rank	Si	Rank
Garanti BBVA	-0.57541	1	-1.04859	1	-0.63788	1
Halkbank	-1.08824	3	-1.38355	4	-1.10037	3
Yapı ve Kredi Bank	-0.80556	2	-1.14542	2	-0.79439	2
Şekerbank	-1.44803	4	-1.28866	3	-1.53069	4

CONCLUSION

The returns of the sample stocks are higher than the other banking sector stocks around 21.43% and this result is significantly true in 99% confidence level. This gives the idea that the investors of the banking sector gives value to the stocks that are included into the Corporate Governance Index or it might be concluded that banking sector stocks which can be selected eligible for inclusion in the Corporate Governance Index might have higher returns compared with the other banking sector stocks.

In recent years, the banking sector has made a significant effort to improve its services, which has been forced by technological innovations and deregulations in an increasingly competitive environment. As a result of the increasing focus on banking with financial liberation, emphasis has been placed on increasing the efficiency of the banking sector. As an outcome of this process, banks have to target the best and work efficiently while performing their services. The structure of the banking sector, nominally open to consumers and investors, makes the economy more productive and at the same time more suitable to manage any external and negative shocks. In addition, according to the liberalization of the economy and monetary policy, foreign banks also enter the local markets, reducing the monopoly rate of local banks and creating a more perfectionist environment.

In this study, it was examined whether there is any positive effect of being included in the corporate governance index among banks on stock returns, and the positive interaction findings were combined with the productivity analysis. Secondly the performance of banks in the BIST corporate method index was compared with the MABAC method. In comparison, importance weights were calculated using the entropy method. According to the MABAC method findings, the most efficient bank is Garanti BBVA for all years. It is seen that the second most efficient bank is Yapı ve Kredi Bankası. According to the activity scores, Şekerbank takes the last place. According to the findings, it can be said that the banks within the corporate governance have a continuity of efficiency and that the banks that perform well have maintained their performance over the years.

Decision analyzes are used only for comparison, unlike efficiency analyses. Efficiency analyzes cannot be used for comparison. For the future studies, the efficiency of banks in the corporate governance index can be analysed with Data Envelopment Analysis. Thus, it will be possible to observe how the banks, which are far from efficiency, can be more efficient

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GENİŞLETİLMİŞ ÖZET

Amaç

1980 yılında finansal serbestleşme akımı ile sermaye piyasaları kalite süreçlerini geliştirmişlerdir. İnovasyon ve kurumsal yönetime geçiş bu dönemde gerçekleşmiş, piyasadaki kurumlar finansal ve operasyonel risklerle daha fazla karşılaşmaya başlamışlardır. 1980 yılı sonunda geleneksel bankacılık karlı bir organizasyon olmaktan çıkmıştır. Özellikle rekabetin artması bankaların yönetsel bağlamda gelişim göstermesini sağlamıştır.

Bhagat ve Bolton'a (2008) göre başarılı kurumsal yönetim şirketlerin performansını olumlu etkilemektedir. Kurumsal yönetimi iyileştirme çabaları içerisindeki en önemli pay yönetim kurulu üyelerinin hisse sahipliğidir. Çünkü hem gelecekteki faaliyet performansıyla hem de kötü performans gösteren firmalarda disiplin yönetimi sahiplik ile bire bir ilişkilidir. La Porta vd. (2000) göre kurumsal yönetim, büyük ölçüde yönetimin dışında kalan özsermaye katılımcılarının haklarının korunduğuna ve yöneticilerin kararlarından zarar görmeyeceklerine inandıran yönetim şeklidir.

Kurumsal yönetim standartlarının yürütülmesi 7 kuralla belirlenmiştir; (1) yönetici ve komiserler kurulunun yükümlülük ve görevlerinin belirlenmesi, (2) iç kontrol işlevlerini yerine getiren komitelerin ve çalışma birimlerinin yükümlülüklerinin eksiksiz yerine getirilmesi, (3) uyum fonksiyonunun, iç denetimin ve dış denetimin uygulanması, (4) risk yönetiminin uygulanması, (5) ilişkili taraflara mağazaların ve önemli rezervlerin düzenlenmesi, (6) firmanın yaşamını sürdürebilmesi için hayati düzenlemelerin yerine getirilmesi ve (7) parayla ilgili ve finansal olmayan koşulların belirlenmesidir (Limba vd., 2019).

Genel kabul gören dört temel ilke kurumsal yönetim şeffaflık, adillik, sorumluluk ve hesap verilebilirlik şeklinde özetlenebilir. Türkiye'de kurumsal yönetim düzenlemeleri Sermaye Piyasası Kurulu (SPK) tarafından belirlenmektedir.

Yönetim kurulunun en önemli iki rolü izleme ve danışmanlıktır. Bir gözlemci olarak yönetim kurulu, davranışlarının hissedarların çıkarları ile uyumlu olmasını sağlamak için yöneticileri denetlerken, bir danışman olarak, kilit stratejik iş kararları için yöneticilere görüş ve yönergeler sağlar. Kurumsal yönetim literatüründe birçok özellik "iyi yönetim" olarak tanımlanmaktadır (De Haan ve Vlaru, 2016).

Vekâlet teorisine göre yöneticiler, kontrolün özel faydalarından yararlandıkları ve ayrıca yönettikleri şirketlerde çeşitlendirilemeyen beşeri sermaye yatırımları nedeniyle hissedarların arzu ettiğinden daha az riski tercih etmektedirler (Faleye and Krishnan, 2017). Ek olarak, bankaların özel rolü ve başarısızlıklarının olumsuz dışsallıkları, bankaların vekalet sorunlarını ekonominin geneli için daha maliyetli hale getirmektedir (Tahir vd., 2020).

Teorik olarak, kurumsal yönetim düzenlemelerinin kurumsal yönetimin etkinliği üzerindeki etkisi net değildir. Bir yandan, düzenleme yönetimsel takdir yetkisini ve hissedar servetini olumsuz etkileme kapsamını kısıtlarsa, hissedarların yöneticileri izlemek için daha az mekanizmaya ihtiyacı olabilir. Öte yandan, katı kurallar, yönetim ve düzenleme arasında tamamlayıcı bir ilişkinin var olması için vekalet maliyetini kontrol etmede etkili olan firma düzeyinde yönetimi teşvik edebilir (Vallascas ve Hagendorff, 2013).

Kurumsal yönetim, makroekonomik politikalardan ve yasal, düzenleyici ve kurumsal çevre gibi piyasa faktörlerinden oluşan ekonomik bağlamın bir parçasıdır. Ayrıca, iş etiği ve şirketlerin toplumun çevresel ve sosyal gelişimine karşı sorumluluklarını da içermektedir. Alan yazında birçok çalışmada (BIST) Kurumsal Yönetim Endeksinde (XKURY) işlem gören firmalar incelenmiştir. Aynı paralel de uluslararası çalışmalarda da kurumsal yönetim ve finansal performans etkileşimi incelenmiştir.

Aygün ve İç (2010), 2006 ve 2007 yıllarında Borsa İstanbul'da kote olan 183 firmayı regresyon analizi ile incelemiş, yönetim kurulu büyüklüğü ile varlık büyüklüğü arasında pozitif ilişki saptanmıştır. Karakoç vd. (2016) çalışmasında, 2007-2014 yılları arasında Borsa İstanbul'da kurumsal yönetim endeksinde bulunan firmaların finansal performansları ile kurumsal yönetim notlarını karşılaştırmışlardır. Finansal oranlar hesaplanmış, mali performanslarına çok ölçütlü karar analizi uygulanmış ve aralarında bir ilişki bulunamamıştır.

Bu çalışmada kurumsal yönetim endeksinde yer alan ve almayan bankacılık sektörü hisseleri karşılaştırılmıştır. Mevcut literatürde, getiriler konusunda karışık sonuçlar ortaya konmaktadır. Çalışma örneklemindeki tüm hisse senetlerini kullandığımızda, piyasa kalitesi ve piyasa etkinliği konusunda Kurumsal Yönetim Endeksi'ne dahil olan firmalara dair önemli bir sonuç bulunamamıştır. Ancak örneklem bankacılık sektöründeki hisse senetleriyle sınırlandığında, bulgular farklılaşmaktadır. Başka bir deyişle, Kurumsal Yönetim Endeksi, bankacılık sektöründe piyasa kalitesi ve piyasa faaliyeti üzerinde istatistiksel ve ekonomik etkiye sahiptir.

Bu sonuçlar doğrultusunda, kendi aralarında performanslarını karşılaştırmak için Kurumsal Yönetim Endeksinde yer alan dört banka entropi ağırlıklı MABAC (Multi-Attributed Boundary Approach Area Comparison) yöntemiyle karar verme sürecinde yardımcı olmak amaçlı sıralanmış ve yatırımcılara daha iyi bir portföy seçeneği sunabilmek amaçlı analiz edilmektedir.

Metodoloji

Birincil veri 2018-2020 yılları arasındaki üç yıllık işlem verisidir. BİST Piyasalarında işlem gören 441 farklı şirket kullanılmıştır. Veriler günlük kapanış, minimum, maksimum ve ağırlıklı ortalama fiyatlar, günlük işlem hacmi, tutar ve sözleşme sayısını içermektedir.

Birincil amacımız, Kurumsal Yönetim Endeksinin dahil edilmesinin altı sonuç üzerindeki etkisini değerlendirmektir. İlk olarak, gün sonu kapanış fiyatı üzerinden fiyat etkisi test edilmiş, ikinci olarak, hacim, ciro ve sözleşme sayısını kullanarak ticaret faaliyetini tahmin edilmektedir.

Kurumsal Yönetim Endeksinin bir dizi sonuç üzerindeki etkisini tahmin etmek için bir Panel Veri Sabit Etki yöntemi kullanılmıştır. Çeşitli işlem faaliyetlerini ve getiri göstergeleri ele alınmıştır.

Kurumsal Yönetim Endeksinde yer alan dört banka hisse senetlerinin performansının daha iyi analiz edebilmesi için ikinci bir yöntem olarak da karar vermede etkili olan MABAC yöntemi ile banka performansları incelenmiştir.

Karar verme faktörleri olarak likidite oranı (D1), sermaye yeterliliği oranı (D2), donuk alacakların kredilere oranı (D3), personel gideri ve kıdem tazminatının toplam varlıklara oranı (D4) ve ortalama aktif karlılığı (D5) kullanılmıştır.

MABAC (Çok Nitelikli Sınır Yaklaşım Alanı Karşılaştırması), Pamučar ve Čirović (2015) tarafından geliştirilen güncel bir çok kriterli karar verme yöntemidir. Günümüzde popular olan yöntemin temel özelliği, gözlenen her alternatifin kriter fonksiyonunun yaklaşık limit değerinden uzaklığını tanımlamasıdır.

Bulgular

Yıllar bazındaki bulgular aşağıdaki tabloda görülebilmektedir.

Tablo 11: Yıllar Bazında Sıralama

	2018		2019		2020	
	Si	Rank	Si	Rank	Si	Rank
Garanti BBVA	-0.57541	1	-1.04859	1	-0.63788	1
Halkbank	-1.08824	3	-1.38355	4	-1.10037	3
Yapı ve Kredi Bank	-0.80556	2	-1.14542	2	-0.79439	2
Şekerbank	-1.44803	4	-1.28866	3	-1.53069	4

Sonuç ve Tartışma

Finansal oranlar bankanın belirli bir süre için finansal performansını gözlemlemek için hem yatırımcılar hem de analistler için gerekli göstergeleri içermektedir. Örnek hisse senetlerinin getirileri %21,43 diğer bankacılık sektörü hisselerine göre yüksektir. Bu durum, bankacılık sektörü yatırımcılarının Kurumsal Yönetim Endeksi'nde yer alan hisse senetlerine değer verdiğini göstermekte ve daha yüksek getiriye sahip olabileceği sonucunu vermektedir.

Bu çalışmada ikinci bir analiz ile BİST kurumsal yönetim endeksinde bulunan 4 bankanın performansı finansal oranların karar faktörü olarak belirlendiği MABAC yöntemi ile karşılaştırılmıştır. Karşılaştırmada önem ağırlıkları entropi yöntemi ile hesaplanmıştır. En etkin banka tüm yıllar için Garanti BBVA'dır. İkinci en etkin banka Yapı ve Kredi Bankası, ve en son sırada Şekerbank yer almaktadır.