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## The Impact of Corporate Governance Capacity on Share Price

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### Abstract

Efficient Markets Hypothesis, one of the main theories of traditional finance, states that markets are efficient and investors do not have the opportunity to obtain abnormal profits. Behavioral finance, which argues that individuals do not always behave rationally and that psychological factors have an effect on investor behavior, is against the Efficient Markets Hypothesis and accepts that the investor has the opportunity to gain extra income by being influenced by many factors. Corporate governance, which started to exist in the face of increased management challenges and asymmetric information with globalization, is a system in which business operations are managed and controlled. Companies with a corporate governance rating score of at least seven are traded in the Borsa Istanbul Corporate Governance Index, which first originated within the context of corporate governance and is becoming more significant every day. In this regard, the purpose of the research is to expose the possible consequences of the fixed (unchanging), upward (increasing) and downward (decreasing) movements of the corporate governance rating scores of the companies included in the Corporate Governance Index throughout the years, on the share price. At this point, the prediction that not only the effect of being included in the index, but also the differences in the ratings of the companies in the index can be taken into account by the market participants, reveals both the motivation of this study and the contribution it will provide to the literature. In line with the purpose of the research, the corporate governance rating of the companies traded in the Borsa Istanbul Corporate Governance Index has been analyzed with the Case Study, taking into account the increasing 508, decreasing 58 and unchanged 21 events compared to the previous period. It is found that the market, whose corporate governance score consists of shares that are fixed, increasing, or decreasing over time, gives participants the chance to earn returns above average.

**Keywords:** Corporate Governance Ratings, Event Study, Borsa İstanbul, Exchange, Share

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## Kurumsal Yönetim Kapasitesinin Hisse Fiyatı Üzerine Etkisi

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### Öz

Geleneksel finans anlayışının temel teorilerinden biri olan Etkin Piyasalar Hipotezi, piyasaların etkin olduğunu ve yatırımcıların anormal getiri elde etme fırsatlarının olmadığını ileri sürmektedir. Öte yandan, bireylerin her zaman rasyonel davranmadıklarını ve psikolojik faktörlerin yatırımcı davranışları üzerinde etkili olduğunu savunan davranışsal finans, Etkin Piyasalar Hipotezi'nin savunduğu yargıları bu çerçevede reddederek, yatırımcının irrasyonel davranış kalıpları ve birçok faktörün etkisiyle ortalama üzerinde getiri oluşturma fırsatını meydana gelmektedir. Ayrıca, küreselleşme ile birlikte artan yönetim sıkıntısı ve asimetrik bilgi gibi durumlar karşısında var olmaya başlayan kurumsal yönetim, işletme faaliyetlerinin yönetildiği ve kontrol edildiği bir sistemdir. Kurumsal yönetim kapsamında oluşturulan ve önemi her geçen gün artan Borsa İstanbul Kurumsal Yönetim Endeksi'nde kurumsal yönetim derecelendirme notu en az yedi olan şirketlerin işlem görübilirliği söz konusudur. Bu bağlamda çalışmanın amacı, Kurumsal Yönetim Endeksi'nde yer alan şirketlerin kurumsal yönetim derecelendirme notlarının yıllar itibarıyla sabit (değişmeyen), yukarı (artan) ve aşağı (azalan) hareketlerinin hisse fiyatı üzerindeki olası sonuçlarını ortaya koymaktır. Bu noktada, sadece endekste yer almanın etkisinin yanı sıra, endeks içindeki şirketlerin derecelendirme notlarındaki farklılıkların da piyasa katılımcıları tarafından dikkate alınabileceği ön görüşü hem bu çalışmanın motivasyonunu hem de literatüre sağlayacağı katkıyı ortaya koymaktadır. Araştırmanın amacı doğrultusunda 04.01.2010- 29.03.2022 döneminde Borsa İstanbul Kurumsal Yönetim Endeksi'nde işlem gören şirketlerin kurumsal yönetim derecelendirme notu bir önceki döneme göre artan 508, düşen 58 ve değişmeyen 21 olay dikkate alınarak Olay Çalışması ile incelenmiştir. Araştırmada Olay Çalışması yöntemi kullanılmış ve elde edilen analiz bulguları neticesinde ise kurumsal yönetim puanı yıllar itibarıyla sabit/artan/azalan paylardan oluşan piyasanın, katılımcılara ortalama üzerinde getiri elde etme fırsatı sunduğu tespit edilmiştir.

**Anahtar Kelimeler:** Kurumsal Yönetim Derecelendirme, Olay Çalışması, Borsa İstanbul, Borsa, Hisse

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## Introduction

Traditional finance, whose fundamental tenet is rational behavior, recognizes that individuals act rationally and logically, releasing their emotions and thoughts while making judgments. Fama (1965), who made significant contributions to traditional finance, highlighted the role of reason in financial markets with his theories. In this regard, Fama (1965), who contends that a number of technical or fundamental methods for estimating stock prices are completely useless, contends that there won't be any difference between stock earnings return chosen at random and stock returns calculated in accordance with a number of mathematical formulas. With the Efficient Markets Hypothesis (EMH), one of the most significant ideas of conventional finance, he furthered this opinion. EMH contends that because markets are effective, people cannot profit more through technical transactions, procedures, or prior knowledge.

Behavioral finance, which was initially put forward by Kahneman & Tversky (1979) in the following years and offers a new perspective to financial markets, contradicts the Homo economicus assumptions accepted by traditional finance. It recognizes that human beings, who are fallible and susceptible to emotion, play a significant role in the economy and that social and psychological elements have an impact on financial markets. By attempting to explain "why" and "how" markets can be inefficient, reflecting the erratic nature of the general human psyche, as opposed to the principles of EMH, behavioral finance differs from traditional finance theories. Behavioral finance states that the investor makes common investment mistakes due to his cognitive and emotional weaknesses, and that the mental state has an effect on the decision process, especially in the case of risk-uncertainty (Baker & Nofsinger, 2002, p.102-104).

On the other hand, globalization, which has continued to grow through time as a result of several factors and has united the world's markets, has turned into a factor that makes it challenging for businesses to exist. Clarke & Rama (2008) stress corporate governance as a structure that organizes all the stakeholders in the organization, emphasizing how it has emerged as a key factor for the success of businesses in the business environment. By setting up objectives, rights, and obligations, corporate welfare is improved and maintained during this coordinated process. Firms have the chance to help the larger community once the procedure is complete. A score is generated over a number of ratios within the framework of the four corporate governance principles to determine the corporate governance rating, which evaluates the rights of stakeholders and examines the effectiveness of management (equality, accountability, responsibility and transparency). Companies listed on Borsa Istanbul and scoring well in terms of corporate governance may also be eligible to be included in the Corporate Governance Index (XKURY).

In this respect, the main goal of the research is to determine the likely effect of the fixed, upward and downward movements of the corporate governance rating scores of the companies listed in the Corporate Governance Index throughout the years, on the share price. In this perspective, among the listed firms in the Borsa Istanbul Corporate Governance Index, 21 announcements whose corporate governance rating points did not change compared to the same period last year; increasing 509; decreasing 58; an announcement or event within the context of the event study received a total of 588 ratings situation. At this point, the prediction that not only the effect of being included

in the index, but also the differences in the ratings of the companies in the index can be taken into account by the market participants, reveals both the motivation of this study and the contribution it will provide to the literature. In this sense, the research provided theoretical explanations of the Efficient Markets Hypothesis, behavioral finance, corporate governance, and the Borsa Istanbul Corporate Governance Index before examining relevant literature from both domestic and international sources. Following data analysis in accordance with the study's objectives, the conclusions are assessed.

### **Theoretical Framework**

In this section of the research, thorough information concerning the Efficient Markets Hypothesis, Behavioral Finance, Corporate Governance and Borsa İstanbul Corporate Governance Index (XKURY) is given.

#### **Efficient Markets Hypothesis (EPH) and Behavioral Finance**

Stock markets are places where money is gathered from wealthy people and given to companies as a means of maximizing earnings. Nevertheless, does stock market performance play the part that economists predict? How well do these markets execute this function? Does splurging fit into the process? Does the price accurately reflect the value really present? Are financial markets acting in a proper manner? Traditional financial theories have been established over time to address issues like: Efficient Markets Hypothesis (EPH) is one of the traditional finance theories intended to offer answers to the problems about the meaning and predictability of price in financial markets (Burton & Shah, 2013, p.5).

According to the Efficient Markets Hypothesis, which is connected with the theory of random walk, the available knowledge is always fully reflected in the prices, and as a result, the markets acquire efficiency (Fama, 1970, p. 383; Malkiel, 2003, p. 59). The pace and direction of price action in response to fresh information, on the other hand, determines the efficiency of the market. In other words, the market's efficiency increases in direct proportion to how quickly prices adjust to new information as it enters the market (Barak, 2006, p.61).

EMH makes the supposition that all prices function as an efficient market reflecting all available information. Nonetheless, as a result of the research, some investors having access to market knowledge may have the chance to generate abnormal returns with the aid of specific strategies. For this reason, market efficiency has been evaluated in three different forms as weak form, semi-strong form and strong form. The market in which it is asserted that all the information in the previous price movements is automatically reflected in the future prices is considered to be the weak form, which is acknowledged as the basic level of market efficiency. The semi-strong form is the market in which information available to the public (annual activity reports, stock split, dividend announcement, new stock issuance, etc.) is reflected in the stock prices, as well as information on prior price movements. The strong form of the efficient markets hypothesis is defined as the market in which recent price movements, information that is widely available, and information that is only known to company employees are immediately mirrored in current prices (Fama, 1970, p.383-409).

Models based on rational individuals started to lose their initial appeal in the late 1970s. Considering that wishful thought can rule the majority of a profession for ten years, but never permanently. Similarly, some skepticism of conventional financial theories first

surfaced in the late 1970s, when there was already a tendency to set aside economics and financial markets in favor of a more selective way of thinking. When financial journals from the 1970s are examined, some anomaly reports that defy the Efficient Markets Hypothesis can be found. Eugene Fama, for instance, was pleased about the conclusions of his 1970 article "Efficient Capital Markets: A Review of Empirical Research," but he minimized several anomalies, such as the small serial dependencies in stock returns (Shiller, 2003, p. 84). In this regard, numerous studies on behavioral finance have been conducted since the 1970s, and the groundwork for behavioral finance has started to be established. Behavioral finance explores how psychological and sociological factors affect financial markets. The fundamental premise of this investigation is that people are illogical and that psychological fallacies and cognitive dissonances affect people's decision-making behavior (Bhatt & Chauhan, 2014, p.359).

By attempting to explain "why" and "how" markets can be inefficient and reflecting the unexpected character of the collective "human spirit" against the principles of EMH, behavioral finance deviated from standard finance theories (Faruque, 2011, p. 8). The analytical methodological perspective is yet another feature that sets behavioral finance apart from conventional finance. The typical approach in classical finance theories is to start with a model, draw some testable conclusions, and then assess the empirical validity of these findings. The situation is reversed according to behavioral finance theories. First, behavior patterns in the financial markets are studied, and then models are developed to account for these observed behaviors (Estrada, 2001, p.6).

Behavioral finance is the paradigm in which financial markets are analyzed using models that are less narrow than models based on the Expected Utility Theory created by Von Neumann-Morgenstern and arbitrage assumptions. Behavioral finance, which is described as the application of psychology to finance, contains two building components, specifically cognitive psychology and arbitrage limits (Pompian, 2011, p.4; Ritter, 2003, p.429). The scientific study of cognition, or the thought processes that underlie behavior, is called cognitive psychology. Cognitive psychology looks into a variety of topics, including research, memory, attention, perception, information representation, reasoning, creativity, and problem-solving (Pompian, 2011, p.28). The second tenet of behavioral finance is arbitrage, which is an investment instrument that enables you to give away non-risky earnings. The Efficient Markets Hypothesis contends that arbitrage is unlimited and risk-free, while behavioral finance contends that arbitrage is constrained and subject to risk. The Efficient Market Hypothesis states that arbitrage upholds market efficiency by drawing attention to the underlying value of prices. The arbitrageur, who purchases the less expensive assets and sells them for a higher price, is certain that there will be no further net cash flows, so he views his profit as being positive. The advantages of arbitrage, on the other hand, are explained by the behavioral perspective as being hazardous and constrained as well as having alternatives for assets whose prices are impacted by noisy trading. In order to reduce risks, the arbitrageur does not purchase expensive securities with alternatives. Arbitrage cannot prevent risk and high price formation when there are non-substituted securities present. For this reason, the arbitrageur cannot trade substitute assets in the short term, and arbitrage becomes limited for the risk-averse arbitrageur (Tufan & Sarıççek, 2013, p.177).

## Corporate Governance and Borsa Istanbul Corporate Governance Index (XKURY)

Both developed and developing nations have increased the importance of corporate governance, which has recently emerged as a key concern for the companies that thrive in the marketplace, particularly in the wake of several scandals like WorldCom (1999), Enron (2001), Parmalat (2003), or Lehman Brothers (2008), is progressively growing. So precisely what is corporate governance? A few definitions of corporate governance are provided below, while there are more definitions in the literature to address this subject. The relationship between the board of directors, company management, shareholders, and stakeholders must be considered when discussing corporate governance. Additionally, corporate governance has a major role to play in setting up structures like determining the company's goals and the ways in which those goals will be attained (OECD, 2015).

Corporate governance is the collection of rules, laws, and optional private sector practices that enable an organization to draw in capital and labor, operate efficiently, and generate long-term financial gain and stability for stakeholders in a way that protects the interests of the general public and beneficiaries (Millstein, 2000). Corporate governance is a concept consisting of institutional structures, best practices and legal rules that determine which body in the business is authorized to make certain decisions, how the members of this body are selected and the norms that should guide decision making (Bainbridge, 2012, p. 2). The boundaries set by law, regulation, their owners and funders, as well as the expectations of the people they serve, govern how corporations, whether they are family companies, the predominant kind of economic organization, or state enterprises. These limits differ from country to country and most importantly change over time. There cannot, therefore, be a single corporate governance model that is universally applicable, as the OECD report makes very evident. The paper emphasizes a select handful of the guiding principles since it recognizes the complexity of the corporate governance concept. These principles (OECD, 2015; Iskander & Chamlou, 2000, p.3-4):

- The principle of equality, which involves activities such as preventing any conflicts of interest and restricting the trade of those who learn from within the organization,
- The responsibility principle, which guarantees that organizations behave in accordance with the laws and regulations that reflect the social order and create value for their stakeholders,
- The idea of accountability, which is based on the independent monitoring of the top management performance of the board of directors and ensuring its accountability to the shareholders,
- The fourth and final element is the transparency principle, which highlights the importance of the organization sharing accurate, comparable, and open information.

The necessity to compare the levels of corporate governance activities among companies and to accept the idea of corporate governance on a national and international scale gave rise to the concept of corporate governance compliance rating. Corporate governance compliance rating is described as a grading activity that questions the quality of corporate governance practices of organizations within the context of the four principles of corporate governance (Güçlü, 2010, p.64). Additionally,

the corporate governance rating conveys an opinion on the boards of directors' overall trustworthiness, stakeholder connections, significance placed on shareholder rights, and public disclosure activities (SAHA, 2021).

It is theoretically conceivable to measure the performance of firms in the sphere of corporate governance by individual investors. However, this procedure increases the amount of time and money needed for research. This is why the foundation for the development of a sector in this direction has been laid by the corporate governance compliance rating business that will be carried out by professional rating companies in order to benefit from the expertise and tools of the institutions or persons who are professionally interested in this business. The corporate governance standards to be used as a basis for the rating are first chosen, grouped, and given a specific weight for each group (Sandıkçıoğlu, 2005, p.10–12).

Many countries in the world are reshaping their current legislation within the framework of corporate governance principles. In parallel with these practices, corporate governance principles have been established by the Capital Markets Board (CMB) in Türkiye. In this direction, the “Corporate Governance Index” was created by the publicly listed joint stock companies traded on the BIST in order to support the implementation of these principles, to ensure the development of capital markets, to inform savers and to contribute to the establishment of good corporate governance practices (Dağlı, Ayaydın & Eyüboğlu, 2010, p.22).

Borsa Istanbul (BIST) Corporate Governance Index is one of the BIST share indices and consists of the shares of companies traded in the Stars, Main and Sub-Markets, with at least the minimum pre-determined corporate governance rating (BIST, 2021). The conditions required for the company shares to be listed in the BIST Corporate Governance Index are stated below (BIST, 2021):

- To receive at least a 7 out of 10 overall corporate governance grade and a 6.5 out of 10 rating for each primary heading.
- The rating has to be updated every year at the company's request, and it has to be delivered.
- The most recent rating is considered in cases when there are ratings from multiple rating agencies. The rating provided by the other rating agency is taken into consideration if a rating agency is taken off the CMB's "List of Rating Agencies" or if the rating agreement of any rating agency is terminated for any reason.
- The shares of companies that meet the minimum rating requirement are included in the index on the business day following the publication of the rating on the Public Disclosure Platform (KAP).
- Even if a firm acquires another company or group of companies, it remains a part of the BIST Corporate Governance Index.

Companies that are part of the BIST Corporate Governance Index might benefit from free advertising revenue streams including a rise in brand value and public esteem. Also, compared to other indexes, the return rates of the stocks of the businesses represented by the Corporate Governance Index are greater (Taştan, 2018, p. 41).

Investors also place a lot of importance on XKURY when analyzing organizations. Because investors consider both the financial reports and the management of the companies to which they would send their savings. Due to this, it is evident that a company that is excluded from the index will have less value in the eyes of potential investors.

### **Literature Review**

Below is a summary of research that has been done on a national as well as international scale using the research's associated themes.

Black et al. (2006a) examined at 515 companies trading on the Korean Stock Exchange between 1999 and 2004 to see if there might be a connection between corporate governance procedures and financial performance. They conducted the research using the least squares method (LS) and regression analysis, and based on their findings, they concluded that solid corporate governance procedures have a beneficial impact on a company's market value and, ultimately, its financial performance. Also, Black et al. (2006b) looked into how corporate governance procedures affected financial performance for the Russian Stock Exchange throughout the same year. The analysis's findings demonstrated that the robust corporate governance policies have a beneficial impact on the financial performances of the companies listed on the Russian Stock Exchange's Corporate Governance Index as well as the Korean Stock Exchange. Similar to this, Erdoğan & Öztürk (2016) evaluated at how 14 companies featured in the BIST Corporate Governance Index between 2009 and 2014 fared financially after being included in the index. According to the conclusions drawn from the panel data analysis, being a component of the Corporate Governance Index has a marginally beneficial impact on financial performance. In addition, other studies that have determined that corporate governance practices have a positive effect on financial performance in the national and international arena can be expressed as follows; Major & Marques (2008); Turan & Bayyurt (2013); Yenice & Dölen (2013); Amba (2014); Kula & Baykut (2014); Aytekin & Sonmez (2016); Ndikwe & Owino (2016); Iqbal et al., (2019); Önder & Kavak (2019); Ozturk et al., (2020).

The relationship between financial achievement and corporate governance procedures of companies listed in the FTSE Eurotop 300 was examined by Bauer et al. (2008). They came to the conclusion that there is no connection between corporate governance and financial performance as a consequence of their investigation. 25 SMEs listed in the BIST between 2011 and 2017 were analyzed in the study by Sağlam & Karan (2019) to determine whether corporate governance practices had an impact on the financial performance of businesses. According to the results of the panel data analysis, corporate governance practices in SMEs have little impact on financial performance. Similar to the above, Bektaş & Kırkbeşoğlu (2020) investigated at the stock returns of 9 firms that were part of XKURY in 2018 and discovered that the analysis had no appreciable impact. There are further studies that have found no connection between financial success and corporate governance procedures on a national and worldwide scale, as well as no adverse effects. These studies; Alves & Mendes (2004); Klein et al., (2005); Kyereboah-Coleman (2008); Çarıkçı et al., (2009); Karayel & Gök (2009); Gupta & Sharma (2014); Erdogan (2015); Shahwan (2015); Esendemirli et al., (2016); Wessels et al., (2016); Yıldırım et al., (2018); Nuryana & Surjandari (2019).

The potential relationship between the corporate governance rating and the financial

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performance of companies listed on the BIST and included in the XKURY was investigated in the 2007–2008 period in the study done by Çonkar et al. (2011). The TOPSIS technique of measuring firm performance has been put to the test for each year, and it has been found that the results are not directly correlated with the companies' respective corporate governance ratings. Ege et al. (2013) used the TOPSIS approach to study the financial performances of the companies included in the BIST Corporate Governance Index during the 2009–2011 period in order to ascertain the relationship between the corporate governance rating and financial performance. The research led them to the conclusion that the index rankings based on corporate governance ratings and the rankings established based on financial performance of the companies do not move in the same way. Sakarya (2011) conducted a second study in which the corporate governance rating was considered. The research examined at the connection between stock returns of businesses that were first included in the BIST Corporate Governance Index in 2009 and the release of their rating. 11 companies receiving a rating for adequate corporate governance used the event study approach. As a result of the analysis, a positive significant relationship was found between the stock return and the announcement of the rating note. Also, Yenice & Dölen (2013); Yavuz et al., (2015); Yapa (2017); In the studies conducted by Kevser & Doğan (2021), results supporting the study of Sakarya (2011) were reached. On the other hand, Turnacıgil et al. (2019) assessed at whether stock purchases by investors were influenced by the corporate governance rating of 15 businesses that traded on XKURY between 2009 and 2016. They claimed that the CPI had no impact on their stock purchases as a result of the results of the panel vector autoregressive model research. Similar to this, the relationship between the disclosure of corporate governance ratings and stock returns for 58 businesses in XKURY between 2011 and 2015 was investigated in the study undertaken by Sakarya et al., (2017). The Event Study research revealed no evidence of a substantial positive association between stock returns and the disclosure of the corporate governance grade.

### **Dataset and Methodology**

A detailed explanation of the data set created within the scope of the research, its hypotheses and the preferred methodological method is given below.

#### **Dataset**

The main objective of the research is to provide light on the potential impact of corporate governance capability on share price from a different angle. In this case, the goal is to ascertain how the share price has changed over time in relation to the up, down, and fixed movements of the corporate governance rating scores of the companies listed in the Borsa Istanbul Corporate Governance Index. In line with the purpose of the research, the corporate governance rating score of the companies listed in the Borsa Istanbul Corporate Governance Index during the period 04.01.2010-29.03.2022 increased compared to the previous period is 509, decreased 58 and did not change, 21, 588 in total (within the framework of the event study) are taken into account. In this framework, the -20, +20 event window is taken into account in the estimation period of -20, -270. The Event Study method is used in the research and the daily closing data of the companies were obtained from refinitiv.com.

The following is an expression of the null and alternative hypotheses developed within the constraints of the research to examine the potential impact of an increase or drop in

the corporate governance score relative to the prior period and not changing:

*H<sub>0A</sub>*: During the 20-day period in which the corporate governance rating score does not change in comparison to the prior period, the average abnormal return level of the companies is equal to zero.

*H<sub>1A</sub>*: In the 20-day period in which the corporate governance rating score does not change in comparison to the prior period, the average abnormal return level of the companies is not zero.

*H<sub>0B</sub>*: The average abnormal return level of the companies in the 20-day period in which the corporate governance rating score increased in comparison to the prior period is equal to zero.

*H<sub>1B</sub>*: The average abnormal return level of the companies is different from zero in the 20-day period in which the corporate governance rating score increased in comparison to the prior period.

*H<sub>0C</sub>*: The average abnormal return level of the companies is equal to zero for the 20-day period in which the corporate governance rating score dropped relative to the prior period.

*H<sub>1C</sub>*: The average abnormal return level of the companies is different from zero in the 20-day period during which the corporate governance rating score fell relative to the prior period.

Determining a predictable price movement is prioritized in the context of the research's hypotheses, preferred methodology, findings, and main point of view, rather than the effects of circumstances like the corporate governance rating score in Bist XKURY on the share prices of the companies, such as the fixed/increasing/decreasing score compared to the previous period. As a result of the analysis and conclusions reached in this context, the null hypotheses will be rejected and the alternative hypothesis will be accepted if the corporate governance rating score does not change in comparison to the preceding period and statistically significant results are obtained in the case of increasing or decreasing. In addition, it will be allowed to comment on the efficiency of the market within the area of the research topic.

## **Methodology**

The rationale for deciding to evaluate the behavior of security prices is provided by recent advancements in capital theory as an operational test of utility. The hypothesis supports the idea that capital markets are neutral as well as assuming that they are efficient. So if the information is helpful in establishing capital prices, the market will immediately adjust asset values in accordance with this knowledge without providing any room for future exceptional profits. Ball & Brown (1968) adopted the concept of correlating accounting income with stock price, concentrating on data unique to a given company. The researchers claim that changes in asset prices will alter the information flow to the market if they react swiftly to new information when it actually arises. They added that additional evidence the data contained in the income statistics is valuable would come from a noticed adjustment in share prices related to the release of the income report. They presented the first example of a Event Study in this area.

Information on the consequences of disclosing financial information to the public on the

company's reputation and share splits is gathered using the event study methodology. This strategy, which considers either specific companies or the market as a whole, has been utilized in several research to ascertain how the market responds to information about certain occurrences. The Event Study approach gives you the chance to evaluate the projected rate of return you'd get if an event never happened to the actual rate of return that was impacted by the event (Adamska & Dabrowski, 2016, p.366). Furthermore, an event study assists in identifying the turnaround behavior of a company going through a typical occurrence, such as a stock split. Contrarily, this event may occur at various times during the calendar year or may cluster on a certain date, such as a regulatory event that affects a certain industry or subset of the firm's demographic (Khotari & Warner, 2006, p.9).

The Event Study approach is a methodology used to assess the market's degree of semi-strong form efficiency and determine if stock prices accurately reflect all information that is generally available. An event study's primary goal is to determine if an abnormal return was acquired on the first day after an event was announced, or on the actual event date. The return that will be lower or higher than the typical return that will be acquired by the publication of the pertinent news to the market is the value that is expressed this as abnormal return (Bekçioğlu, Öztürk & Kaderli, 2004, p.44).

The methodological stages of the event study are listed below (Tong, 2010):

1. The natural logarithmic returns for each company and related index are calculated using the following formula:

$$R_{it} = \ln(P_{it} / P_{it-1}) \quad (1)$$

$R_{it}$ : Logarithmic return of the stock,

$P_{it}$ : Share price of company 'i' on day 't',

$P_{it-1}$ : It shows the share price of company 'i' on day 't-1'.

2. The following formula is used to get the expected return values for each stock separately.

$$R_{it} = \alpha_i + \beta_i * R_{mt} + \epsilon_{it} \quad (2)$$

$R_{mt}$ : Daily return of market index (BIST 100),

$\alpha_i$ : Average return of stock 'i' that cannot be explained by the market,

$\beta_i$ : It shows the sensitivity of a stock 'i' to market movements.

3. At this step, using the method below, the daily abnormal returns of the firms on the event date are determined.

$$AR_{it} = R_{it} - E(r)_{it} \quad (3)$$

$AR_{it}$ : The abnormal return of stock 'i' in period 't',

$R_{it}$ : Actual return of stock 'i' in period 't',

$E(r)_{it}$ : The expected return of stock 'i' in period 't' is represented.

4. The average abnormal return (AAR) values are calculated in the fourth stage using the abnormal returns that were discovered as a consequence of the

calculations performed in the previous stage.

$$AAR_t = AR_{1t} + AR_{2t} + \dots + AR_{it} + \dots + AR_{nt} / n \quad (4)$$

5. In the last step, average cumulative abnormal return (CAAR) values are calculated using the acquired average abnormal return (AAR) values at the periods selected inside the event window.

$$CAAR_{(t,t-1,...)} = AAR_t + AAR_{t-1} + \dots + AAR_n \quad (5)$$

AAR: Average of abnormal returns on day 't',

6. CAAR: cumulative average abnormal returns on day 't' are shown.

### **Analysis and Evaluation**

In this part of the research, the average abnormal return (AAR) and cumulative abnormal return (CAAR) outcomes of companies whose corporate governance rating score remained constant/decreased/increased in comparison to the prior year were analyzed within the framework of the method chosen while taking into account the primary objective of the research.

Table 1: Outcomes of the AAR for Shares having a Corporate Governance Rating Score as Fixed/Up/Down Compared to the Prior Period

Days	Fixed		Up		Down	
	AAR	P-Value	AAR	P-Value	AAR	P-Value
-20	0,0121	0,3062	0,00037	0,0133**	-0,00343	0,13641
-19	-0,0064	0,2264	-0,00081	0,0245**	0,00233	0,0867*
-18	-0,015	0,3939	-0,00102	0,0403**	-0,00623	0,23846
-17	-0,009	0,3467	-0,0007	0,0284**	0,005	0,21307
-16	0,0015	0,0794*	0,0011	0,0420**	0,00656	0,26253
-15	0,0041	0,1176	-0,00025	0,0094***	-0,00144	0,0694*
-14	-0,0014	0,0354**	-0,00034	0,0136**	0,00073	0,0342**
-13	-0,0066	0,2152	-0,00027	0,0105**	0,00823	0,18583
-12	0,003	0,1316	0,00171	0,06673*	0,00023	0,0101**
-11	0,000	0,0018***	-0,00192	0,06421*	0,00078	0,0311**
-10	0,0018	0,0933*	0,00148	0,05216*	0,00388	0,13515
-9	0,0041	0,1148	-0,00075	0,02706**	-0,00132	0,0617*
-8	0,0007	0,0214**	-0,0011	0,04105**	0,00007	0,0030***
-7	-0,0089	0,2638	0,00113	0,04208**	0,00173	0,0962*
-6	0,0016	0,0535*	0,00101	0,03791**	0,00004	0,0016***
-5	0,0023	0,0880*	-0,00056	0,0218**	-0,00077	0,0340**
-4	0,0038	0,1456	0,00043	0,01322**	0,00322	0,14282
-3	-0,0094	0,4041	-0,00025	0,0093***	0,00797	0,13867
-2	-0,0002	0,0073***	-0,00073	0,0244**	0,00036	0,0146**
-1	-0,0078	0,4019	-0,00032	0,0124**	-0,00316	0,11323
<b>0</b>	<b>-0,0056</b>	<b>0,2339</b>	<b>0,00205</b>	<b>0,0664*</b>	<b>-0,00009</b>	<b>0,0022***</b>
1	0,000	0,0014***	0,00235	0,0832*	-0,00459	0,19721
2	-0,0017	0,0517*	0,00083	0,0321*	0,00739	0,23799
3	0,0035	0,0837*	0,00162	0,05283*	0,00055	0,0231**
4	0,0055	0,1666	-0,00056	0,0220**	-0,0027	0,0977*
5	-0,0015	0,0346**	0,00036	0,01443**	-0,00141	0,0519**
6	-0,0032	0,0618*	-0,0009	0,03627**	-0,00652	0,2596
7	-0,0151	0,4881	0,00003	0,0011***	-0,00512	0,12065
8	-0,0134	0,2741	-0,00082	0,0314**	-0,00536	0,14793
9	0,0039	0,1536	-0,00099	0,0394**	-0,0042	0,13883
10	0,0008	0,0259**	-0,00082	0,0334**	-0,00593	0,18565
11	-0,0071	0,3172	-0,00056	0,0231**	0,00047	0,0155**
12	0,0015	0,0599*	-0,00052	0,0214**	0,00398	0,1363
13	0,0024	0,1024	-0,00042	0,01374**	-0,00392	0,15309
14	0,0001	0,0041***	-0,0007	0,02648**	0,00125	0,0340**
15	-0,0016	0,0637*	0,00242	0,0908*	-0,00528	0,17878
16	-0,0004	0,0213**	-0,00035	0,0134**	-0,01	0,29322
17	-0,0015	0,0616*	-0,00004	0,0016***	-0,00148	0,0364**
18	-0,0014	0,0767*	-0,00055	0,0229**	0,0006	0,0186**
19	-0,0047	0,1695	0,00015	0,0058***	0,00838	0,19432
20	0,003	0,0921*	-0,00045	0,0167**	0,00049	0,0146**

\*,\*\* and \*\*\* denote significance at the 1%, 5% and 10% level, respectively.

The AAR results for fixed/increasing/decreasing shares in comparison to the prior quarter are shown in Table 1 along with the corporate governance rating score. Within a 20-day window, the obtained AAR values are displayed on the day before, the day of, and the day after the release of the corporate governance rating score. When the shares with the same corporate governance rating scores as the prior period are examined overall, the negative AAR value on the 0th day, or the day of the event, is the first thing that stands out. The AAR realized on this day, it can be shown, lacks statistical significance. Six positive and seven negative significant average abnormal returns stand out in the 20 days following the event. AAR with positive 1% significance on the second day, 1% significant and negative AAR on the third day, AAR with positive 1% significance on the fourth day, and 5% significant positive AAR on the fifth day are noticed when the event is taken into account. Furthermore, it's possible to demonstrate that the fourth day's positive average abnormal return lacks statistical significance. On the other hand, it is interesting to note that the positive significant AAR value is greater than the negative significant AAR value when we focus on the 20 days before to the event date.

It is notable that all AAR values are statistically significant when the AAR findings for the shares are examined, particularly for those shares whose corporate governance rating score has increased from the prior analysis period. Another noteworthy aspect of the table is the occurrence of a 1% significant positive average anomalous return on the event day. It is counted that 13 significant negative and 7 significant positive AAR values in the 20 days after and before the event day. On the first, second, and third days following the event date, an AAR value with 1% significant positive, 5% negative, and positive 5% statistical significance is determined. Upon examining the first five days before to the occurrence of the event, nevertheless, the negative AAR value is -.1, -.2, and -.5 on days, and on day -3, it is discovered that it has 10% significance. In addition, the presence of a positive 5% significant AAR value formed in -4 days is also reflected in the table. In general, the pre- and post-event examination spectrum demonstrates the existence of statistically significant results, both positive and negative. Consequently, positive abnormal returns with varying degrees of significance occur in the first days following the event date, whereas negative significant abnormal returns arise in the days that follow, in companies whose corporate governance score has increased in comparison to the prior period.

In the first place, on the 0th day, on the day of the event, a negative AAR value with 10% statistical significance stands out when glancing at the AAR outcomes of the shares whose corporate governance rating declined compared to the prior period. In addition, a general analysis of the table reveals that there were 8 positive and 3 negative abnormal return values in the 20 days before the event occurred, as well as 5 positive and 3 negative AAR values in the 20 days after it. Although there were negative and positive AAR values on the first and second days following the event, respectively, these values were not statistically significant. The average abnormal returns were statistically significant at levels of 5%, 1%, and 5%, respectively, on the third, fourth, and fifth days after the event date. On the other hand, a negligible negative average abnormal return happens on the first day prior to the event date.

The presence of statistically significant results in many directions and in the period of both pre-event and post-event analysis draws attention when the analysis is assessed in

the context of research hypotheses. In this perspective, the  $H_{0A}$ ,  $H_{0B}$ ,  $H_{0C}$  hypothesis is rejected for the markets where the corporate governance rating score is stable/increasing/decreasing compared to the previous period and the  $H_{1A}$ ,  $H_{1B}$ ,  $H_{1C}$  hypothesis is accepted. In addition, it was claimed that the market was not efficient in the semi-strong form within the scope of the change in the corporate governance rating score.

Table 2: Outcomes of the CAAR for Shares having a Corporate Governance Rating Score as Fixed/Up/Down Compared to the Prior Period

	Fixed		Up		Down	
<b>[-20,20]</b>	-0,0662	0,2998	0,00033	0,0017***	-0,00873	0,0423**
<b>[-15,15]</b>	-0,0445	0,2201	0,00263	0,0168**	-0,01094	0,0588*
<b>[-10,10]</b>	-0,0389	0,2229	0,00349	0,0282**	-0,01597	0,1148
<b>[-5,5]</b>	-0,0111	0,1341	0,00522	0,05714*	0,00676	0,0716*
<b>[-1,1]</b>	-0,0134	0,3664	0,00408	0,0820*	-0,00784	0,17707
<b>[-20,0]</b>	-0,0297	0,291	-0,00179	0,0135**	0,02476	0,16314
<b>[-15,0]</b>	-0,0185	0,2338	0,00132	0,0114**	0,02045	0,14819
<b>[-10,0]</b>	-0,0176	0,2707	0,00239	0,0266**	0,01192	0,11478
<b>[-5,0]</b>	-0,0169	0,3988	0,00062	0,0093***	0,00752	0,0906*
<b>[0,2]</b>	-0,0073	0,1524	0,00523	0,1081	0,00271	0,0629*
<b>[0,5]</b>	0,0002	0,0026***	0,00665	0,0951*	-0,00086	0,0149**
<b>[0,10]</b>	-0,0269	0,1679	0,00315	0,0345**	-0,02798	0,27794
<b>[0,15]</b>	-0,0316	0,1715	0,00336	0,0320**	-0,03147	0,24483
<b>[0,20]</b>	-0,0365	0,1996	0,00212	0,0179**	-0,03349	0,25213

\*,\*\* and \*\*\* denote significance at the 1%, 5% and 10% level, respectively.

Table 2 shows the CAAR findings for fixed/increasing/decreasing shares with the corporate governance rating score from the prior period. The majority of the examination intervals indicate negative outputs in the CAAR results for the shares whose corporate governance rating score did not change from the previous period, yet it's noted that these values do not have statistical significance. The most noticeable feature of the table, nonetheless, is the 10% unisignificant positive CAAR value in the [0,5] window. For the first five days following the event date, this can be stated as a cumulative positive market perception for companies with fixed corporate governance scores. Once the CAAR figures for the shares whose corporate governance rating scores increased compared to the prior period are evaluated, it becomes apparent that all windows, with the exception of the [0,2] window, have statistically significant CAAR values. This suggests that the event will have a positive effect both in the short- and long-term in selected time interval. Lastly, take a glance at the CAAR findings for the shares whose corporate governance rating decreased from the prior timeframe. The CAAR results of the shares whose corporate governance rating declined in comparison to the prior period were examined in detail, and we discovered that while significant positive CAAR was found at the level of 1% in the [-5.5], [-5.0], and [0.2] windows, a negative 1% significance CAAR value was found in the [-15.15] window. Moreover, the [-20, -20] window's 5% negative CAAR value gets attention. When the [0,5] window of the table is analyzed, a 5% significant negative cumulative average abnormal return appears. This condition emphasizes the existence of a short-term negative effect

regarding the shares whose corporate governance score has decreased compared to the prior period.

### **Conclusion**

In the last years of the 1970s, conventional finance, which operates on the tenet of rational conduct and assumes that people always make rational judgments, lost some of its earlier vigor, and various problems relating to traditional finance ideas started. Traditional finance and many of its underlying assumptions have tended to be disregarded by financial markets and economics in favor of a more selective way of thinking. With a view to replacing a spouse, kid, employer, or anybody else with some understanding with a more realistic financial actor model that emphasizes homo sapiens, behavioral finance has emerged. It rejects the homoeconomicus assumptions upheld by classical finance. The field of behavioral finance studies the influence of psychological and social variables on financial markets. The underlying premise of this examination is that people are illogical, and a secondary concern is the impact of psychological fallacies and cognitive dissonances on people's decision-making processes.

On the other hand, the expanding market role of the private sector, fresher levels of competition, technical advancements, and the tightening of international economic linkages all contribute to the acceleration of globalization. The relevance of the idea of corporate governance is significantly increased by the pace of globalization. Furthermore, recent large-scale business bankruptcies highlight the significance of corporate governance operations once again. Since the individuals who own the firm shares are impacted by the bankruptcy, the value of business management is multiplied by two. Corporate governance, which has lately emerged as a key factor in how well businesses perform in the marketplace, is stressed as a structure that integrates all of the company's stakeholders. The methods and practices used to guide and control a corporation are known as corporate governance. A score that allows companies to be included in the Corporate Governance Index is the corporate governance compliance rating, which results from the need to adopt the corporate governance concept in the national and international arena and to compare the corporate governance activity levels of the companies over time. Moreover, a rating activity known as "corporate governance compliance rating" is described as one that assesses how well businesses adhere to the four corporate governance principles (equality, accountability, responsibility and transparency).

The research's primary goal in this area is to provide light on the potential impact of corporate governance ratings on share price and herd behavior from a new angle. The goal is to ascertain the potential impact on the share price of the up, down, and fixed fluctuations in the corporate governance rating scores of the firms listed in the Corporate Governance Index over time by employing Event Study method. According to the results of the analysis revealing the effect of the differentiation in the corporate governance rating score on the share price using the Event Study method, it has been stated that the market, which consists of increasing or decreasing shares, whose corporate governance score does not change compared to the previous period, is not an efficient market in semi-strong form. In other words, it has been determined that the market, whose corporate governance score consists of fixed/increasing/decreasing shares over the years, offers the participants the opportunity to earn above-average

returns and the existence of predictable market movements.

The association between corporate governance rating score and stock return has been the subject of several research in the financial literature. It was discovered by Sakarya (2011), Yenice & Dölen (2013), Yavuz et al. (2015), Yapa (2017), and Kevser & Doğan (2021) that stock returns and corporate governance ratings have a substantial positive or negative association. Moreover, research by Turnacıgil et al. (2019) and Sakarya et al. (2017) revealed no connection between corporate governance rating and stock returns. This study will address a significant gap in the literature by analyzing the impact of differentiation in corporate governance score (down/up/fixed) on stock returns, which is how it varies from previous studies in the field and approaches corporate governance rating from an unique perspective. This study fills a gap in the literature and offers additional data that market participants may use by examining the share price interaction of the corporate governance rating score with a broad evaluation and from the standpoint of corporate governance capacity under the basic assumptions and constraints of the event study method. In the future, it's predicted that an alternative viewpoint on corporate governance rating evaluation will add to the literature on the subject.

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Ethical Statement	<i>* It is declared that scientific and ethical principles have been followed while carrying out and writing this study and that all the sources used have been properly cited.</i>
Plagiarism Checks	Yes - Ithenticate
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