Corporate Governance Mechanisms and Stock Price Volatility: The Mediating Role of Dividend Policy: Evidence From Emerging Markets

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Abstract

This study is novel research aims to investigate the impact of corporate governance mechanisms on stock price volatility in the Egyptian stock exchange through the role of the dividend policy as a mediating variable. The study examines certain corporate governance mechanisms such as: board independence, board size, number of board meetings, CEO duality, and audit committee. The study used quarterly data on EGX 30 for the period 2012-2021. It was based on a sample of 25 stocks traded in the Egyptian stock exchange, not including the stocks of the financial sector. Leverage and size used as a controllable variables. Results revealed that corporate governance has an impact on stock price volatility and dividend policy. Board independence, board size, board meetings and audit committee have a significant negative impact on stock price volatility of listed Egyptian companies. A good corporate governance practices is a good sign to reduce the fluctuations in stock prices. However, CEO duality and size has no impact on stock price volatility. Leverage has a positive significant impact on stock price volatility. Accordingly, CEO duality and leverage is a sign of poor corporate governance. Egyptian investors need to consider the issue of corporate governance practices alongside with the risk associated with expected return when taking investment decisions. A new dimension which added to investigate the interrelationship between corporate governance mechanisms and stock price volatility is dividend policy as mediator factor. Dividend policy is the outcome of good corporate governance practices and has an impact on stock price volatility. Corporate governance is important for stimulating the dividend payments which in turn affect stock price volatility.

Keywords: corporate governance mechanisms, dividends policy, stock price volatility, emerging markets

1. Introduction

The need to apply corporate governance has emerged after the financial distress and failure of many multinational companies. Corporate governance is an integral and crucial part of the daily management of any organization. Not only that, but the success or failure of any firm depends primarily on the success of implementing an efficient corporate governance system which aims to the continuity of corporate profits growth along with lowering associated costs. Moreover, a good practice of corporate governance leads to maximizing shareholder's wealth through an increase in the share price in the market and the preserving of minority interests.

A good corporate governance practices ensure that potential investors can obtain an adequate returns for investing in specific companies from different sectors in the stock exchange. Yet, to maintain the value and grow of their investments over time. Accordingly, the application of corporate governance procedures has a direct impact on the prices of stocks traded in the market through its direct impact on the methodology of dividends that the company follows during a certain period of time. In other words, dividends pay-out policy have a direct impact on the fluctuation of the share price in the market, it is only a direct reflection of the policies, procedures and effectiveness of governance followed by a company. Divdend pay-out policy is a mediating role that increases the effectiveness of the impact of governance policies applied on the share price in the market. Therefore, corporate governance mechanisms affect the dividend pay-out policy within the company through the fluctuations of stock prices in the market.

According to Alipour and Awjadi, Ezazi and Sadeghi (2011), corporate governance represent an aspect of fundamental analysis in which depend on the comprehensive analysis of economic, industry and company

framework. Not long ago, researchers and academics in the field of finance focused on studying the relationship between many economic variables and the fluctuation of the share price in the market. However, at the present time, another direction of research has begun, instead of studying economic variables, to study the basic characteristics of companies and their impact on the fluctuation of the share price, as an example of this is the corporate governance mechanisms. In theory, the change in the value of any economic variable will have a direct impact on the change in the share price. Accordingly, the change in the corporate governance mechanisms will affect the performance of the share price in the stock market, and thus the value of the company as a whole. Therefore, any significant change related to procedures, policies, and corporate governance mechanisms within any company would send a signal (positive or negative) to investors in the stock market, which ultimately affects the company's share price. For sure any changes in the mechanisms of corporate governance would affect the share price in the stock market, whether it was an increase or a decrease. Companies that adopt weak procedures and policies of corporate governance increase the chances of risk and uncertainty about the future of this company, and in the end, this leads to fluctuation of the share price to an unprecedented degree. Hence the decrease in the market value of the company.

If we look at the investors and managers whose shares are traded in the Egyptian stock exchange. Many of them are ignorant of the extent of the impact resulting from the mechanisms of corporate governance and the daily market prices of the shares of those companies. Researchers have developed many theoretical models describing factors that managers should consider when making dividend decisions. Those factors namely: financing limitations, investment opportunities, firm size, pressure from shareholders and regulatory regimes. Miller and Modigliani (1961) argued that given perfect capital market, the dividend decision does not affect the firm value and is irrelevant. Most financial practitioners and many academics agreed to this conclusion with surprise because the conventional wisdom at the time suggested that a properly managed dividend policy had an impact on share prices and shareholders' wealth. The dividend policy decisions of firms are the primary element of corporate policy. However, the dividend payout of firms is not only the source of cash flow for shareholders but it also offers information relating to firm's current and future performance. According to Linter (1956) firms' dividend payouts policies are designed to reveal the earnings prospects to investors. Allen and Michaely (2003) noted that under a series of restrictive conditions of perfect capital market, the value of the firm will not be affected, no matter what the mix between the retained earnings and payout, Gill et al., (2010), stated that dividends do help maintain market share price and that they do affect the value of the firm. Dividends were often smoothened on the belief that any reduction in dividend might have an adverse consequence on share price. Moreover dividends were considered as the best indicator of a company's corporate performance to the market. Accroding to V. Sharma. (2011), and T. Mitton (2004), firms try to mitigate agency problems by the structure, composition and conduct of board of directors which is one of the major pillars of corporate governance. For sure, board of directors have a full set of information regarding firm's financial policies therefore thay have a major input regarding dividend decision to mitigate the conflict between shareholders and management. F. H. Easterbrook. (1984) and L., F. White (1996).

The implications of dividend policy on share price volatility are a concern not just for business executives, but also for policy makers and investors who make decisions directly related to portfolio planning in the future. It is also critical for academics to be interested in the topic of analysing capital market performance. Scholars only analyse dividend policy at the level of a corporation selecting between paying cash dividends to shareholders or keeping a portion of earnings in the early stages of companies life. Dividend payments are examined depending on the frequency of payments (annual, semi-annual, or quarterly) and the amount paid by the corporation. The dividend policy has recently been revealed in terms of not only conventional characteristics like the company's options for paying dividends in cash or redeeming shares, but also additional difficulties like how to balance the interests of high and low tax bracket investors. One managerial problem is how the company can keep and increase the value of its stock in the market via dividend policy. Based on that, this study try to examine the role of board of directors structure characteristics such as: board independence, board size, board meeting, CEO duality and audit committee on stock price volataility of Egyptian non-financial listed firms in CASE 30 during the period from 2012 to 2021. This paper is divided into five sections. The first section is a review of literature on stock return volatility; the knowledge gap left by existing studies is indicated. The next section outlines data and research methods used. In the third section, results are presented, along with an analysis of research assumptions. Conclusions are outlined in the final section.

2. Literature Review

2.1 Corporate Governance

2.1.1 Board independence/Non-executive Directors

In year (1983), Fama and Jensen claimed that board of directors play significant role to mitigate agency costs. The

presence of non-executive directors would enhance board efficiency to monitor and control managers self behavior. Mansourina, Emamgholipour, Rekabdarkolaei and Hozoori (2013), investigated the relationship between board independence and dividend pay-out ratio for Malaysian companies concluded that there is no significant impact of board independcence on frims dividend pay-out ratio. However, on the other side Shehu. (2015), found a positive significant impact of board independence on didvident pay-out ratio. Ajanthan (2013) investigated the same relationship by the application on Sri Lanken hotel industry found that there is insignificant relationship between board independence and dividend pay-out ratio. Abdelsalam, El-masry and Elsegini (2008), found no impact of board structure on dividend pay-out ratio for Egyptian firms. On the contrary of the above mentioned studies, Abor and Vidar (2013), and Guglrar (2003), found a significant positive relationship between board independence and dividend pay-out ratio. Also, Adjaoud and Ben-Amer (2010), examined the attributes of corporate governance on dividend pay-out ratio through the application on 714 canadian firms found that dividend pay-out ratio for Canadian firms tend to be high with a stronger corporate governance mechanisms and board composition has a significant positive impact on dividend pay-out ratio. We should expect that Egyptian firms to pay lesser dividends because firms in Egypt depend on the external financing since Egyptian economy is a bank oriented system.

2.1.2 Board Size

According to Jensen and Meckling (1976), we can enhance the adding value of the board of directors by enlarging the firm's board size as it adds different expertise and skills in management which in turn will reduce the agency cost. On the same approach, Byoun, Chang and Kim (2016), claimed that a board size consist of eight or more memebers would be more than enough to manage the firm efficiently. But a small board might agree on a certain decisions to benefits their interest only. As board members increase this create sort of different opinions inside the board room and benefits shareholders and protect minority interest. Zahra and Pearce (1989), assured that large number of board of directors will be more beneficials to the firm because of their knowledge, experience and external relationships. Mansourina, Emamgholipour, Rekabdarkolaei and Hozoori (2013), Afzal and Sehrish (2011), stated that board size had a positive impact on the dividend pay-out ratio. Subramaniam, Devis and Marimuthu (2011), found a significant positive relationship between size of the board and dividend pay-out ratio. Family owned firms and firms with large size of board are willing to pay higher dividends. Ajanthan (2012), assured that the positive relation between board size and dividend pay-out policy but the relationship was not statistically insignificant. Kiel, Nicholson (2003), Haniffa and Hudaib (2006), stated that there is a positive effect of small board size on dividend pay-out ratio. On the contrary of the above mentioned studies, Conyon and Peck (1998), Bolbol (2012), stated a negative but insignificant relationship of board size on dividend pay-out ratio for Malaysian firms. Board of directors and dividend are substitute to each other in order to mitigate agency cost, large board leads to the increase in dividend paid.

2.1.3 Number of Board Meetings

There is a direct relationship between number of board meetings and an efficient corporate governance. It is observed that as the frequency number of board meetings increase the stock price is most likely to decline. The measurement of board operations

2.1.4 CEO Duality

CEO duality means that chief executive officer holds the title of the office of the chairman of the board also. Previous research found that the dual role of CEO leads to pay less dividends, accordingly there is a negative relationship between the duality of CEO and dividend pay-out ratio. Since by this he will have more power support his opinion compared to other directors opinions. Eventually result into the increase of agency costs. Not only that but also the dual role of the CEO will result into conflict of interest and impact of effective montoring. The relationship between CEO duality and dividend pay-out ratio was examined on oil and gas firms of Malaysia for the priod from 2009-2013. Results revealed that the CEO duality can align both the interest of shareholders and managers and mitigate the agency costs. Firms can control daily managerial operations if the CEO is nominated as the chairman of board of directors. Accordingly, firms whose enjoy this feature pay lower dividends to shareholders since dividends can not mitigate the agency costs. On the contrary, other studies applied on listed firms in New York Exchange found that dividend pay-out policy is positively and signifcanlty influenced by the duality of the CEO. Since the CEO is the same as chairman of the board decide the mix between retained earnings and pay-out ratio and this may cause conflict of interest.

2.1.5 Audit Committee

Audit committee is one of the important pillars to apply an efficient corporate governance through the implmentaion of necessary policies, rules and guidelines. This will affect the share price in the stock market and lead to increase

the value of the firm. The main role of audit committee is to ensure the availability of information between managers and shareholders. This in turn will result in mitigating the agency costs. We expect to have a positive significant relationship between audit committee and dividend pay-out ratio. Also audit committee lower the cost of debt in case the firm relied on external finance.

H_1. There is a significant positive impact of corporate governance mechanisms on dividend pay-out policy for listed Egyptian companies.

2.2 Corporate Governance and Stock Price Volatility

Recent several research addresses the impact of corporate governance on stock price volatility. However, generally better corporate governance leads to enhance the value of the firm and stock performance in the market. Better corporate governance would ensure the efficiency and smoothing of optimal decision-making process and transparent working environment at the firm. Klapper and Love (2004), Durnev and Kim (2005), stated a positive significant relationship between corporate governance and the stock market price. Black (2001), Black et al. (2006a, 2006b) and Gompers et al. (2003) reported the same results. Baek et al., (2004) found that there is a positive relationship between elected attributes of corporate governance and stock performance. Theortically any change in corporate governance mechanisms should have an impact on the market value of company shares. According to Classen (2001) the poor application of corporate governance would increase the uncertainty surrounding the future of the company and increase the price volatility.

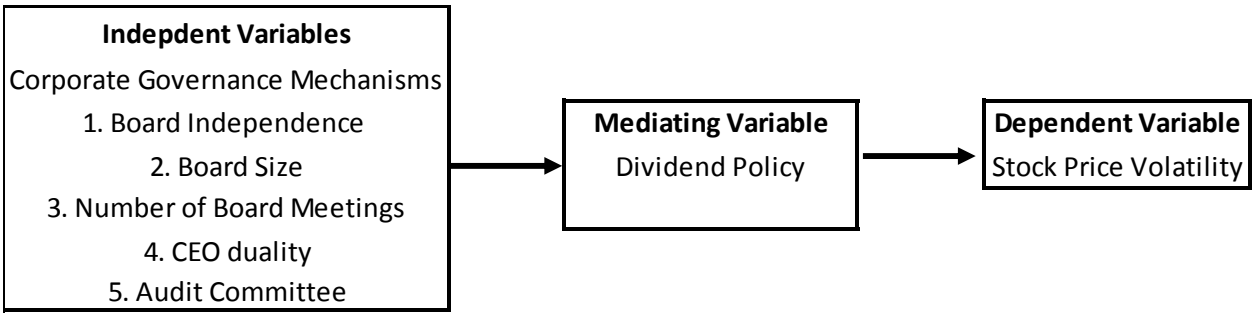
2.2.1 Outside Directors and the Volatility of Stock Returns

Many studies claimed that outside directors assist to reduce the volatility of stock returns since there is a negative significant relationship between outside directors and stock return volatility. According to Chen et al., (2000) the main cause of such negative impact is the charcterisitics and composition of outside directors in which allow them to reduce the volatility of stock returns. The presence of outside directors increases the confidence of investors in the firm especially during financial crisis to avoide the panic selling by investors. As a result, this leads to the stability of stock prices in the market. Steven J. Jordan et al., (2012) assured this point of view since he found a negative significant impact of outside directors on the volatility of stock returns.

2.2.2 Indpendent Board and the Volatility of Stock Return

Baek et al., (2004), Lemmon and Lins (2003), and Mitton (2002) found that corporate governance is effective in relation to the reduction of stock prices during financial crisis. Hsu-Huei Huang and al (2011) assured that the increase number of independent members in the board help to reduce the volatility of stock returns. They reported that the volatility in stock prices and overreaction during the status of financial or political crisis were lower in firms with independent directors compared to other firms without independent directors. We can attribute this result that independent directors are in good position to monitor and screen the executive managers than inside directors do, which in turn increase the confidence of investors in the firm. Yet, this attract foreign investors as well to inject money in concerned firms.

H_2: There is a significant positive impact of corporate governance on srock price volatility for listed Egyptian companies.



Theoretical Framework

2.3 Dividend Policy

In this study we introduced dividend policy for the first time as a mediator role through two factors; dividend yiled and dividend pay-out policy. Dividend yield refers to how much a firm pays out in dividends compared to the price of its stock. It's computed as a percentage of the company's annual dividends based on the stock price. When a company's dividend yield is low in comparison to other companies in its industry, it can signify one of two things first: the stock price is high because the market believes the company has bright future prospects and is unconcerned about dividend payments, second: the company is in financial troubles and is unable to pay enough dividends (Al Masum, Abdullah). Dividend yield is expected to have strong negative impact on stock price volatility (Alrjoub, Ashraf et al.). On the other hand, the bird-in-hand theory implies that in order to maximize share price, companies should set a high dividend pay-out ratio. Investors prefer dividends to retained earnings because dividends are more certain (Graham and Dodd, 1951; Gordon, 1959; Lintner, 1956; Fisher, 1961; Walter, 1963; Brigham and Gordon, 1964). Large dividend pay-outs limit internal cash flows, requiring managers to seek external financing and, as a result, leaving them depending on capital suppliers. According to Contrarily Allen and Rach stock price volatility has a significant negative relationship with dividend pay-out ratio. The higher a company's dividend payout ratio, the lower its stock price volatility, resulting in greater stock price stability.

H_3: Dividend policy significantly mediates the relationship between corporate governance mechanisms and stock price volatility.

3. Data and Methdology

3.1 Data

This paper relied on secondary data which was extracted from the annual audited financial statements of EGX30. Financial companies are execluded from our analysis. Data used in this paper are cross-sectional, time-series (Panel data). The data related to stock prices was gathered quartely from Investing.com for the period 2012-2021.

3.2 Statistical Model

We applied the following regression model:

$$SPV_{i,t} = \infty + \beta_1 IND + \beta_2 BZ + \beta_3 BM + \beta_4 CEOD + \beta_5 AC + \beta_6 DY + \beta_7 DP + \beta_8 LV + \beta_{10} S + \varepsilon_i \quad (1)$$

The spv refers to the stock price volatility, IND is the independence of board of directors, BZ is the board size, BM is the board meetings, CEOD is a dummy variable denoting wthere the chairman of the listed company holds the position of the CEO or not, AC refers to if the listed company under analysis has an audit committee or not, DY referes to the dividend yield, LV is the the firm's debt ratio or leverage and S refers to the size of the listed firm. This research used two controllable variables size and leverage.

Since our analysis is a panel data analysis we rewrite equation (1) in the form of panel data as follows:

$$SPV_{i,t} = \infty + \infty_i + \sum_j^J \beta j \; stock^j{}_{i,t} + \sum_n^J \delta n \, y_n + \varepsilon_{i,t} \quad (2)$$

$$SPV_{i,t} = \infty + \infty_i + \sum_{j-1}^J \beta j \; stock^j{}_{i,t} + \sum_n^J \delta n \, y_n + \varepsilon_{i,t} \quad (3)$$

We adopted a generalized method of moment dynamic approach (GMM) to consider for the time persistence in the equation for the structure of stock price volatility and due to the short period of collecting data. The following model is used to investigate the impact of corporate governance mechanisms on stock price volatility through mediaiting role of dividend policy:

$$SPV_{i,t} = C + \delta \; spv_{i,t\text{-}1it\text{-}1} + \sum_{j=1}^J \beta j \; stock^j{}_{i,t} + \sum_{j=1}^L \beta 1 CGM^1{}_t + \varepsilon_{i,t} \quad (4)$$

$$SPV_{i,t} = C + \delta \; spv_{i,t\text{-}1it\text{-}1} + \sum_{j=1}^J \beta j \; stock^j{}_{i,t} + \sum_{j=1}^L \beta 1 CGM^1{}_t + \sum_{j=1}^L \beta 1 DIV^1{}_t + \varepsilon_{i,t} \quad (5)$$

Where:

i = refer to stock.

t = refer to the time

$SPV_{i,t}$ = stock price volatility of a specific listed company in cairo stock exchange.

$SPV_{i\,i,t-1}$ is the first lagged dependent variable which captures the continuity in the stock price volatility

$DIV^1{}_t$ is the dividend policy factor of a specific listed company in Cairo stock exchange.

CGM^j i,t refers to corporate governance factors namely: board indpendence, number of board meetings, CEO duality and audit committee.

The analysis of this study relied on a panel data since sample is mixed between cross sectional data and time series. The unobserved effect is correlated with independent factors, pooled ordinary least square estimations gives inconsistent and baised estimations. As a result the model proposed by Arellano and Bond (1998) – the two step system estimator – adjusted by standard error for potential heteroskedasticity. GMM technique is a dyanic model used to solve the bias and inconsistent generated due to the existence of lagged stock price volatility; the issue of endogeneity caused by explanatory variables. Second, it is unbiased, realistic and efficient estimates if there is an autocorrelation and heteroskedasticity within explanatory variables. Third, it combines regressions of levels and first differences and use more instruments. As result, GMM estimation gives efficient results than any other technique since the data is unbalanced GMM magnifies the gaps. A dynamic model is the model when one or more lags of the dependent variable are included as explanatory variables. The general method of moment provide solutions to omitted variables, reverse causality and simultaneity biase and treating with the issue of endogenous variable. The GMM using a set of instrumental variables to solve the issue of endogeneity.

3.3 Measurement of Variables

Table 1. Variables Definitions

Variables	Description	Literature	Expected Result
Independent Variable - Corporate governance mechanisms			
Board Independence (IND)	The percentage of indpendent directors	Elmagrhi *et al.* (2017) Wintoki *et al*., (2012) Westphal & Graebner (2010)	Positive impact
Board Size (BZ)	Number of directors	Elmagrhi *et al*. (2017), Felicio *et al*. (2014), McNulty *et al*. (2103), Grove *et al*. (2011)	U-shaped result. Invesrse relationship
Board meetings (BM)	Number of board meeting during the year	Elmagrhi *et al*. (2017), Van Essen *et al*., (2013) Larcker *et al*., (2007)	Poitive impact
CEO duality (CEOD)	The chairperson is also CEO - Dummy Variable	Elmagrhi *et al.* (2017) Wintoki *et al*., (2012) McNulty et al. (2103)	Negative
Audit Committee (AC)	The board has an audit committee, Dummy Variable	Van Essen et al., (2013)	Positive impact
Dividiend policy			
Dividend Yield (DY)	company's annual dividends based on the stock price.	Bakin (1989), Allen & Rachim (1996) , Joshi (2015), and (Singh 2010)	Positive impact
Dividend payout policy (DP)	Cash dividend to net income and depreciation	Ramjee Rakhal (2018) , Bakin (1989) and Allen & Rachim (1996)	Positive impact
Control Variables			
Leverage (LV)	Total debt over total assets	Boubaker et al. (2017), Yarramand Dollery (2015)	Positive impact
Size (S)	Logrithms of total assets	Van Essen et al., (2013)	mixed
Dependent Variable - stock price volatility			
Stock price volatility (SPV)	Ln(new/old)	Özlen (2010), Wiwildawati & AditioWahyudi (2015), Kanedia Mogonta & Merinda Pandowo	

3.4 Empirical Results and Discussion

Ramsey equation specification error test is conducted to show the interelationship between dependent and indepndent variables and if it is linear or non-linear. Using the restricted and unrestricted model assumption for linearity and non-linearity in the ANOVA table through the Sum of Squared Residuals for restricted and unrestricted models to calculate the F test. Since the F-Statistics is bigger than right critical values resulting in accepting the H_0 which means that it's a linear relationship. By removing outliers, the explanatory power increases while the standard error decreases. Limit of three is set to all variables. any factor exceeds this limit is considered as an outlier and will be removed from collected data. Ordinary least square regression is used to conduct this test. Also, the regression equation specification error test (RESET) is used to know if the regression equation is linear or non-linear.After the outlier's detection and removal, we proceed for the linearity test to assess the linearity and non-linearity of the proposed regression equation in the model. Running the restricted and unrestricted estimation of the regression with a constant significance level (Alpha) of 5%.

Table 2. Discriptive statistics

	Observations	Mean	Standard Deviation	Minimum	Maximum	Skewness
Stock Price Volatility	250	0.78915	0.56789	0.03981	3.2453	4.358
Board Indpendence	250	1.57325	1.667	0.00	9.00	0.431
Board Size	250	9.00	2.42	4.00	13.00	0.47
Board Meetings	250	3.45	1.79	2.00	12.00	2.52
CEO Duality	250	4.24	0.52	0.00	1.00	1.09
Dividend Yield	250	18.92	42.45	0.00	151.92	32.82
Dividend Pay out Ratio	250	23.73	39.25	0.00	143.90	38.26
Leverage	250	44.03	27.21	5.20	155.67	51.04
Size	250	1.73	1.73	7.25	17.92	5.38

Table 3. Correlation matrix

Explaintory Factors	Stock Price Volatility	Board Indpendence	Board Size	Board Meetings	CEO Duality	Audit Committee	Dividend Yield	Pay-out ratio	Leverage	Size
Stock Price Volatility	1.00									
Board Indpendence	0.0172*	1.00								
Board Size	0.0782	0.1578*	1.00							
Board Meetings	0.130*	0.021*	-0.195*	1.00						
CEO Duality	0.1789*	0.0562	0.0723	-0.012	1.00					
Audit Committee	0.0561*	-0.124	0.410*	0.231*	0.321*	1.00				
Dividend Yield	-0.0452*	0.0021*	0.005	0.0781*	0.0543*	0.032	1.00			
Dividend Pay-out Ratio	0.131*	0.0910*	-0.042	0.073*	0.023*	0.0779*	0.034	1.00		
Leverage	0.0121	-0.0304	-0.034	-0.034	0.0541	-0.021	0.0021	0.002	1.00	
Size	-0.0234	-0.0104	0.021	-0.0213	0.0112	-0.4110*	-0.450	0.0961	0.05	1.00

Table 2 provides the correlation matrix for the explanatory variables; corporate governance mechanisms and dependent variable, stock price volatility. It is very obvious to see that corporate governance mechaisms have an impact on stock price volatility except board size. Board independence, board meetings, CEO duality and audit committee have an impact on the stock price volatility of listed Egyptian companies. Also, to notice that corporate

governance mechanisms have an impact on dividends policy as measured by dividend yield and dividend pay-out ratio except board size. This means that board independence, board meetings, CEO duality and audit committee have a significant positive impact on dividend pay-out policy, but board size has no impact on dividend pay-out policy. The same applied for the case of dividend yield. In terms of the correlation between dividend policy and stock price voltailty. Results revealed that dividend pay-out policy shows a positive significant impact on stock price volatility, however, dividend yield shows a negative significant impact on stock price volatility. It is possible to attribute these results to the fact that the Egyptian capital market is one of the emerging markets that is characterized by sharp price fluctuations, in addition to many events that affected the Egyptian capital market, from the outbreak of the January Revolution to the Corona pandemic, ending with the current war between Russia and Ukraine, which cast a shadow on its decline. Stock prices, which caused the exit of many individual investors, whether Egyptian or foreigners, and that institutional investors are the most important investors in the current period in the Egyptian stock exchange.

The positive relationship can be demonstrated as increasing the dividend paid can be a positive signal for investors, indicating a favorable prospect evaluation of a firm, which would affect investor interest in purchasing shares of the company, resulting in a rise in the stock price. This demonstration was supported in a research conducted by (Gusni, 2017; Taungke & Supramono, 2015). On the other hand, other studies concluded different results stating that dividend yield and dividend pay-out ratio, the two key variables of dividend policy, have a negative impact on stock price volatility. Results are in line with previous research by Allen & Rachim (1996) and Hussainey et al (2011). This means that the higher the dividend yield and dividend pay-out, the lower the stock price volatility, which is consistent with the duration effect theory because a high dividend yield can be thought of as near cash, which reduces the uncertainty of a company's cash flows, resulting in lower discount rate fluctuation and greater price stability. Furthermore, because big dividends are a sign of a firm's stability, the negative association between high dividend yield and high dividend pay-out is consistent with the signaling theory.

The level of financial risk measured by financial leverage, has no significant impact on stock price volatility.Which is supported in a research by (Andersson, 2016) who also concluded that the estimated coefficient of the long-term debt to assets ratio is insignificant. As for the positive coefficient, this could be interpreted by the fact that financial leverage creates tax shield which increases profit, so it will be more attractive for investors. But in the case of the over-leveraged, a decrease in return could occur. Since, results revealed that there is an impact of corporate gvernance mechanism on stock price volatility but we should ignore the role of dividend policy as a mediaiting role to explain such relationship.

Table 4. Robustness Tests, governance mechanisms factors are not endogenous

	Dependent Variable: stock price volatility			
	OLS Fixed Effect	OLS Fixed Effect and AR (1)	OLS Arellano- Bond	OLS Arellano-Bover/ Blundell-Bond
Stock Price Volatility	0.031682	0.03762	-.00374	0.012617
Board Indpendence	0.47622	0.06782	0.07094**	0.21347*
Board Size	0.17433	0.17591*	0.23197	0.28451
Board Meetings	-0.05715	-0.0753	0.05266**	0.2099*
CEO Duality	0.04521	0.05209	0.0456**	0.0631*
Audit Committee	-0.0341	-0.0463	0.0547*	0.208*
Dividend Yield	0.0241	0.02342	0.0351*	0.03709*
Dividend Pay-out Ratio	0.01456	0.01762	0.01871*	0.0298*
Leverage	0.034409	0.004674	0.00988*	0.033671*
Size	0.004521	0.017862	0.03804	0.01283
Constant	0.18762	0.02318	0.2324**	-0.1475
Volatility			0.53245**	0.2542**
*, ** and *** level of signifcance at 1%, 5% and 10% levels significantly				

Table 4 produces the robustness of regressions outputs by producing four models: ordinary least square for fixed effect controlls, ordinary least square for fixed effect and possible AR (1) structure in the residuals controlls (first order serial correlation), Arellano-Bond regression and the Arellano-Bover/Blundell-Bond linear dynamic data. The first two models; fixed effects and fixed effects and possible AR(1) are not used since they produce bias and inconsistent estimates due to the fact that there is a lagged depended variable which is stock price volatility causing idpendent variables making endogeneity problem. Arrellano-Bond and Blundell-Bond are used since they sloving the aformentioed problems cause by first two models and producing consistent estimates for corporate governance mechanisms on both dividend policy and stock price volatility.

As shown in the table above, Board indpendence, Board meetings, CEO dulaity and Audit committee. However, board size has no impact. Leverage has a significant positive impact on stock price volatility as a conrollable variable but size has no impact.

Table 5. Results of the generalized methods of moments

Dependent Variable: stock price volatility		
	OLS Arellano- Bond	OLS Arelleno-Bover/Blundell-Bond
Lag Stock Price Volatility	0.315***	0.410***
Board Indpendence	-0.192	-0.2340***
Board Size	-0.123**	-0.324**
Board Meetings	-2.718***	-2.953***
CEO Duality	0.0345***	0.0423***
Audit Committee	-0.024***	-0.0312***
Dividend Yield	-0.021**	-0.0142*
Dividend Pay-out Ratio	-0.124***	-0.156***
Leverage	0.0041***	0.0121***
Size	-0.0234	-0.023
Stock Price Volatility	8.911***	-
AR(2)	0.63	0.59
Hansen Test	39.65	28.29
P -value	0.242	0.192
AR(2) dentoes test of second-order serial correlation and the null hupotheis is there is no serial correlation.		
*, ** and *** indicate 10%, 5% and 1% significance levels		

Table 5 shows that corporate governance mechanisms have an impact on stock price volatility and dividend policy of listed Egyptian companies. The stock price volatility has a significant negative impact with board independence, board size, board meetings and audit committee. We can attribute this result to the fact that inrodcuing non-exceutive menmebrs in the composition of board of directors leads to reducing the volatility in the stock price and activate the role of audit committee.

Intorducing non-executive memebrs increase the number of meetings, increase board size and make the role of audit committee more effective and this will ultimately has a positive effect to reduce the volatility in stock price and increase the return generated to current shareholders and potential investors. Board of directors, board size, board meetings and audit committee have a good sign on corporate governance practices on listed Egyptian companies. These findings are consistent with the findings of Huang et al (2011). On the other side, CEO dulaity has no impact

to reduce the volatility in the stock price in the market.

Results also revealed that corporate governance practices affect dividend policy of listed Egyptian companies. This means that dividend policy is a natural output of a good practice of corporate governance. This finding is consistent of the findings of Mitton (2004). We can atrribute this result to the fact that shareholders for a better-governed Egytian firms are in good position to receive higher dividend than other companies. Therefore, we assure the fact that dividend policy is a natural result of good governance practices. In other words, the ultimate goal of applying a good practices of corporate governance is to make sure that shareholers and potential nvestors receive a sufficient return on their investment in the shape of dividend per share or the increase in the share price (Shleifer and Vishny, 1997). Therefore, the behavior of listed Egyptian companies with a good practice of corporate governance are associated of divdiend pay-out. When sharehoders feel more protected through the investment in companies appling good practices they can allocated their money more efficiently.

We accept H_1 stating that there is a significant positive impact of corporate governance mechanisms on dividend pay- out policy of listed Egyptian companies. Also we accept H_2 stating that there is a significant positive impact of corporate governance on stock price volatility for listed Egyptian companies.

3.5 Role of Dividend Pay-out Policy

Results revealed that dividend policy is significant related with corporate governance mechanisms, Board indpendence, board size, board meetings, CEO duality and audit committee. At the same time findings revealed that dividend policy has indirect relationship with stock price volatility. accroding to Hayes and Preacher (2009), a significant value of indirect effect shows the evidence of the mediating role of dividend policy when testing the interrelationship between corporate governance mechanisms and stock price volatility of listed Egyptian companies. AMOS version 21.0 is used to test for medition role of dividend policy. The status of mediation exist if it fulfill the following conditions:

- There is must be a significant relationship between dividend policy and corporate governance mechanisms.
- There is must be a significant relationship between dividend policy and stock price voltaility
- There is must be a significant relationship between corporate governance mechanisms and stock price volatility.

Table 6. Over all mediation results

Structural Paths	Total Effect	P. value	Direct Effect	P. value	Indirect Effect	P. value	Mediation Status
Board Independence ====> Dividend Payout Ratio ===> SPV	0.081	0.03	0.023	0.04	0.022	0.022	Full Mediation
Board Size ==========> Dividend Payout Ratio ===> SPV	0.313	0.002	-0.02	0.04	-0.054	0.02	Full Mediation
Board meetings ========> Dividend Payout Ratio ===> SPV	0.129	-0.19	0.045	0.09	-0.018	0.04	Partial Mediation
CEO Dulaity ==========> Dividend Payout Ratio ===> SPV	0.049	0.263	0.055	0.47	0.016	0.41	No Mediation
Audit Committee =======> Dividend Payout Ratio ===> SPV	0.049	0.184	0.042	0.13	-0.114	0.2	No Mediation

Table 6 shows that there is a full mediation when indirect effect value is significant. According to the table above, Board indpendence, Board size amd board meetings are signifcanlty associated with dividend pay-out ratio. However, CEO duality and audit committee are insignificanlty related with the dividend pay-out ratio. Therefore, the hypothesis of mediation is accepted with board indpendence, board size and board meetings. On the contrary, mediation is rejected for CEO duality and audit committee. Therefore we accept hupothesis H_3 stating that dividend policy significantly mediates the relationship between corporate governance mechanisms and stock price volatility.

4. Conclusion

The stock market has become an important aspect of a country's capital formation and economic progress. As a result, taking into account the most essential factors that influence stock market performance is critical, especially for developing countries like Egypt.There is not much research that examines the relationship between corporate governance mechanisms and dividend policies for listed Egyptian companies, as well as corporate governance

mechanisms and their impact on stock price volatility. In terms of Egypt in particular there is a lack of studies that investigate the interrelationship between corporate governance mechanisms, dividend policy and stock price volatility. Accrodingly this study is novel research to investigate the aformentined relationship. Since it is highlight the issue of corporate governance practices applied between listed Egyptian firms

This study aims to investigate the impact of corporate governance mechanisms for listed Egyptian companies and also to investigate this relationship with the presence of dividend policy. Board indpendence, board size, board meeting, CEO dulaity and audit committee are used as a proxy of corporate governance. Leverage and size are used as a proxy for controllable variables. Results revealed that corporate governance mechanisms have an impact on both; dividend policy meausred by dividend yield and divdiend pay-out ratio as a mediator. Also, corporate governance mechanisms have an impact on stock price volatility. Board independence, board meetings, board size and audit committee in particular have a significant impact on stock price volatility. We can attribut this result to the fact that, indpendent variables are enrolled to reduce the volatility of listed Egyptian companies. This explain the presence of negative impact between corporate governance factors and stock price volatility. As a result, board indpendence, board size, board meeting and the presence of audit committee contribute to reduce the fluctuations of stock price in the market. We employed a variety of ecnometric models to test the robustness of emprical results to test the mediating role of dividend plolicy.

One of the main findings of this study is that, a good corporate governance practices is a sign of reducing the stock price volatility. However, CEO duality and size of the company have no impact on stock price volatility. However, leverage has s significant positive impact on stock price volatility. Accordingly, we conlcude that CEO dulaity and leverage is a sign of a poor corporate governance. This is the first study in Egypt to report these findings if we consider Egypt as one of the Emerging markets. Egyptian potential investors need to consider corporate goverannance different practices among Egyptian listed firms; if there are a good or poor practice when make investment decisions.

The study added a new dimenstion when investigting the interelationship between corporate governance mechanisms and stock price volatility through including dividend policy as a mediating factor. In this occasion, results revealed that dividend policy is the outcome of good corporate governance practices. Because dividend policy has a significant impact on both corporate governance mechanisms and stock price volatility. The role of dividend policy as a mediator when investigating the interelationship between corporate governance mechnisms and stock price volatility is valid. Board independence and board size is significanly related to dividend policy (full mediation). However, Board meetings also significantly related to dividend policy (partial mediation). Dividend policy has implications on stock price volatility, since there is a negative significant relationship between dividend policy and stock price volatility refers to that dividend policy contribute to the stabilization of stock price in the market. Corporate governance is important for stimulating the dividend payments which in turn affect stock price volatility.

We expect that a good corporate governance practices may lead to pay higher dividends. According to the agency model shareholders have greater right through applying good practices of corporate governance can only receive higher dividends. As concluded, dividend policy is a direct outcome of corporate governance mechanisms, dividend policy could be a substitute for coporate governance in order to montoring the issue of agency. This means, in Egypt to mitigate the issue of agency Egyptian listed firms may increase the number of non-executive members in the composition of board of directors, this will have a direct effect to increase dividend and reduce the fluctuations in stock price. Firms operate in Emerging markets like Egypt could increase corporate governance practices by stressing on the impact of independent directors, board size, the existence and increasing of board meetings which will eventually would reduce the agency costs of Egyptian firms.

5. Future Research

There is still a room of more research to addresse the interrelationship between corporate goverancne mechnisms and stock price volatility in Egypt at certain events; before and after financial crisis, January revolution and Covid-19 panademic. Also, through including other mediating variables, such as leverage, ownership structure and controlling shareholders. Also, the need to consider other characteristics of the firm and corporate governance mechanisms.

References

Abdelsalam, O., El-Masry, A., & Elsegini, S. (2008). Board composition, ownership structure, and dividend policies in an emerging market. *Managerial Finance, 34*(12), 953-964. https://doi.org/10.1108/03074350810915879

Abor, J., & Fiador, V. (2013). Does corporate governance explain dividend policy in Sub-Saharan Africa?. *International Journal of Law and Management, 55*(3), 201-225. https://doi.org/10.1108/17542431311327637

Adjaoud, F., & Ben-Amar, W. (2010). Corporate governance and dividend policy: Shareholders' protection or expropriation?. *Journal of Business Finance and Accounting, 37*(5/6), 648-667. https://doi.org/10.1111/j.1468-5957.2010.02192.x

Afzal, M., & Sehrish, S. (2011). Ownership structure, board composition and dividend policy in Pakistan. *African Journal of Business Management, 77*(11), 811-817.

Ajanthan, A. (2013). Corporate governance and dividend ratio: A study of listed hotels and restaurant companies in Sri Lanka. *International Journal of Management, IT and Engineering, 26*(3), 98-114.

Arellano, M., & Bond, S. (1991). Some tests of specifications for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies, 58*(2), 277-297. https://doi.org/10.2307/2297968

Arellano, M., & Bover, O. (1995). Another look at the instruments variable estimation of error component models. *Journal of Econometrics, 68*(1), 29-51. https://doi.org/10.1016/0304-4076(94)01642-D

Baek, J., Kang, J., & Park, K. (2004). Corporate governance and firm value: evidence from the Korean financial crisis. *Journal of Financial Economics, 71*, 265-313. https://doi.org/10.1016/S0304-405X(03)00167-3

Black, B. (2001). The corporate governance behavior and market value of Russian firms, *Emerging Markets Review, 2*, 89-108. https://doi.org/10.1016/S1566-0141(01)00012-7

Black, B., Jang, H., & Kim, W. (2006a). Does corporate governance predict firms' market values? Evidence from Korea. *Journal of Law, Economics and Organization, 22*, 366-413. https://doi.org/10.1093/jleo/ewj018

Black, B., Love, I., & Rachinsky, A. (2006b). Corporate governance and firms' market values: time series evidence from Russia. *Emerging Markets Review, 7*, 361-79. https://doi.org/10.1016/j.ememar.2006.09.004

Bolbol, I. (2012, June). Board characteristics and dividend payout of Malaysian companies. *Unpublished Master Dissertation*, Universiti Utara Malaysia, pp. 1-30.

Byoun, S., Chang, K., & Kim, Y. S. (2016). Does corporate board diversity affect corporate payout policy?. *Asia-Pacific Journal of Financial Studies, 45*(1), 48-101. https://doi.org/10.1111/ajfs.12119

Chen, L. W., Johnson, S. A., Lin, J. C., & Liu, Y. J. (2009). Information, sophistication, and foreign versus domestic investors' performance. Journal of Banking & Finance, 33, 1636-1651. https://doi.org/10.1016/j.jbankfin.2009.03.011

Classens, S. (2001). Corporate governance and development. *Global Corporate Governance Forum 1*, World Bank. Washington DC.

Conyon, M. J., & Peck, S. I. (1998). Board size and corporate performance: evidence from European countriesl. *The European Journal of Finance, 4*(3), 291-304. https://doi.org/10.1080/135184798337317

Durnev, A., & Kim, E. (2005). To steal or not to steal: firm attributes, legal environment, and valuation. *The Journal of Finance, 60*, 1461-93. https://doi.org/10.1111/j.1540-6261.2005.00767.x

Easterbrook, F. H. (1984). Two agency-cost explanation of dividends. *The American Economic Review, 74*(4), 650-659.

Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. *The Quarterly Journal of Economics, 118*, 107-55. https://doi.org/10.1162/00335530360535162

Gugler, K. (2003). Corporate governance, dividend payout policy, and the interrelation between dividends, R&D, and capital investment. *Journal of Banking and Finance, 27*(7), 1297-1321. https://doi.org/10.1016/S0378-4266(02)00258-3

Haniffa, R., & Hudaib, M. (2006). Corporate governance structure and performance of Malaysian listed companies. *Journal of Business Finance and Accounting, 33*(8), 1034-1062. https://doi.org/10.1111/j.1468-5957.2006.00594.x

Huang, Hsu-Huei, Chan, Min-Lee, Huang, I-Hsiang, & Chang, Chih-Hsiang. (2011). Stock price volatility and overreaction in a political crisis: The effects of corporate governance and performance. *Journal of Pacific-Basin Finance Journal*. https://doi.org/10.1016/j.pacfin.2010.08.001

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Econo.mics, 3(4), 305-360. https://doi.org/10.1016/0304-405X(76)90026-X

Jordon, S. J., Lee, J.-H., & Bui, E. A. (2012). Outside Directors and Stock Return Volatility: The Foreign Investor Connection. https://doi.org/10.2139/ssrn.2180360

Kiel, G. C., & Nicholson, G. J. (2003). Board composition and corporate performance : How the Australian experience informs contrasting theories of corporate governance. *Corporate Governance: An International Review, 11*(3), 189-205. https://doi.org/10.1111/1467-8683.00318

Klapper, L., & Love, I. (2004). Corporate governance, investor protection, and performance in emerging markets. *Journal of Corporate Finance, 10*, 703-28. https://doi.org/10.1016/S0929-1199(03)00046-4

Lemon, M., & Lins, K. (2003). Ownership Structure, Corporate Governance, and Firm Value: Evidence from the East Asian Financial Crisis. *Journal of Finance, 58*, 1445-1468. https://doi.org/10.1111/1540-6261.00573

Lintner, J. (1956). Distribution of incomes of corporations among dividends, retained earnings, and taxes. *The American Economics Review, 46*(2), 97-113.

Masourinia, E., Emamgholipour, M., Rekabdarkolaei, E. A., & Hozoori, M. (2013). The effect of board size, board independence and CEO dulaityon dividend policy of companies: Evidence from Tehran stock exchange. *International Journal of Economy, Management and Social Sciences, 2*(6), 237-241.

Mitton, T. (2002). A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis. *Journal of Financial Economics, 64*, 215-241. https://doi.org/10.1016/S0304-405X(02)00076-4

Mitton, T. (2004). Corporate governance and dividend policy in emerging market. *Emerging Markets Review, 5*(4), 409-426. https://doi.org/10.1016/j.ememar.2004.05.003

Sharma, V. (2011). Independent directors and the propensity to pay divdiends. *Journal of Corporate Finance, 17*(4), 1001-1015. https://doi.org/10.1016/j.jcorpfin.2011.05.003

Shehu, M. (2015). Board characteristics and dividend payout : Evidence from Malaysian public listed companies. *Research Journal of Finance and Accounting, 6*(16), 35-40.

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *Journal of Finance, 52*, 737-783. https://doi.org/10.1111/j.1540-6261.1997.tb04820.x

Subramaniam, R., Devi, S. S., & Marimuthu, M. (2011). Investment Opportunity Set and Dividend Policy. *Malaysia African Journal of Business Management, 5*(24), 10128-10143.

White, L. F. (1996). Executive compensation and dividend policy. *Journal of Corporate Finance, 2*(4), 335-358. https://doi.org/10.1016/0929-1199(96)00003-X

Zahra, S. A., & Pearce, J. A. (1989). Boards of directors and corporate financial performance: A review and integrative model. *Journal of Management, 15*(2), 291-334. https://doi.org/10.1177/014920638901500208