

Corporate Governance, Transparency and Stock Return Volatility: Empirical Evidence from the Istanbul Stock Exchange

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Abstract

Poor corporate governance practices and opacity increase uncertainty and disturb efficient price formation. The Istanbul Stock Exchange (ISE) encouraged better corporate governance practices by introducing a corporate governance index, namely XKURY, which includes the shares of companies that comply well with corporate governance principles. Public disclosures in line with good corporate principles are expected to lower stock return volatility. This study employs a GARCH (1,1) model to test the impact of public disclosures on the volatility of the XKURY constituents. It was found that volatility in a majority of the shares increased as opposed to expectations.

Jel Codes: C220, G140, G170, G320

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Key Words: Information and Market Efficiency, Volatility, GARCH, Garch Models. Corporate Governance.

1. Introduction

Corporate governance and transparency have recently been a major concern in financial markets, because poor corporate governance and opacity can disturb the well-functioning of the markets. The presence of a well-functioning financial market is crucial for financial development, which, according to many economists, is associated with economic growth (Levine, Loayza & Beck, 2000; Levine, 1997). So, in a broader sense, stronger corporate governance and more transparency in financial markets are often justified to facilitate financial development and economic growth.

Financial development refers to the development of two main financial sectors: banking and the stock market. The latter is the focus of the present paper, which aims to examine the justification of good corporate governance narrowly defined: i.e., good corporate governance at a stock market is related to the price discovery process. More specifically, good corporate governance and transparency allow investors to be involved in an efficient price discovery process in which all related information is reflected to stock prices instantaneously. Therefore, efficient price formation is crucial for price stability, which is often measured by

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price volatility. Moreover, efficient prices are crucial for efficient allocation of resources, which maximizes firm value and growth.

On the other hand, in the absence of good governance practices and transparency at the firm level, the price discovery process would be less efficient. This implies higher volatility in prices. Moreover, less efficient price formation makes allocation of resources less efficient, which in turn results in sub-optimum growth.

For these reasons, policy makers and stock markets have recently encouraged better governance practices and transparency. For example, the Istanbul Stock Exchange (ISE) has introduced the ISE Corporate Governance Index (XKURY), which includes companies complying well with Corporate Governance Principles. XKURY aims to measure the price and return performances of companies traded in ISE markets with a corporate governance rating of at least 7 over 10. As these companies have high corporate governance ratings, they are assumed to be transparent and to comply well with public disclosure regulations. Therefore, price formation in these shares is expected to be efficient in terms of reflecting all recently disclosed information instantaneously. By the same token, past information about these companies is expected not to be persistent in the price formation process since it is already reflected in prices. For these reasons, non-persistence of past information and a lower return volatility is expected in XKURY constituents. This study examined return volatility in these constituents by using GARCH (1, 1) methodology. More specifically, it aimed to test the influence of recent and past disclosed information on the returns of XKURY constituents. The findings of the study do not support efficient price formation and non-persistence of information in stock return volatility in the case of ISE corporate governance index constituents.

2. Theoretical Background

The causal relationship between financial development and economic growth is supported by numerous recent studies as well as some earlier work. Besides Schumpeter (1911), Lewis (1955) and Goldsmith (1969) argue in favor of a causal relationship between the financial sector and economic growth. More recently, King and Levine (1993a, 1993b, 1993c) and Levine (1992) highlight the value added by the financial sector in a series of studies (Berthelemy & Varoudakis, 1996). The presence of a causal relationship between the financial sector and growth is confirmed by a group of studies including Atje and Jovanovic (1993), Neusser and Kugler (1998), Levine, Loayza, and Beck (2000), and Arestis, Demetriades, and Luintel (2001). There are also studies arguing in favor of two-way causalities between these two variables (Berthelemy & Varoudakis, 1996). In addition to these, Hermes and Lensink (1996:1) came to the conclusion that 'financial markets do make a valuable contribution to economic growth' by highlighting the functions of the financial sector. Among these functions, Levine (1996; DFID, 2004) listed facilitating transactions, managing risks, mobilizing savings for investment, optimizing the allocation of capital, monitoring the use of capital, obtaining information on alternative investment opportunities, encouraging and facilitating inflows of foreign capital. The empirical results supporting a positive causal relationship between the two variables can be explained by several theoretical formulations, such as endogenous growth, asymmetric information, and the efficient markets hypothesis, all of which provide a rationale for better corporate governance practices.

Having said that, it is worth noting, as Amable and Chatelain claimed (1996: 35), 'In a context of endogenous growth driven by capital accumulation and technological progress, any constraints on the level of investment of firms will have macroeconomic consequences on the level of growth rate'. In the case of developing countries, a crucial constraint on the

level of investment of firms is lack of access to finance due to the absence of a well-functioning financial system, which mobilizes savings, distinguishes between low and high yield projects, and allocates the savings to high yield productive projects in the economy. It allows investors to realize their innovative and productive investments, thereby contributing to human capital, research and development, physical capital, and the knowledge base. In this regard, the financial sector can be considered a key endogenous factor of growth owing to its impact on technological progress and the capital stock. In other words, through its positive impact on technological change and both physical and human capital accumulation, financial sector development can lead to economic growth. Thus, policies of better corporate governance practices and more transparency can be justified because these practices substantially contribute to the efficient functioning of financial markets and financial development.

From the perspective of asymmetric information, better corporate governance is justified because more transparency reduces informational asymmetries, thus contributing to financial development and more efficient allocation of resources. Asymmetric information affects the decisions of market players, and the way in which it affects markets results in deviations of stock prices from their fundamental values. Asymmetric information denotes the differences in information available to different parties in a financial contract where borrowers have an informational advantage over lenders, because borrowers know more about the investment projects they want to undertake (Mishkin, 1991). By the same token, in a publicly owned company, issuers, top executives and other insiders may have an informational advantage over third parties, ordinary investors, and share owners. This informational advantage may lead to some informational problems such as adverse selection, adverse incentive, agency-principle, and 'lemon' problems, all of which may partly contribute to a market failure in terms of efficient price discovery (Akerlof, 1970; Stiglitz & Weiss, 1981, 1990). Transparency and better corporate governance practices may help reduce information asymmetries in the market and partly eliminate these problems. Thus, prices in general and stock prices in particular may become more efficient (Baumann and Nier, 2004; Diamond & Verrecchia, 1991). By reducing information asymmetries, trading volume increases, bid-ask spreads, and stock-return volatility decreases (Luez & Verrecchia, 2000).

Another theoretical explanation arises from the efficient markets hypothesis. According to this hypothesis, in a competitive and transparent environment where market barriers are eliminated, rational investors are able to use all available information in the market while making their investment decisions. In the long run, uninformed and irrational investors, by losing money to informed arbitrageurs, disappear from the market (Friedman 1953). Thus, markets in general and financial markets in particular function well and price formation becomes efficient. Prices in a well-functioning market would reflect all available information, thereby allocating resources efficiently. Efficient allocation of resources, in turn, maximizes financial development and economic growth.

In the literature, there are three forms of the efficient markets hypothesis: weak, semi-strong, and strong. In the weak form, asset prices reflect old publicly available information. So, according to this view, one can expect that old news does not affect stock return volatility, since investors have updated their expectations. In the semi-strong form, the hypothesis asserts that new, publicly disclosed information is reflected in stock prices very rapidly. Thus the influence of recent information on stock return volatility is virtually instantaneous. The strong form states that share prices reflect all public and private information including insider information. In this form of markets efficiency, no excess return is possible. There is mixed empirical evidence concerning these three forms of the

efficient market hypothesis; in general, the available evidence does not support the strong form (Nicholson, 1968; Basu, 1977; Rosenberg, Reid & Lanstein, 1985; Fama & French, 1992; Chan, Benton & Pan 2003).

Moreover, efficient price discovery ensures stability in financial markets. For example, it is widely agreed that poor corporate governance can increase uncertainty and volatility (Claessens, 2001). Less transparency and weaker corporate governance limit price discovery in stock markets, thereby increasing stock price volatility (Morck, Young & Yu, 2000). Therefore, from the perspective of the efficient markets hypothesis, it makes sense to encourage better governance practices and more transparency in the market, because these practices lead to better functioning of financial markets and consequent financial development. Consistent with this view, the OECD Principles of Corporate Governance (2001: 17) state, ‘The corporate governance framework should be developed with a view to its impact on overall economic performance, market integrity and the incentives it creates for market participants and the promotion of transparent and efficient markets.’

3. Corporate Governance and the Istanbul Stock Exchange

3.1. Corporate Governance Principles

There is no single definition of ‘corporate governance.’ In its broadest sense the term refers to ‘the system by which companies are directed and controlled’ (Cadbury, 1992, Introduction). In a narrower sense, it refers to the rules in capital markets that govern equity investments in publicly listed firms, such as listing requirements, insider dealing arrangements, disclosure and accounting rules, and protections of minority shareholder rights (Claessens, 2001). The focus of the present paper is on the latter. In this respect, widely accepted principles of corporate governance are summarized under four sub-headings (Cadbury 1992; OECD 2004):

Shareholders: This principle is about ensuring protection of shareholder rights and equitable treatment of all shareholders. Basic shareholder rights include transfer of shares, access to relevant and material information about the company, participation and voting in general assembly, and sharing in the profits of the company. In exercising these rights, all shareholders should be treated equally. Moreover, companies should facilitate the exercise of shareholder rights by disclosing related information punctually and effectively.

Stakeholders: This principle is about ensuring the rights of stakeholders other than shareholders. Non-shareholding stakeholders include creditors, customers, employees, and so on. Companies should respect the rights of these stakeholders, which arise from legal, contractual, or social obligations. Like shareholders, non-shareholding stakeholders should be able to access related information about the company in a timely and regular way.

Executive board: This principle is about the roles and responsibilities of the board of directors. These roles and responsibilities should be clearly defined, and members of the board should have sufficient skills to fulfill their duties and responsibilities. The board of directors should act in the best interest of the company and the shareholders and be accountable to the company and the shareholders. It should also acknowledge the interests of non-shareholding stakeholders and monitor possible conflicts of interest involving management, stakeholders, and shareholders.

Disclosure and transparency: This principle is about ensuring timely and accurate disclosure of material matters about the company. Material matters include, but are not limited to, information about the financial status, performance, ownership, investment, risk factors, objectives, and governance of the company. Companies should make such

disclosures accurately and on time. All stakeholders including shareholders and non-shareholding stakeholders should have free to access to such information.

These principles were adopted by the Istanbul Stock Exchange.

3.2. Corporate Governance Practices at Istanbul Stock Exchange

The ISE is the only securities exchange in Turkey. It was established on December 26, 1985, to ensure that securities are traded in a secure and stable environment. Since then, it has substantially diversified its product range and contributed to the development of Turkish capital markets. Today, various products including equities, bonds and bills, warrants and structured products are traded on ISE markets. Main ISE markets include the Stock Market, the Emerging Companies Market, and the Bonds and Bills Market. Some information about the ISE and the products traded on ISE markets is given in Table 1.

Table 1. Some Facts about the ISE (as of November, 2011)

Market Capitalization of Equities	:	202,915 million USD
Annual Traded Value of Equities	:	400,000 million USD
Daily Average Traded Value of Equities	:	1,754 million USD
Number of Equities	:	371
Annual Traded Value of Fixed Income Securities	:	2,515,789 million USD
Daily Average Traded Value of Fixed Income Securities	:	11,034 million USD
Number of members	:	128

In 2003, the corporate governance principles were adopted by the Capital Markets Board of Turkey (CMB), the country's prime regulator of capital markets, thus setting corporate governance standards for publicly held companies. Taking into account the revisions made to the OECD Principles in 2004, the principles set by CMB were revised in 2005. Today, in line with global standards, there is a contemporary corporate governance framework for listed companies on ISE markets. Although compliance with these principles is voluntary, listed companies must publish an annual Corporate Governance Compliance statement identifying the CMB principles that have not been adopted and the reasons for not adopting them.

In order to encourage listed companies on ISE markets, the ISE introduced a Corporate Governance index (XKURY) and listed fee incentives for the constituents of XKURY. In order to be included in the index, any company trading on ISE markets is evaluated according to the principles by a rating agency and assigned a corporate governance rating out of a possible 10. If the rating is at least 7, then the company is included in XKURY. These ratings are revised annually. For example, the company TUPRS attained corporate governance rating of 7.92 and was included in the index on Oct 9, 2007. As of October 5th, 2011, its rating was revised as 8.62. The overall rating consists of subsections regarding the previously mentioned corporate rating principles, namely Shareholders, Public Disclosure and Transparency, Stakeholders, and Board of Directors. Table 2 shows the evaluation criteria under each subsection, the weight of each subsection in the total rating, and the subsection rating.

Table 2. Corporate Governance Rating Subsections and Evaluation Criteria

Sub Sections	Evaluation Criteria	Rating Weight	Sub-Section Rating
Shareholders	Facilitating the Exercise of Shareholders' Statutory Rights Shareholders' Right to Obtain and Evaluate Information Minority Rights The Right to Participate in the General Shareholder Meeting Voting Rights Dividend Rights Transfer of Shares and Equal Treatment of Shareholders	25%	85.03
Public Disclosure & Transparency	Principles and Means for Public Disclosure Public Disclosure of Relations Between the Company and Its Shareholders The Board of Directors and Executives Periodical Financial Statement and Reports in Public Disclosure Functions of External Audit The Concept of Trade Secret and Insider Trading Significant Events and Developments That Must Be Disclosed to the Public	35%	92.19
Stakeholders	Company Policy Regarding Stakeholders Stakeholders' Participation in the Company Management Protection of Company Assets Company Policy on Human Resources Relations with Customers and Suppliers Ethical Rules Social Responsibility	15%	97.20
Board of Directors	Fundamental Functions of the Board of Directors Principles of Activity and Duties and Responsibilities of the Board of Directors Formation and Election of the Board of Directors Remuneration of the Board of Directors Number, Structure and Independence of the Committees Established by the Board of Directors Executives	25%	72.40

* A rating between 9 and 10 means that the company has very good compliance with the terms of Capital Markets Board's corporate governance principles. A rating between 7 and 8 means that the company has good compliance.

4. Methodology

4.1. Purpose

The purpose of the study is to examine the stock return volatility structure of XKURY constituents. More specifically, it aims to test the impact that recent and past information, as well as public disclosures made by listed companies with good corporate governance ratings, have on the volatility of the stock returns.

4.2. Sample and Research Period

The sample of the study includes the constituents of XKURY as of August 1, 2011. The constituents of the index are shown in Table 3 (Istanbul Stock Exchange, 2011).

Table 3. Constituents of XKURY as of August 1, 2011

<i>Share Code</i>	<i>Company Name</i>
ALBRK	Albaraka Türk
AEFES	Anadolu Efes
ARCLK	Arçelik
ASYAB	Asya Katılım Bankası
AYGAZ	Aygaz
CCOLA	Coca Cola İçecek
DENTA	Dentaş Ambalaj
DOHOL	Doğan Holding
DYHOL	Doğan Yayın Hol.
DOAS	Doğuş Otomotiv
HURGZ	Hürriyet Gzt.
IHEVA	İhlas Ev Aletleri
IHLAS	İhlas Holding
ISFIN	İş Fin. Kir.
LOGO	Logo Yazılım
OTKAR	Otokar
PRKME	Park Elek. Madencilik
PETKM	Petkim
SKBNK	Şekerbank
TSKB	T.S.K.B.
TAVHL	Tav Havalimanları
TOASO	Tofaş Oto. Fab.
TRCAS	Turcas Petrol
TUPRS	Tüpraş
PRKAB	Türk Prysmian Kablo
TTKOM	Türk Telekom
TTRAK	Türk Traktör
VESTL	Vestel
YKBNK	Yapı Ve Kredi Bank.
YAZIC	Yazıcılar Holding
VKFYT	Vakıf Yat. Ort.
YGYO	Yeşil Gmyo

The research period extended from the introduction of the electronic Public Disclosure Platform (PDP) on June 1st, 2009, until August 1st, 2011. The introduction of the platform contributed to the transparency of the listed companies and to more efficient dissemination of information by listed companies (Mugaloglu & Erdag, 2011).

4.3. Data Collection and Analysis

The data consisted of average daily share prices of XKURY constituents, as collected from the ISE. Some share prices were corrected to reflect the presence of corporate actions such as stock splits. These shares included DYHOL, DOAS, HURGZ, IHEVA, IHLAS, ISFIN, PETKM, SKBNK, TSKB, TRCAS, PRKAB, YGYO, MENSA. Then unit root tests were applied because stationarity of time series is a necessary condition for model testing. Based on ADF tests, the null hypothesis of the unit root was not rejected for the data regarding return on stocks. Thus, the data were found to be stationary and therefore suitable for data analysis.

As for data analysis, a Generalized Autoregressive Conditional Heteroskedasticity (GARCH) model was chosen. GARCH models are widely accepted volatility measures for time series with time varying variance of error terms (Mugaloglu & Erdag, 2011). The data used in the study show time varying error terms and volatility clustering. Moreover, GARCH models can capture the connection between information and volatility, which is the main focus of the study (De Beer, 2009; Samanta & Samanta, 2007). Thus a GARCH model is a good fit for the purpose of the study.

A GARCH model (Bollerslev, 1986) is an extension of ARCH models (Engle 1982). ARCH stands for Autoregressive Conditional Heteroskedasticity, in which the term 'conditional' refers to dependence on the observations of the immediate past, and the term 'autoregressive' implies a feedback mechanism that incorporates past observations into the present (De Beer, 2009: 297). Bollerselv (1986) and Taylor (1986) independently extended ARCH to a generalised process (GARCH), in which the conditional variance is a linear function of its own lags (Jacobsen, 2010: 39).

One of the most widely used and robust specifications of GARCH is GARCH (1,1) (Berument & Yuksel, 2006; Gahlot, Datta & Kabil, 2010; Mugaloglu & Erdag, 2011). The estimation of the GARCH (1,1) model involves the joint estimation of a mean and a conditional variance equation. In the present study, the mean equation and conditional variance equation for the GARCH (1,1) model is specified as follows:

Conditional mean equation:

$$y_t = c + by_{t-1} + \varepsilon_t ; \varepsilon_t \sim N(0, \sigma_t^2)$$

where

y_t : Dependent variable (Stock return)

c : Constant

b : Autoregressive coefficient

y_{t-1} : lagged explanatory variable

ε_t : error term

Conditional Variance:

$$\sigma_t^2 = \alpha_0 + \alpha \varepsilon_{t-1}^2 + \beta \sigma_{t-1}^2 ; \alpha_0 > 0, \alpha > 0, \beta > 0$$

Unconditional variance of the error term is specified as

$$\text{Var}(\varepsilon_t) = \alpha_0 / 1 - (\alpha + \beta)$$

where

σ_t^2 : Conditional variance in period t

α_0 : Constant

α : Recent news (ARCH(1)) coefficient

ε_{t-1}^2 : ARCH(1) term

β : Old news -GARCH (1) coefficient (Persistence)

σ_{t-1}^2 : GARCH (1) term

Moreover, in order to scrutinize the impact of material information disclosure to the public through electronic PDP on stock volatility, a dummy variable is added into the GARCH (1,1) equation. Thus, the final GARCH (1,1) with its dummy variable model takes the following form.

Conditional Variance with Dummy:

$$\sigma_t^2 = \alpha_0 + \alpha \epsilon_{t-1}^2 + \beta \sigma_{t-1}^2 + \delta \text{ Dummy}; \alpha_0 > 0, \alpha > 0, \beta > 0$$

The dummy is given the value of '1' whenever information is disclosed to public via PDP. It takes the value '0' if there is no disclosure. A significant and positive 'δ' implies a rise in stock volatility. On the other hand, a significant and negative δ implies that volatility is lower.

In the equation, α and β show the ARCH and GARCH effect respectively. A statistically significant α or β implies that the impact of news on stock returns is likely to persist for several subsequent periods. Similarly, a large α or β implies that the impact of news on the volatility is likely to be persistent for several subsequent periods (Mugaloglu and Erdag 2011; De Beer 2009). The sum of α and β indicates the possible persistence. The closer the sum of α and β is to unity, the higher the persistent impact of information is on the volatility.

5. Results

Daily average share prices were collected over the period of June 1, 2009, to August 1, 2011. Then the GARCH (1,1) model with a dummy variable was tested. The results of model testing are shown in Table 4.

The results show that the stock returns of 6 shares, namely CCOLA, DENTA, TUPRS, TTKOM, VKFYT and YGYO did not fit the model well, so these shares were excluded from the analysis. As a result, the model fit well for 27 stocks in total.

Data analysis of these 27 shares found that there were significant ARCH effects at the level of .05. All ARCH coefficients were small, more specifically, below 0.30. At the same level of probability, the GARCH effects, except for AEFES and MEMSA, were also significant. There were also high GARCH effects in the remaining 25 shares, but not in DYHOL and LOGO shares. This result implied the persistence of past news on volatility, and it was also evidenced by the presence of a large α + β, which was close to unity. To be more specific, 17 of 25 shares had an α + β larger than 0.90. Six had an α + β larger than 0.79. Only DYHOL and LOGO had relatively smaller α + β, 0.37 and 0.62 respectively.

As for the impact of public disclosure of material information through electronic PDP, it was found that the dummy coefficients were insignificant for 14 stocks in total. This implies that public disclosure through PDP did not have significant influence on the stock return volatility of 14 shares. On the other hand, the dummy coefficients were positive and statistically significant for 11 shares. This implies that public disclosure via PDP increased the volatility of these stocks. Only two shares had statistically significant negative dummy coefficients. For these shares, the results imply that public disclosure lowered the volatility of stock returns.

Table 4. Results of the GARCH Analysis

Share Code	α	β	News	$\alpha + \beta$
AEFES	0.237 *	0.193	-0.012	0.430
ALBRK	0.095 *	0.745 *	0.000	0.840
ARCLK	0.085 *	0.880 *	-0.001	0.965
ASYAB	0.080 *	0.862 *	0.001 *	0.942
AYGAZ	0.105 *	0.859 *	0.002	0.964
CCOLA	-0.002	1,005,393 *	0.000	1,003,663
DENTA	0.506 *	0.497 *	0.001 *	1,002,706
DOHOL	0.191 *	0.738 *	0.000 *	0.930
DYHOL	0.228 *	0.145 **	0.000 *	0.372
DOAS	0.058 *	0.935 *	0.000	0.994
HURGZ	0.028 *	0.958 *	0.000 *	0.986
IHEVA	0.211 *	0.619 *	0.000	0.830
IHLAS	0.092 *	0.909 *	0.000 *	1,000,713
ISFIN	0.109 *	0.871 *	0.000	0.980
LOGO	0.222 *	0.400 *	0.005 *	0.622
OTKAR	0.088 *	0.912 *	0.010	1,000,270
PRKME	0.295 *	0.604 *	0.001	0.899
PETKM	0.048 *	0.904 *	0.000	0.952
SKBNK	0.187 *	0.717 *	0.000	0.905
TSKB	0.128 *	0.873 *	0.000 *	1,000,831
TAVHL	0.149 *	0.782 *	-0.001	0.931
TOASO	0.141 *	0.681 *	0.008 *	0.822
TRCAS	0.075 *	0.827 *	0.000 **	0.902
TUPRS	-0.011 *	1,006,952 *	0.006 *	0.996
PRKAB	0.269 *	0.649 *	0.000 *	0.918
TTKOM	-0.027 *	0.763 *	0.058	0.736
TTRAK	0.111 *	0.886 *	0.017 *	0.998
VESTL	0.189 *	0.670 *	0.001 *	0.859
YKBNK	0.120 *	0.797 *	0.000	0.917
YAZIC	0.163 *	0.633 *	0.002	0.796
VKFYT	0.981 *	0.308 *	-0.001 *	1,289,126
YGYO	0.144 *	0.895 *	0.000 **	1,038,769
MEMSA	0.532 *	0.071	0.001 *	0.603

* $p < 0.01$, ** $p < 0.05$

6. Discussion and Conclusion

Corporate governance and transparency have been a major concern in financial markets. Better governance practices and more transparency have been encouraged in many countries for several reasons; for example, better practices are associated with efficient price discovery,

more efficient allocation of resources, financial development and economic growth. Moreover, transparency in markets reduces uncertainty, which is often measured by stock price volatility. From the perspective of informational asymmetries and the efficient market hypothesis, the expected outcome of better corporate governance is more transparency, less uncertainty, and therefore lower stock return volatility. Within this framework, the study set out to examine the stock return volatility of ISE corporate governance constituents. More specifically, it asked if public disclosure by these companies through the electronic public disclosure platform lowers stock return volatility. It also asked if recent and past news have persistent effect on stock return volatility.

As opposed to the expectations, it was found that past news was persistent on stock return volatility in subsequent periods. This was evidenced by significant and large $\alpha + \beta$, which was close to unity in a majority of shares in the sample.

As for the influence of public disclosure on volatility, the study indicates that public disclosure through PDP did not lower the volatility of stock returns with the exception of two shares. On the contrary, stock return volatility increased in the case of eleven shares. This was evidenced by significant positive dummy coefficients in the model. There could be several explanations for these findings although they are not within the scope of the present study.

One explanation could be inefficiencies in the corporate governance rating process, which may result in measurement errors. In a study, Daines et al. (2010) examine the goodness of commercial corporate governance ratings. They conclude that commercial corporate rating practices are subject to substantial measurement errors, and therefore, commercial organizations cannot devise reliable measures of corporate governance even if they have substantial expertise and extensive databases. In this respect, the possible measurement errors in the present study may not be particular to corporate governance rating in Turkey because, as stated Daines et al. (2010), there are some general reasons to suspect that commercial ratings might provide reliable and valid measures of corporate governance. First, firms selling ratings appear to be a commercial success, which suggests the possibility that the ratings are useful to their customers (Daines et al., 2010: 8). In the case of Turkey, high governance ratings are useful to companies included in the ISE corporate governance index since these companies enjoy a 50% discount in the annual listing fees. Second, “commercial ratings use proprietary, quantitative algorithms that presumably capture their extensive expertise regarding the relationship between governance choices and firm performance” (Daines et al., 2010: 9).

Moreover, there are critical challenges in measuring corporate governance in some emerging markets in particular because the context, in which the firm is operating, matters (Aguilera et al., 2011). Regarding this, La Porta et al. (1998) highlights the importance of the presence of well-functioning political and legal systems. As an emerging economy these challenges might be relevant to Turkey as well. Therefore, using the “one size fits all” approach in measuring corporate governance in emerging markets and comparing them with the ones in developed markets is problematic. In this respect, Filatotchev (2006) argues that mixed empirical results related to the effectiveness of various governance mechanisms may stem from the neglect of the contexts of different organizational environments in measurement.

Alternatively, the counter intuitive findings of the present study can be explained by inefficient price formation. For example, Rosenberg et al. (1985) conclude that prices on the New York Stock Exchange are inefficient. Moreover, Malkiel (2007) states that, unlike developed markets, some emerging markets such as China are inefficient. As for the present

study, the findings support none of the three forms of market efficiency, and therefore it can be inferred that the prices of XKURY constituents are inefficient.

Another explanation could be the limitations of the present study, which is limited both by methodology and research period. The research period covers the post-crisis period of 2009-2011, when there was an increase of systemic risks in global financial markets. Such an increase could have raised the level of uncertainty and therefore of stock return volatility. Consistently, the global crisis has led to sharp decreases in asset prices and to higher volatility in many markets, perhaps the result of destabilizing speculation, as was suggested by Keynes in 1936 and by Kaldor in 1939. Moreover, from the perspective of the Minskyan financial instability hypothesis, instability, which is often indicated by high volatility, is endogenous in financial markets (Minsky, 1992; Kregel, 2007). So, further studies of endogenizing factors such as destabilizing speculation and systemic risk in the post-crisis period could provide alternative explanations for the findings of this study.

Acknowledgement: The ideas and opinions expressed in this paper belong to the authors and do not reflect those of the Borsa Istanbul A.Ş.

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