

# The Effect of Corporate Governance on Mutual Fund Dividend Policy: Evidence from Egypt

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## Abstract

The purpose of this paper is to investigate whether mutual fund governance has an effect on fund dividend policy in the Egyptian Stock Market. Using a final sample of 27 mutual funds between 2004 and 2013, this paper applies a Structural Equation Modelling technique to solve the potential endogeneity problem between internal governance measures and dividend policy. The empirical evidence shows a positive correlation between governance quality and dividend policy measured by dividend yield. The results are consistent with the notion that shareholders of firms with better governance quality are able to force managers to disgorge more cash through dividends, thereby reducing what is left for expropriation by opportunistic manager. No significant association was found between board independency and dividend policy, because firms with higher number of independent directors are more restricted to pay higher dividends. This study provides additional evidence of the applicability of the Outcome Model in the emerging market of Egypt. It was found that the payment of higher dividend was considered necessary to attract capital during this transitional period.

**Keywords:** Corporate Governance, Dividend Policy, Mutual Fund, Endogeneity.

**JEL Classification:** G34, G35, G23, C3.

## 1. Introduction

A large body of previous literature investigated the relationship between corporate governance and dividend policies in developed markets (e.g. Jensen and Meckling, 1976; Easterbrook, 1984). However, there is a few studies have addressed the potential relationship between corporate governance and dividends policy in emerging markets (Adaoglu, 2000).

The quality of corporate governance should have significant impact on dividend policy. Jiraporn et al (2011) find that there is a positive relationship between dividend payouts and corporate governance, firms with stronger corporate governance are more likely to pay dividends (Chae, et al 2009). Corporate governance and dividend policies reduce agency problems, which result from the conflict of interest between managers and shareholders. Accordingly, two agency models were identified by La Porta *et al.* (2000): the outcome model and the substitute model. The “outcome model” suggests that dividends is an outcome of legal protection of shareholders. Therefore, a positive correlation between the investor protection and the firm dividend policy can be suggested, and firms with better corporate governance pay higher dividends for alleviating the manager-shareholder conflict.

Some previous studies document empirical evidence consistent with outcome hypothesis. Renneboog and Szilagyi (2006) find that firms with strong shareholders pay higher dividend in Dutch firms. Michaely and Roberts (2006) suggest that strong governance encourages higher payouts using data on firms in the U.K. La Porta *et al.* (2000) find that firms pay more dividends in countries where minority shareholder rights are better protected.

On the contrary, “substitute model” asserts that the dividend is a substitute of legal protection. Firms with weaker legal protections of minority shareholders pay more dividends to establish their reputation and compensate minority shareholders. Thus, it is expected a negative relationship between the investor protection and dividend policy. In other words, larger dividends substitute for weaker governance.

Some recent studies provide evidence consistent with the substitute hypothesis. Officer (2007) finds a negative relationship between corporate governance and dividend payouts when the strength of corporate governance is measured by the Governance Index, developed by Gompers et al. (2003). John and Knyazeva (2006), using a comprehensive index that takes into account board structure, institutional block holdings, and Gompers et al.’ Index, also find a substitution effect between governance quality and dividend payouts.

The purpose of this paper is to examine the role of corporate governance in Egyptian mutual fund dividend policy. The central question addressed in the paper is: To what extent the various dividend theories can be applicable in explaining dividend policy in an emerging capital market, in a country in transition?

The rest of this paper is structured as follows: section 2 reviews the previous literature and empirical hypothesis on the relationship between mutual fund corporate governance and dividends pay-out policy; section

3 discusses the econometric approach and data description; section 4 lays out the structural equation modelling analysis. Finally, section 5 presents research contributions and suggestions for future studies.

## 2 Literature Review and the Hypotheses

One of important rights for investors is dividend. Jensen and Meckling (1976) find that there is a conflict of interests between the management and investors. However, in emerging markets, agency problem also happen between the majority and minority shareholders (Nam et al., 2004). Dividend and good corporate governance mechanisms are important to protect minority shareholders' rights. Kumar (2006) shows that corporate governance mechanism influences dividend policy. There is a controversy about the relationship of corporate governance and dividend payout. Hwang et al. (2013) find that corporate governance enhanced the payout policy ratio. Similarly, Bhatti (2013) find that the effect of size and profitability on dividend payout was positive before, during, and after the financial crisis. Lefort and Walker (2005) find a significant relationship among corporate governance, dividend payout and firm performance. Francis et al (2011) argue that managers prefer not to pay dividends, and firms who pay high dividend have the strong business level. Jiraporn et al (2011) illustrated in their study that there is a positive association between the quality of corporate governance mechanisms and dividends, therefore they confirm outcome theory.

On the other hand, Jiraporn and Ning (2006), Renneboog and Szilagyi (2008) find that firms with poor corporate governance give higher dividend. Poor corporate governance compensates their weaknesses with higher dividend in order to attract investors. There is a negative relationship between corporate governance and dividend policy, therefore they confirm substitution theory. Similarly, Chae et al (2009) illustrated that firms with more effective corporate governance pay lower dividends. Given the mixed evidence of prior research, this paper aims to reveal the nature of the relationship between corporate governance and dividend payouts.

A key concern in this type of studies has to do with the potential endogeneity problem as discussed by Klapper and Love (2003) and Black et al (2006) among others. It might be possible, however, that corporate governance and dividend policy are endogenously determined. In the context of this paper, the endogeneity problem would arise, if firms with high performance tended to adopt good governance practices in order to further improve their dividends. There are many methods of overcoming this; including Maximum likelihood (ML) and Generalized Method of Moments (GMM).

Although, GMM and ML is a general framework for deriving estimators, there is a difference between the assumptions of the two methods. ML estimators use assumptions about the specific families of distributions for the random variables to derive an objective function. It selects the parameters that are probably have generated the observed data, which can be proceeded by maximizing an objective function. GMM estimators use assumptions about the moments of the random variables to derive an objective function. The assumed moments of the random variables present population moment conditions, which can be achieved by minimizing an objective function. Accordingly, ML can be more efficient than GMM, because ML uses the entire distribution instead of uses specified moments only (Breitung and Lechner, 1995).

Therefore, this paper utilizes SEM which is a multivariate technique that allows us to estimate a system of equations. Structural Equation Models are often drawn as Path Diagrams. SEM is a Full Information Maximum Likelihood (FIML), which estimates all the equations and all the unknown parameters jointly and obtains robust findings, compared with GMM. Therefore, this study uses different independent variables as illustrated below:

Board size: as the most critical corporate governance mechanism, boards of directors play an important role in setting the strategic direction of an organization (Braun and Latham, 2007). There are two competing views in the literature about the effect of board size. One view is that large boards allow directors to specialize. Greater specialization can lead to more effective monitoring (Klein, 2002), and hence lower dividends are needed for the monitoring role. Similarly, Riaz et al (2016) find that board size has a significant positive influence on the firm pay-out policy. It means that a large board size generated good profits that resulted in higher pay-out ratio. Adjaoud (2010) find that board composition is positively related to payout ratios. The other view is that large boards are less effective than small boards due to the difficulties of coordinating large groups (Jensen, 1993). Similarly, Guest (2009) suggest that there is a significant inverse relationship between board size and profitability, because poor communication might lead to difficulty in decision-making process which restricts the influence of large board of directors which might resulted in lower pay-out ratio

H1: There is a negative significant relationship between board size and dividend policy (dividend yield and dividend frequency).

Proportion of independent directors and inside directors: the two ways inside outside director classification is used to measure the proportion of inside directors on the board, and the proportion of outside directors on the board. Belden et al (2005) argued that the outside directors on the company board tend to reduce the agency cost in the firm and also represent the shareholders effectively and ensure their rights in the company. As a result, they concluded that the more outside members there were on the board, the more dividends the company was

willing to pay. On the other hand, Al-Najjar and Hussainey (2009) argue that outside directorship in a board has a significant negative impact on the dividends paid out because firms with higher number of outside directors on the board are more restricted to pay higher dividends.

H2: There is a positive significant relationship between the proportion of independent directors on the board and dividend policy (dividend yield and dividend frequency).

Corporate governance index: Similar to Erkens et al (2012), the influence of corporate governance on firm performance is explored. A governance index is constructed – calculated as an average of six governance indicators: (1) Effective Corporate Governance Framework (2) The rights of shareholders (3) The equitable treatment of share-holders (4) The role of stakeholders in corporate governance (5) Disclosure and transparency (6) The responsibilities of the board – using the annual reports of the companies and the companies' websites, based on the OECD Corporate Governance Principles April 2004 (EFSA). Shleifer and Vishny (1997) illustrate that the goal of corporate governance is to protect (minority) shareholders. A positive relationship exists between corporate governance and dividend payout ratio because companies with stronger governance mechanisms are better at monitoring their managers; therefore, managers are less likely to use the money for their personal benefits, and as a result pay higher dividends (Farinha, 2003). This paper is in favor of the “outcome hypothesis”.

H3: There is a positive significant relationship between the corporate governance index of the fund management company and dividend policy (dividend yield and dividend frequency).

Mutual Fund Performance: for the analysis of the impact of mutual fund performance on dividend policy the abnormal returns will be measured by Sharp ratio - as the most common risk adjusted performance measures - which measures the excess return over the risk free rate per unit of total risk (Sharpe, 1966). As indicated before, firms with stronger governance mechanisms have better firm performance, which can result in higher dividend payout ratio (Francis et al., 2011). Similarly, Abreu and Gulamhussen (2013) argue that there is a positive relationship between profitability and dividend payout before, during and after the crisis.

H4: There is a positive significant relationship between mutual fund performance and dividend policy (dividend yield and dividend frequency).

Director's tenure: similar to Villiers et al (2011), director's tenure is measured as the average number of years the firm's directors have served on the board either the fund management company board or any other boards, and similar to Chan et al (2013) and Lassoued and Elmir (2012), the average board tenure of directors is included in the regression analysis. Del Guercio et al (2003) notes that directors who are long-serving can lose their ability to remain independent and therefore, become less effective as representatives for the shareholder.

H5: There is a negative relationship between the average tenure of directors and corporate governance index of the fund management company.

Board committee structure: to examine the role of board committee structure on the performance of mutual funds, this paper focuses on investment committees. Similar to Chan et al. (2013) and Lassoued and Elmir (2012), the proportion of directors on the investment committee is included in the regression analysis. Furthermore, Klein (1998) finds a positive correlation between the percentage of inside directors on investment committees and stock returns. This result is consistent with Fama and Jensen's (1983) argument that inside director presents prominent knowledge helping the board of directors to make the right investment decisions in the long term strategy and therefore leads to a higher level of CG Index.

H6: There is a positive relationship between the proportion of directors on the investment committee and corporate governance index of the fund management company

The following discussion contains a brief description of the control variables.

Time: the period of the study is the years between 2004 and 2013 that can affect the payout policy of the fund. Jones (2007) suggests that investors who wish to maximize return should start their search by looking for younger funds. Similarly, Aggarwal and Jorion (2010) find strong evidence of out-performance of hedge funds during the first two to three years of existence. Based upon the previous discussion, there is a negative relationship between the fund age – which increases over time – and fund performance. Accordingly, there is a negative relationship between the time and fund performance which might lead to lower dividend yield.

Investment objective dummy variables: the type of investment objective a fund adopts affects the dividends pay out policy. Similar to Ferris and Yan (2007), a series of dummy variables is included to capture the investment objectives represented in the sample to take a value of 1 if the fund belongs to the same category under study and zero otherwise. The investment objectives represented in the sample are: Fund Obj1: Open End Islamic Fund, Fund Obj2: Open End Equity Fund, Fund Obj3: Open End Balanced Fund, and Fund Obj4: Open End Islamic Balanced Fund.

Number of funds overseen by the fund management company: similar to Ferris and Yan (2007), this variable is included in the regression which is motivated by the busyness hypothesis of Ferris et al (2003). They conclude that there is no significant evidence that multiple board memberships harm firm value. On the contrary, they find that fund Management Company with multiple funds to monitor possessing prominent expertise as a

director. This paper finds that there is a positive relationship between number of funds over seen by the fund Management Company and corporate governance index which is consistent with Ferris and Yan (2007) argument.

Finally, the following Table 1 summarizes the key studies in the previous literature that investigate the effect of corporate governance on dividend policy.

**Table 1: Empirical Evidence of Impact of Corporate Governance in Dividend Policy**

Empirical Studies	Governance	Relationship	Agency Model
La Porta et al. (2000)	Investor protection	Positive relationship	Outcome model
Gugler and Yurtoglu (2003)	Ownership and Performance	Positive relationship	Outcome model
Adjaoud and Ben - Amar (2010)	Internal Governance variables	Positive relationship	Outcome model
Jiraporn et al (2011)	Internal Governance variables	Positive relationship	Outcome model
Albuquerque et al. (2015)	Firm level Corporate Governance	Positive relationship	Outcome model
Abreu and Gulam-hussen (2013)	Internal Governance variables	Positive relationship	Outcome model
Riaz et al (2016)	Internal Governance variables	Positive relationship	Outcome model
Gao et al. (2013)	Firm level Corporate Governance	Negative relationship	Substitute model
Officer (2007)	Internal and External Governance variables	Negative relationship	Substitute model
Esqueda (2016)	Investor protection Law Ownership	Negative relationship	Substitute model

### 3 The Data

In this paper, the population is extracted from an updated version of the Egyptian mutual fund database in the Egyptian Stock Market existing at the end of December 2013 (EIMA). The original sample contains all mutual funds that are active from 2004 to 2013 which are 84 mutual funds belong to 14 categories (EIMA). From the initial sample, the researcher excludes fixed income funds and money market funds because they pay a fixed rate of dividends. The final random sample for the study is restricted to 27 mutual funds between 2004 and 2013. The sample is free from survivor-ship bias, since the sample includes both surviving and dead funds.

This paper uses secondary data only which is collected from the most recent available data from the Egyptian Stock Market, Central Bank of Egypt, EIMA, World Bank, EFSA, Misr for Central Clearing, Depository and Registry (MCDR), and National Bank of Egypt. The data is a panel data that tracks the dividends of several mutual funds at several points in time 2004-2013.

The dividend policy is represented by two variables. The first is dividend yield, which is defined as (annual dividends amount per share/ initial price per share) (Abdelsalam and El-Masry, 2008). The second is dividend frequency defined as: the number of months when a mutual fund pays dividends (from 0 to 12). I consider dividend distributions in the same month as one time (Elton et al. 2011). See, Table 2 providing a full set of variables of the study (Huber & Mellace, 2015).

**Table 2: Summary of Endogenous, Exogenous and Control Variables**

**Panel (A) Endogenous Variables**

Variables	Measures	Source
Dividend Policy ( $DivP_{it}$ )	$DivYield_{it} = \frac{Annual Div}{Initial NAV}$ $DivFreq_{it}$ = Number of months when a mutual fund pays dividends	Calculated from mutual fund's prospectuses, and mutual fund's financial statements.
Corporate governance index ( $CG_Q$ )	A constructed governance index calculated as an average of six governance indicators: (1) Effective Corporate Governance Framework (2) The rights of shareholders (3) The equitable treatment of shareholders (4) The role of stakeholders in corporate governance (5) Disclosure and transparency (6) The responsibilities of the board.	Calculated from the annual reports of the fund management companies and the companies' websites.

**Panel (B) Exogenous Variables**

Variables	Measures	Source
Board size ( $B_{Size}$ )	The size of the board.	Board of director's annual reports of Egyptian mutual funds.
Proportion of independent directors ( $Ind_{Dir}$ )	The number of independent directors on the board divided by board size.	Board of director's annual reports of Egyptian mutual funds.
Board committee structure ( $Inv_{Comm}$ )	The number of directors on the investment committee divided by board size.	Board of director's annual reports of Egyptian mutual funds.
Director's tenure ( $Dir_{Tn}$ )	The average number of years the firm's directors have served on the board either the fund management company board or any other boards.	Board of director's annual reports of Egyptian mutual funds.
Mutual funds financial performance ( $Perf_{it}$ )	$SI_{it} = \frac{(R_{it} - R_{ft})}{\sigma_i}$	Calculated from mutual fund's prospectuses, mutual fund's financial statements, and economic review of Central Bank of Egypt.

**Panel (C) Control Variables**

Time ( $Time$ )	The years (2004-2013) due to data availability.	Sample Period.
Investment objective dummy variables ( $Fund_{obj}$ )	This study uses dummy variables for the investment objectives represented in the sample to take a value of 1 if the fund belongs to the same category under study and zero otherwise.	Mutual fund prospectuses.
Number of funds overseen by the fund management company ( $Dir_{Fn}$ )	The number of funds overseen by the fund management company.	Board of director's annual reports of Egyptian mutual funds.

Source: Developed by the researcher

The results are based on a sample of 208 annual observations for 27 mutual funds from 2004 to 2013. See, Table 3 which includes three panels.

**Table 3: Descriptive Statistics of Corporate Governance and Dividend Policy**

**Panel A: Fund and Governance Descriptive Statistics**

Variable	Model (A) Number of obs = 208				Model (B) Number of obs = 208			
	Mean	Std.Dev.	Min	Max	Mean	Std.Dev.	Min	Max
CGQ	0.6154	0.1680	0.1667	0.8333	0.6154	0.1680	0.1667	0.8333
DivYield	0.0528	0.0643	0	0.3125				
DivFreq					1.3173	1.1858	0	4
Time	2009	2.7569	2004	2013				
FundObj1	0.1635	0.3707	0	1	0.1635	0.3707	0	1
FundObj2	0.5529	0.4984	0	1	0.5529	0.4984	0	1
FundObj3	0.2692	0.4446	0	1	0.2692	0.4446	0	1
Perf	0.0378	0.2310	-0.4916	0.5106	0.0378	0.2310	-0.4916	0.5106
BSize	9.4183	3.4603	4	16	9.4183	3.4603	4	16
IndDir	0.8245	0.2146	0.3125	1	0.8245	0.2146	0.3125	1
InvComm	0.1643	0.0981	0.0833	0.5455	0.1643	0.0981	0.0833	0.5455
DirFn	10.625	5.1013	1	15	10.625	5.1013	1	15
DirTn	19.481	6.6941	6	29	19.481	6.6941	6	29



### Panel B: Pearson Correlations (Model A)

Variable	Time	Perf	DivYield	BSize	IndDir	InvComm	DirFn	DirTn	CGQ	FundObj1	FundObj2	FundObj3
Time	1											
Perf	-0.3681	1										
DivYield	-0.4132	0.4877	1									
BSize	-0.2486	0.0617	0.25	1								
IndDir	0.2147	-0.0235	-0.0238	-0.1056	1							
InvComm	-0.1011	0.0479	0.1252	-0.1262	-0.5079	1						
DirFn	0.0364	-0.0099	-0.0518	0.2112	0.4658	-0.7292	1					
DirTn	-0.2923	0.0775	0.2636	0.6851	-0.0326	-0.0921	0.3433	1				
CGQ	0.0293	-0.0152	0.0679	0.4263	0.3412	-0.4888	0.6548	0.1094	1			
FundObj1	0.1212	-0.0929	0.0022	-0.0046	0.1023	-0.186	0.2267	0.0344	0.1741	1		
FundObj2	-0.1297	0.1088	0.026	0.2546	0.0074	-0.1461	0.1522	0.0995	0.071	-0.4916	1	
FundObj3	0.0114	-0.0282	-0.0254	-0.2588	-0.1202	0.326	-0.2982	-0.094	-0.17	-0.2683	-0.675	1

### Panel C: Pearson Correlations (Model B)

Variable	Perf	DivFreq	BSize	IndDir	InvComm	DirFn	DirTn	CGQ	FundObj1	FundObj2	FundObj3
Perf	1										
DivFreq	0.2572	1									
BSize	0.0617	-0.0113	1								
IndDir	-0.0235	-0.1826	-0.1056	1							
InvComm	0.0479	0.2500	-0.1262	-0.5079	1						
DirFn	-0.0099	-0.2334	0.2112	0.4658	-0.7292	1					
DirTn	0.0775	0.2040	0.6851	-0.0326	-0.0921	0.3433	1				
CGQ	-0.0152	-0.2251	0.4263	0.3412	-0.4888	0.6548	0.1094	1			
FundObj1	-0.0929	0.0243	-0.0046	0.1023	-0.186	0.2267	0.0344	0.1741	1		
FundObj2	0.1088	-0.2819	0.2546	0.0074	-0.1461	0.1522	0.0995	0.0710	-0.4916	1	
FundObj3	-0.0282	0.3045	-0.2588	-0.1202	0.3260	-0.2982	-0.0940	-0.1700	-0.2683	-0.6750	1

Note: This table reports descriptive statistics for the sample of 208 annual observations for 27 mutual funds from 2004 to 2013

Panel A provides main fund and governance statistics for the overall sample. Included are the mean, standard deviation, minimum, and maximum of the variables used in the analysis for the two models (A), and (B). DivYield, and DivFreq, for the overall sample, have mean values of, 5%, and 1.32 months respectively. For the overall sample, all variables used in the analysis except (DivYield, and DivFreq) for the two models (A), and (B) have similar mean, standard deviation, minimum, and maximum values.

For the overall sample, on average, the board structure is comprised of 9 directors, and about 82% of them are independent directors. The board composition, on average, consists of 16% of directors on the investment committee. The average tenure of directors is 19 years. Furthermore, the corporate governance index, on average, is 62%. The number of funds overseen by the fund management company, on average, is 11 mutual funds per company. Fund performance, on average, is 4%. Furthermore, the major funds in the sample belong to open end equity fund.

Panel B provides the correlations between all variables included in model (A). DivYield is positively correlated with BSize, InvComm, DirTn, and CGQ and negatively correlated with IndDir, and DirFn. Perf exhibits the same pattern and is positively correlated with BSize, InvComm, and DirTn. BSize exhibits the same pattern and is positively correlated with DirTn, and CGQ and negatively correlated with IndDir. IndDir exhibits the same pattern and is positively correlated with CGQ. DirFn exhibits the same pattern and is positively correlated with DirTn, and CGQ. Finally, DirTn exhibits the same pattern and is positively correlated with CGQ. Interestingly, the correlations for BSize, and DirTn are positive for DivYield, and CGQ suggesting that vigilant boards are associated with a higher dividend pay-out, and a higher corporate governance index.

Panel C provides the correlations between all variables included in model (B). DivFreq is positively correlated with InvComm, and DirTn, and negatively correlated with IndDir, DirFn, and CGQ. Perf exhibits the

same pattern and is positively correlated with InvComm, and DirTn, and negatively correlated with IndDir. BSize exhibits the same pattern and is positively correlated with DirTn, and negatively correlated with IndDir. Finally, DirFn exhibits the same pattern and is positively correlated with DirTn. As indicated before in model (A), the correlation for DirTn is positive for DivFreq, and CGQ suggesting that vigilant boards are associated with a higher dividend frequency, and a higher corporate governance index.

Overall, the results of the descriptive statistics are consistent with agency theory (e.g., Jensen and Murphy, 1990), and the law and finance (e.g., López de Silanes et al., 1998) literatures suggest that firm good governance characteristics and vigilant board will enhance corporate value and dividends pay-out policy (Essen et al., 2013).

Similar to (Essen et al., 2013), it is suggested that there is potential endogeneity between internal governance measures and dividends policy measured by dividend yield, and dividend frequency. Therefore, this potential endogeneity is examined in a structural equation model below.

#### 4. Structural Equation Modelling Analysis

SEM is adapted from (Erkens et al., 2012), and (Agrawal and Knoeber, 1996). To test the effect of corporate governance on mutual fund dividends policy, this study uses the SEM technique through the following three stages: model specification, model estimation, and goodness of fit indices, which will be discussed respectively in the ensuing sections.

##### 4.1 Structural Model Specification

For the analysis of the effect of corporate governance on mutual fund dividends policy, this study evaluates the previous hypotheses. To test this assertion, a simultaneous equation system is utilized, where fund dividends policy, and corporate governance index are endogenous variables by using the following structural equation model:

$$DivP_{it} = \alpha_{it} + \alpha_1 (B_{Size}) + \alpha_2 (Ind_{Dir}) + \alpha_3 (Dir_{Tn}) + \alpha_4 (CGQ) + \alpha_5 (Dir_{Fn}) + \alpha_6 (Perf_{it}) + \alpha_7 (Time) + \alpha_8 (Fund_{Obj1}) + \alpha_9 (Fund_{Obj2}) + \alpha_{10} (Fund_{Obj3}) + \epsilon_{it} \quad (1)$$

$$CGQ = \beta_{it} + \beta_1 (B_{Size}) + \beta_2 (Ind_{Dir}) + \beta_3 (Dir_{Tn}) + \beta_4 (InvComm) + \beta_5 (Dir_{Fn}) + \beta_6 (Fund_{Obj1}) + \beta_7 (Fund_{Obj2}) + \beta_8 (Fund_{Obj3}) + \epsilon_{it} \quad (2)$$

##### 4.2 The Estimation Results

The results about the estimation of the structural model (A), (B) are presented in Table (4) which includes two panels for every model. The path diagram for the two models (A), and (B) is presented in Figure (1) and (2) respectively. According to the previous, in testing the hypotheses, results reveal that there are six hypotheses in this study, and five hypotheses i.e. H1, H3, H4, H5, and H6 are statistically significant. Thus, these hypotheses are supported. While, one hypothesis i.e. H2 is found statistically not significant. Hence, this hypothesis is not supported.

Although the hypothesis is not supported, the result is consistent with Hussainey et al. (2011) argument that firms with higher number of independent directors are more restricted to pay higher dividends.

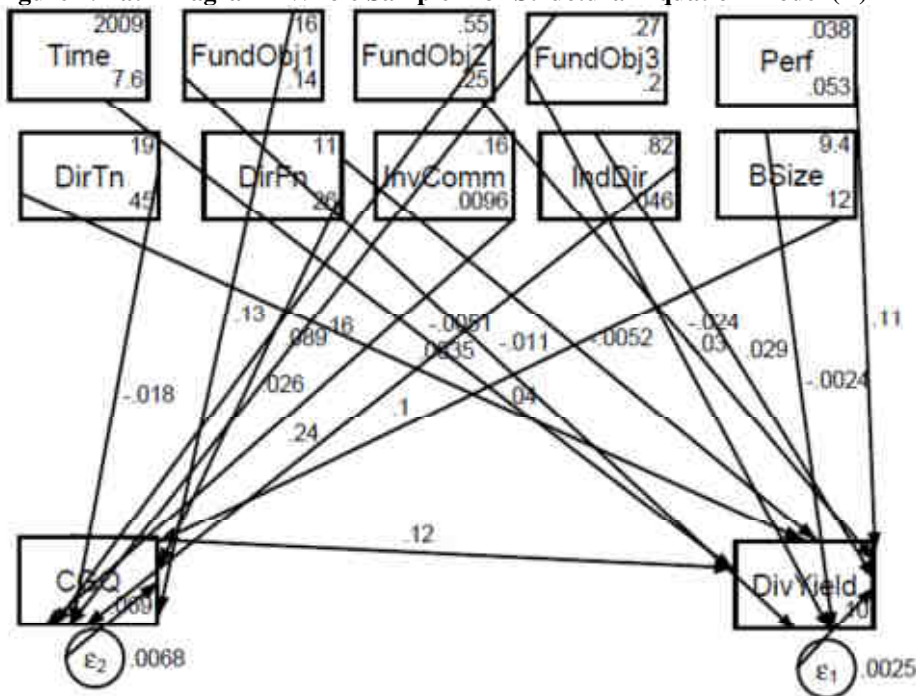
**Table 4. Path Coefficients - Whole Sample (p value of the t tests in parentheses)**

	Model (A)		Model (B)	
<b>Panel A: The Effect of Corporate Governance on Mutual Fund Dividend Policy</b>				
<b>DivP</b>				
CGQ	0.1232**	(0.003)	0.8753	(0.280)
Time	-0.0051***	(0.000)		
FundObj1	-0.0114	(0.731)	0.3096	(0.632)
FundObj2	-0.0236	(0.457)	-0.1974	(0.750)
FundObj3	-0.0302	(0.350)	0.4217	(0.503)
Perf	0.1105***	(0.000)	1.3080***	(0.000)
BSize	-0.0024	(0.273)	-0.1041*	(0.014)
IndDir	0.0292	(0.145)	-0.3032	(0.433)
DirFn	-0.0052***	(0.000)	-0.0845***	(0.001)
DirTn	0.0035***	(0.001)	0.0924***	(0.000)
Constant	10.2900***	(0.000)	1.0026	(0.163)
<b>Panel B: The Effect of Board Structure on Corporate Governance Index</b>				
<b>CGQ</b>				
FundObj1	0.1279*	(0.019)	0.1279*	(0.019)
FundObj2	0.0892	(0.090)	0.0892	(0.090)
FundObj3	0.1644**	(0.002)	0.1644**	(0.002)
BSize	0.0396***	(0.000)	0.0396***	(0.000)
IndDir	0.1014**	(0.002)	0.1014**	(0.002)
InvComm	0.2429*	(0.011)	0.2429*	(0.011)
DirFn	0.02604***	(0.000)	0.02604***	(0.000)
DirTn	-0.0175***	(0.000)	-0.0175***	(0.000)
Constant	0.0691	(0.277)	0.0691	(0.277)
var(e.DivYield)	0.0025			
var(e.CGQ)	0.0068			
var(e.DivFreq)	0.9567			
var(e.CGQ)	0.0068			
Observations	208		208	

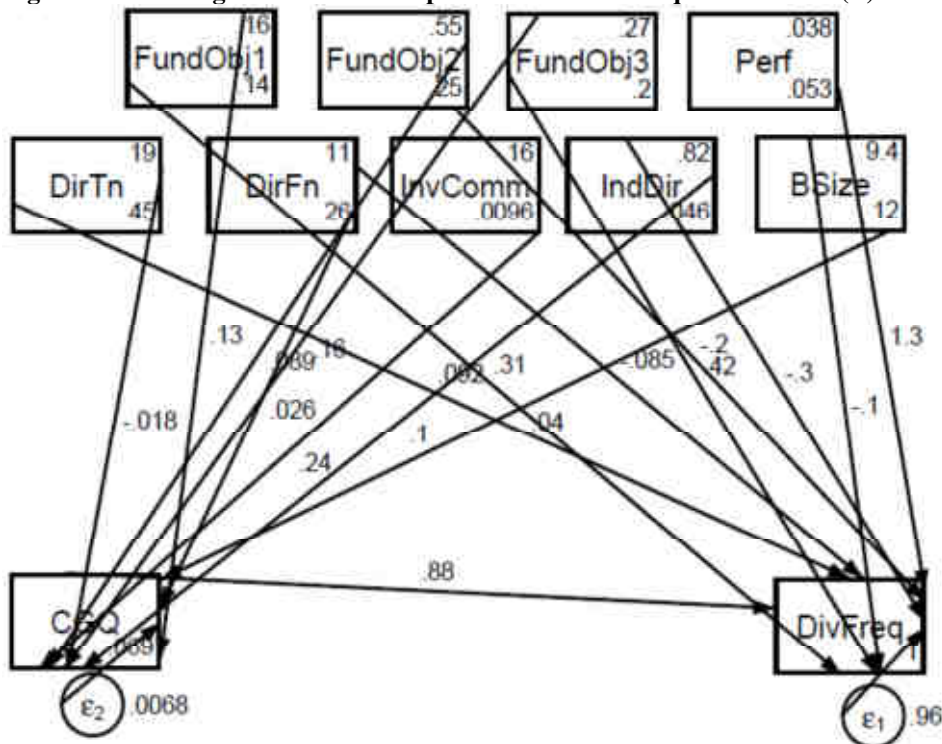
Note: This table provides results from SEM of the effect of corporate governance on dividends policy (measured by dividend yield, and dividend frequency) for the sample of 27 funds from (2004-2013). A robust t-statistics test is conducted, and p-values are in parentheses. Columns (2) and (4) provide p-values. Columns (1) and (3) present the path coefficients for the two models. \* Statistical significance at 10% level. \*\* Statistical significance at 5% level. \*\*\* Statistical significance at 1% level.



**Figure 1. Path Diagram - Whole Sample - for Structural Equation Model (A)**



**Figure 2. Path Diagram - Whole Sample - for Structural Equation Model (B)**



The Direct, Indirect and Total Effects

Table (5) demonstrates direct, and indirect effects among all variables in the Structural Equation Model. It includes two panels (A), and (B).

**Table 5. Summary of Direct and Indirect Effects of Structural Equation Model**

Direct Effects	Model (A)		Model (B)		Indirect Effects				
	(1)	(2)	(1)	(2)	Model (A)		Model (B)		
					(1)	(2)	(1)	(2)	
<b>Panel A: The Effect of Corporate Governance on Dividend Policy</b>									
<b>DivP</b>					<b>DivP</b>				
CGQ	0.12320	0.003	0.8753	0.280	CGQ				
Time	-0.00513	0.000			Time				
FundObj1	-0.01137	0.731	0.3096	0.632	FundObj1	0.0158	0.066	0.1120	0.327
FundObj2	-0.02363	0.457	-0.1974	0.750	FundObj2	0.0110	0.141	0.0781	0.363
FundObj3	-0.03017	0.350	0.4217	0.503	FundObj3	0.0203	0.032	0.1439	0.308
Perf	0.11050	0.000	1.3089	0.000	Perf				
BSize	-0.00238	0.273	-0.1041	0.014	BSize	0.0049	0.004	0.0347	0.281
IndDir	0.02921	0.145	-0.3032	0.433	IndDir	0.0125	0.032	0.0888	0.308
InvComm					InvComm	0.0299	0.053	0.2126	0.320
DirFn	-0.00522	0.000	-0.0845	0.001	DirFn	0.0032	0.004	0.0228	0.282
DirTn	0.00353	0.001	0.0924	0.000	DirTn	-0.0022	0.004	-0.0154	0.282
<b>Panel B: The Effect of Board Structure on Corporate Governance Index</b>									
<b>CGQ</b>					<b>CGQ</b>				
FundObj1	0.1280	0.019			FundObj1				
FundObj2	0.0892	0.090			FundObj2				
FundObj3	0.1644	0.002			FundObj3				
BSize	0.0396	0.000			BSize				
IndDir	0.1015	0.002			IndDir				
InvComm	0.2429	0.011			InvComm				
DirFn	0.0260	0.000			DirFn				
DirTn	-0.0176	0.000			DirTn				

Note: This table provides summary of direct, and indirect effects from SEM of the effect of corporate governance on dividend policy of the Egyptian mutual fund for the sample of 27 funds from (2004-2013).

Panel A: The Effect of Corporate Governance on Mutual Fund Dividend Policy

Panel (A) demonstrates several significant direct, indirect, and total effects. Firstly Time, Perf, and DirFn have significant direct influence on DivP. Secondly, DirFn has significant indirect influence on DivP through the mediating effect of CGQ (DirFn → CGQ → DivP). Finally, Time, Perf, and DirFn have significant total influence on DivP. The Structural Equation Model indicates that evaluation of total effects on the determination of DivP arise from the combination of direct and indirect effects of the variables in the model.

Panel B: The Effect of Board Structure on Corporate Governance Index

Panel (B) demonstrates several significant direct, indirect, and total effects. Firstly, BSize, IndDir, InvComm, DirFn, and DirTn have a significant direct influence on CGQ. Secondly, BSize, IndDir, InvComm, DirFn, and DirTn have a significant total influence on CGQ. The Structural Equation Model indicates that evaluation of total effects on the determination of CGQ arises from the direct effects of the variables in the model only because there are no indirect effects of the variables in this model.

#### 4.3 The Goodness of Fit

The fit indices shown in Table (6) indicate that the hypothesized structural model provides a good fit to the data. In this study, the (R-squared) values of the endogenous variables in Table (7) range from 0.39 and 0.76 and the overall (R-squared) value is 0.85 for model (A), the (R-squared) values range from 0.32 and 0.76 and the overall (R-squared) value is 0.83 for model (B), these values fall within the acceptable range compared with other studies in the area of financial management research.

**Table 6. Structural Equation Model Fit Measure Assessment**

Fit Statistics	Model (A)	Model (B)	Description
	Value	Value	
Likelihood ratio			
chi2_ms	1.577	0.792	model vs. saturated
p > chi2	0.665	0.673	
chi2_bs	400.197	375.389	baseline vs. saturated
p > chi2	0.000	0.000	
Population error			
RMSEA	0.000	0.000	Root mean squared error of approximation
90% CI, lower bound	0.000	0.000	
upper bound	0.091	0.105	
pclose	0.809	0.786	Probability RMSEA ≤ 0.05
Information criteria			
AIC	2804.669	3090.020	Akaike's information criterion
BIC	2878.095	3160.108	Bayesian information criterion
Baseline comparison			
CFI	1.000	1.000	Comparative fit index
TLI	1.026	1.032	Tucker-Lewis index
Size of residuals			
SRMR	0.004	0.004	Standardized root mean squared residual
CD	0.852	0.826	Coefficient of determination

Note: This table provides summary of goodness of fit index.

**Table 7. Summary of (R-squared)**

Model (A)						
Dep vars	fitted	Variance predicted	Residual	R-squared	mc	mc2
observed						
DivYield	0.004096	0.0015928	0.0025036	0.3888358	0.623567	0.388836
CGQ	0.028086	0.0213018	0.0067841	0.758451	0.870891	0.758451
overall				0.8517892		

mc = correlation between depvar and its prediction

mc2 = mc<sup>2</sup> is the Bentler-Raykov squared multiple correlation coefficient

Model B						
Dep vars	fitted	Variance predicted	Residual	R-squared	mc	mc2
observed						
DivFreq	1.399102	0.4424169	0.956685	0.316215	0.56233	0.316215
CGQ	0.028086	0.0213018	0.006784	0.758451	0.870891	0.758451
overall				0.8259641		

mc = correlation between depvar and its prediction

mc2 = mc<sup>2</sup> is the Bentler-Raykov squared multiple correlation coefficient

## 5 Conclusion

Achieving the aim of this study contributes to the finance literature at three levels, theoretical, methodological and empirical levels. At the theoretical level, this study uses agency theory to explain the relationship between corporate governance and dividend policy. The empirical evidence point out that firms with better governance quality exhibit a stronger propensity to pay dividends. This evidence is in agreement with the prediction of the outcome hypothesis, where shareholders of firms with stronger governance are able to force managers to disgorge more cash. Furthermore, studying the effect of corporate governance on dividend payout policy through a constructed corporate governance index might also add value to this area of investigation. This paper additionally extend the current literature linking governance mechanisms and dividend policies to specifically address an emerging capital market in a country undergoing a transitional period. Prior work in this area has primarily focused on developed capital markets.

At the methodological level, unlike previous studies that have addressed that the relation between corporate governance and firm dividend policy may be spurious because they are endogenously determined and use OLS, 2SLS, 3SLS to overcome this problem (Abdelsalam and El-Masry 2008; Uwuigbe et al., 2015), this

study has achieved the broad objective of developing sophisticated statistical techniques, i.e., structural equation model (SEM) using STATA MP v.13. SEM allows simultaneous evaluation of the sufficiency of the causal model that is proposed to investigate the determinants of mutual fund dividend policy.

At the empirical level, the study provides evidence of a negative association between board size and dividend policy measured by dividend frequency. The study also provides evidence of a positive relationship between the corporate governance index of the fund management company and dividend policy measured by dividend yield. Additionally, the study provides evidence of a positive relationship between mutual fund performance and dividend policy measured by dividend yield and dividend frequency. These findings are consistent with the previous literature.

For future research, the model in this study could be expanded to include more factors such as director compensation, because there is no data available for complex-level director compensation in the Egyptian mutual funds. Thus, this paper suggests that the Egyptian Stock Market should require funds to disclose the total director compensation by the complex rather than per fund. The availability of time series data on director compensation by the complex leads to higher quality compensation data for research on the relationship between compensation and dividend policy.

This paper concludes that most of the hypothesized relationships are supported (e.g. BSize is negatively associated with DivFreq, CGQ is positively associated with DivYield, Perf is positively associated with DivYield and DivFreq, DirTn is negatively associated with CGQ, and InvComm is positively associated with CGQ) and one is not supported (e.g. IndDir is not associated with DivYield, and DivFreq).

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### References

- Abdelsalam, O., & El-Masry, A. (2008). The impact of board independence and ownership structure on the timeliness of corporate internet reporting of Irish-listed companies. *Managerial Finance*, 34, 907-918.
- Abreu, J.F., & Gulamhussen, M.A. (2013). Dividend pay-outs: Evidence from US bank holding companies in the context of the financial crisis. *Journal of Corporate Finance*, 22, 54-65.
- Adaoglu, C. (2000). Instability in the dividend policy of the Istanbul Stock Exchange (ISE) corporations: evidence from an emerging market. *Emerging Markets Review*, 1, 252-270.
- Adjaoud, F., & Ben - Amar, W. (2010). Corporate governance and dividend policy: shareholders' protection or expropriation? *Journal of business finance & accounting*, 37, 648-667.
- Aggarwal, R.K., & Jorion, P. (2010). The performance of emerging hedge funds and managers. *Journal of Financial Economics*, 96, 238-256.
- Agrawal, A., & Knoeber, C.R. (1996). Firm performance and mechanisms to control agency problems between managers and shareholders. *Journal of financial and quantitative analysis*, 31, 377-397.
- Albuquerque, R.A., Brandao Marques, L., Ferreira, M.A., & Matos, P.P. (2015). International corporate governance spill overs: Evidence from cross-border mergers and acquisitions.
- Al-Najjar, B., & Hussainey, K. (2009). The association between dividend pay-out and outside directorships. *Journal of Applied Accounting Research*, 10, 4-19.
- Belden, S., Fister, T., & Knapp, B.O.B. (2005). Dividends and directors: do outsiders reduce agency costs? *Business and Society Review*, 110, 171-180.
- Bhatti, G.A., Tanveer, M., & Sial, M.H. (2015). Conditional Performance Evaluation of Equity Mutual Funds of Pakistan. *Pakistan Journal of Social Sciences (PJSS)*, 35, 681-689.
- Black, B.S., Jang, H., & Kim, W. (2006). Does corporate governance predict firms' market values? Evidence from Korea. *Journal of Law, Economics, and Organization*, 22, 366-413.
- Braun, M.R., & Latham, S.F. (2007). The governance of going private transactions: The leveraged buyout board of directors as a distinctive source of value. *Management Decision*, 45, 866-882.
- Breitung, J., & Lechner, M. (1995). GMM-estimation of nonlinear models on panel data.
- Chae, J., Kim, S., & Lee, E.J. (2009). How corporate governance affects pay-out policy under agency problems and external financing constraints. *Journal of Banking & Finance*, 33, 2093-2101.
- Chan, H.W., Lu, Y., & Zhang, H.F. (2013). The effect of financial constraints, investment policy, product market competition and corporate governance on the value of cash holdings. *Accounting & Finance*, 53, 339-366.
- De Villiers, C., Naiker, V., & van Staden, C.J. (2011). The effect of board characteristics on firm environmental performance. *Journal of Management*, 37, 1636-1663.
- Del Guercio, D., Dann, L.Y., & Partch, M.M. (2003). Governance and boards of directors in closed-end

- investment companies. *Journal of Financial Economics*, 69, 111-152.
- Easterbrook, F.H. (1984). Two agency-cost explanations of dividends. *The American Economic Review*, 74, 650-659.
- Elton, E.J., Gruber, M.J., & Blake, C.R. (2011). An examination of mutual fund timing ability using monthly holdings data. *Review of Finance*, p.rfr007.
- Erkens, D.H., Hung, M., & Matos, P. (2012). Corporate governance in the 2007–2008 financial crisis: Evidence from financial institutions worldwide. *Journal of Corporate Finance*, 18, 389-411.
- Esqueda, O.A. (2016). Signalling, corporate governance, and the equilibrium dividend policy. *The Quarterly Review of Economics and Finance*, 59, 186-199.
- Essen, M., Engelen, P.J., & Carney, M. (2013). Does “Good” Corporate Governance Help in a Crisis? The Impact of Country - and Firm - Level Governance Mechanisms in the European Financial Crisis. *Corporate Governance: An International Review*, 21, 201-224.
- Fama, E.F., & Jensen, M.C. (1983). Separation of ownership and control. *The journal of law and Economics*, 26, 301-325.
- Farinha, J. (2003). Dividend policy, corporate governance and the managerial entrenchment hypothesis: an empirical analysis. *Journal of Business Finance & Accounting*, 30, 1173-1209.
- Ferris, S.P., & Yan, X.S. (2007). Do independent directors and chairmen matter? The role of boards of directors in mutual fund governance. *Journal of Corporate Finance*, 13, 392-420.
- Ferris, S.P., Jagannathan, M., & Pritchard, A.C. (2003). Too busy to mind the business? Monitoring by directors with multiple board appointments. *The Journal of finance*, 58, 1087-1111.
- Francis, B.B., Hasan, I., John, K., & Song, L. (2011). Corporate governance and dividend payout policy: A test using antitakeover legislation. *Financial Management*, 40, 83-112.
- Gao, H., Harford, J., & Li, K. (2013). Determinants of corporate cash policy: Insights from private firms. *Journal of Financial Economics*, 109, 623-639.
- Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. *The Quarterly Journal of Economics*, 107-155.
- Guest, P.M. (2009). The impact of board size on firm performance: evidence from the UK. *The European Journal of Finance*, 15, 385-404.
- Gugler, K., Mueller, D.C., Yurtoglu, B.B., & Zulehner, C. (2003). The effects of mergers: an international comparison. *International journal of industrial organization*, 21, 625-653.
- Huber, M., & Mellace, G. (2015). Sharp bounds on causal effects under sample selection. *Oxford Bulletin of Economics and Statistics*, 77, 129-151.
- Hussainey, K., Oscar Mgbame, C., & Chijoke-Mgbame, A.M. (2011). Dividend policy and share price volatility: UK evidence. *The Journal of risk finance*, 12, 57-68.
- Hwang, L.S., Kim, H., Park, K., & Park, R.S. (2013). Corporate governance and pay-out policy: evidence from Korean business groups. *Pacific-Basin Finance Journal*, 24, 179-198.
- Jensen, M.C., & Meckling, W.H. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Journal of financial economics*, 3, 305-360.
- Jensen, M.C., & Murphy, K.J. (1990). Performance pay and top-management incentives. *Journal of political economy*, 98, 225-264.
- Jiraporn, P., & Ning, Y. (2006). Dividend Policy, Shareholder Rights, and Corporate Governance (Digest Summary). *Journal of Applied Finance*, 16, 24-36.
- Jiraporn, P., Kim, J.C., & Kim, Y.S. (2011). Dividend pay-outs and corporate governance quality: An empirical investigation. *Financial Review*, 46, 251-279.
- John, K., & Knyazeva, A. (2006). Pay-out policy, agency conflicts, and corporate governance.
- Jones, C.P. (2007). *Investments: analysis and management*. John Wiley & Sons.
- Klapper, L.F., & Love, I. (2004). Corporate governance, investor protection, and performance in emerging markets. *Journal of corporate Finance*, 10, 703-728.
- Klein, A. (1998). Firm performance and board committee structure. *The Journal of Law and Economics*, 41, 275-304.
- Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of accounting and economics*, 33, 375-400.
- Kumar, J. (2006). Corporate governance and dividends pay-out in India. *Journal of Emerging Market Finance*, 5, 15-58.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of financial economics*, 58, 3-27.
- Lassoued, N., & Elmir, A. (2012). Portfolio selection: does corporate governance matter? *Corporate Governance: The international journal of business in society*, 12, 701-713.
- Lefort, F., & Walker, E. (2005). The effect of corporate governance practices on company market valuation and



- pay-out policy in Chile.
- Michaely, R., & Roberts, M. (2006). Dividend smoothing, agency costs, and information asymmetry: Lessons from the dividend policies of private firms. *Working paper*.
- Nam, J., Wang, J., & Zhang, G. (2004). The impact of dividend tax cut and managerial stock holdings on firm's dividend policy.
- Officer, M. (2007). Dividend initiations, corporate governance, and agency costs. *Working paper, University of Southern California*.
- Porta, R.L., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R.W. (1998). Law and finance. *Journal of political economy*, 106, 1113-1155.
- Renneboog, L., & Szilagyi, P.G. (2008). Corporate restructuring and bondholder wealth. *European Financial Management*, 14, 792-819.
- Renneboog, L., & Szilagyi, P.G. (2011). The role of shareholder proposals in corporate governance. *Journal of Corporate Finance*, 17, 167-188.
- Riaz, S., Liu, Y., & Ahmad, M.I. (2016). Dividend Policy and Corporate Governance Perspective. *Accounting and Finance Research*, 5, 77.
- Sharpe, W.F. (1966). Mutual fund performance. *The Journal of business*, 39, 119-138.
- Shleifer, A., & Vishny, R.W. (1997). A survey of corporate governance. *The journal of finance*, 52, 737-783.
- Uwuigbe, U., Uwuigbe, O.R., & Bernard, O. (2015). Assessment of the effects of firms' characteristics on earnings management of listed firms in Nigeria'. *Asian economic and financial review*, 218-228.