Factors affecting dividends policy:
An Empirical Investigation of Real Estate
Sector Listed in EGX

العوامل المؤثرة علي سياسة توزيعات الأرباح: دراسة تجريبية لقطاع
العقارات المدرجة في البورصة المصرية

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Abstract:

The aim of this paper is to examine the dividends policy determinants in real estate, property, and building construction companies listed on the Egyptian Stock Exchange (EGX) over the period 2012-2020. The study utilizes panel data analysis. The model will be tested by three statistical analysis methods which are: (1) Panel least squares regression which provides a useful benchmark, (2) two-step generalized methods of moments (GMM) to control for endogeneity, and (3) dynamic GMM in first differences to correct for any omitted variables. The results showed that there is a positive and significant relationship between dividends policy and each of the firm profitability, firm financial leverage and firm liquidity. While, there is a negative

and significant relationship between the dividends policy and the firm life cycle. The results provide a thorough understanding of the effects of firm-specific factors on corporate dividends decisions in the Egyptian market.

Keywords: Dividends Policy, Dividends Per Share, Life Cycle, Profitability, Liquidity, Financial Leverage, Real Estate, Egyptian Stock Exchange, Dividends Decisions, Emerging Markets, Egypt.

المستخلص:

تهدف هذه الدراسة إلى دراسة محددات سياسة توزيعات الأرباح في شركات العقارات المدرجة في البورصة المصرية خلال الفترة من ٢٠١٢–٢٠٢٠،وتم استخدام ثلاث طرق للتحليل الإحصائي وهي: (١) انحدار المربعات الصغرى ، (٢) طرق معممة من خطوتين (two step GMM) للتحكم في التجانس ، و (٣) ديناميكية GMMفي الاختلافات الأولى لتصحيح أي متغيرات محذوفة . وقد أظهرت النتائج أن هناك علاقة إيجابية ومؤثرة بين سياسة توزيعات الأرباح وكلاً من ربحية الشركة والرافعة المالية للشركة وسيولة الشركة، بينما هناك علاقة سلبية ومؤثرة بين سياسة توزيعات الأرباح ودورة حياة الشركة ، وتوفر النتائج فهمًا شاملاً لتأثيرات العوامل الخاصة بالشركات على قرارات توزيعات أرباح الشركات في السوق المصري.

الكلمات الافتتاحية : سياسة توزيعات الأرباح ، توزيعات الأرباح لكل سهم ، دورة حياة الشركات ، الربحية ، السيولة ، الرافعة المالية ، العقارات ، البورصة المصرية ، قرارات توزيع الأرباح ، الأسواق الناشئة ، مصر .

1. Introduction:

The financial markets are viewed as a critical element since they act as the main channel of communication between businesses and users of accounting information. Many researchers have studied the financial decisions that aim to maximize a corporation's value. Recent changes in the economics and financial field have driven companies to search for ways and methods that enable them to continue to achieve acceptable levels of performance, especially financial performance. One of the most crucial financial choices that can impact a company's financial performance is its dividends policy. If a company's investment decisions are based on the cash flow from operations, then dividends are regarded as a significant factor that influences both the self-financing process and the company's investment decisions. These decisions may also have an impact on the investment opportunities that are available to the company.

Given that decisions regarding dividends have a significant impact on overall company strategy and on the firm value, the firm-specific variables that affect dividends policy are crucial, especially for finance managers who are responsible for developing the best policies. By identifying these factors, corporate policy makers may consider their dividends policies, evaluate them against competitors, and better distribute corporate earnings to maximize firm value. Habumugisha and Mulyungi (2018) found a significant positive correlation between the performance of the stock price and dividends payout and dividends per share. The findings of Widiyanti et al. (2019) showed that some factors including dividends policy had a negative impact on earnings per share. According to Ebire et al. (2018), the dividends pay-out ratio had a significant impact on company performance.

Dividends policy is controversial. Black (1976) states that, "if you look closely at the picture of the dividends, it looks like a jigsaw puzzle where the pieces don't fit." Since then, the amount of theoretical and empirical research on dividends policy have increased dramatically. Many reasons exist why companies should pay or not to pay dividends. Yet figuring out why companies pay dividends and investors pay attention to dividends that is the "dividends puzzle" is still challenging.

Some companies prefer to pay dividends to send a well-defined, powerful significance about a company`s future predictions and performance, and its keenness and capacity to pay constant dividends over period provides concrete evidence of financial strength. One of the simplest ways for companies to promote goodwill among their shareholders, push demand for the stock, and communicate financial reassurance and shareholder value is through paying dividends. In contrast, other companies choose not to pay dividends especially companies that expand quickly typically will not make dividends payments. This is because it is financially wise to reinvest cashback in the business during key periods of growth. But even well-established companies often reinvest their profits to fund new initiatives, buy other companies, or pay off debt. All of this activity tends to raise stock prices. In addition, sometimes the decision not to pay dividends may be more favorable to investors from a tax perspective.

Financial economists have looked at how firm-specific variables like profitability, debt, growth, and size affect dividends payment decisions in various markets and have tried to tie these variables to dividends policy theories in this regard (see, for example, Fama and French 2001; Okafor, O. N., & Warsame, H. A. 2013; Issa, A. 2015; Kuzucu, N. 2015; Labhane, N. B., & Mahakud, J. 2016;Yusof & Ismail 2016; Waheed-Ur-Rehman, D. et al. 2021). Historically, the majority of dividends research

concentrated on developed markets, but relatively lately, considerable attention has switched to developing markets.

The aim of this paper is to study the determinants of dividends policy in real estate firms listed in the Egyptian Stock Exchange (EGX) during the period 2012- 2020. The dividends policy determinants examined in the paper are lifecycle, profitability, liquidity and financial leverage.

The real estate sector is chosen for its unique characteristics. The real estate sector has 9 % of the total market capitalization of the EGX (EGX report 2022). The real estate industry makes a significant contribution to the expansion of the national economy because it is closely related to other industrial sectors, such as the manufacturing, logistics, and service industries, as well as the banking and financial sector through the use of housing loans. The creation of real estate, buildings, and other structures increases job opportunities.

This study, hence, contributes to the dividends literature in several ways. First, previous empirical studies have focused mainly on developed economies. This study examines the relationship between determinants of dividends policy from the context of a developing country, by focusing specifically on firms listed on the Egyptian Stock Exchange. Second, this paper utilizes comprehensive empirical models, alternative econometric techniques, and a recent large-scale dataset (during 2012-2020), in which the most recent findings are reported regarding the associations between firm characteristics and corporate dividends decisions of Egyptian listed firms of "Real Estate Sector". Third, by providing a thorough understanding of the effects of firm-specific factors on corporate dividends decisions in the Egyptian market, the research findings assist corporate managers, investors, and other researchers who are looking for meaningful recommendations from the related literature.

2. Research Problem:

Although the determinants of dividends policy have been studied for decades, there is no agreement on which variables influence the willingness to pay dividends. When studying the determinants of dividends policy, researchers focus on factors such as dividends yield, dividends payout ratio (DPR), or willingness to pay dividends, however the results are sometimes conflicting. Historically, the majority of dividends research concentrated on developed markets, but relatively lately, considerable attention has switched to developing markets.

There are two main reasons for this study. First, the lack of prior studies on dividends determinants in developing companies, generally, and in Egypt, specifically. Second, the contradictions of recent findings on the determinants of dividends policy in other developing markets like (Saudi Arabia, Morocco, Malaysia and Turkey). Thus, this study examines the determinants of dividends policy in the Egyptian stock exchange at one of the most important sectors in the EGX which is the "Real Estate Sector".

The current study is trying to answer the following questions:
Q1: Does firm life cycle affect dividends policy in Egyptian real estate companies?
Q2: Does firm profitability affect dividends policy in Egyptian real estate companies?
Q3: Does firm liquidity affect dividends policy in Egyptian real estate companies?
Q4: Does firm financial leverage affect dividends policy in Egyptian real estate companies?

3. Research Objectives:

Financial economists have looked at how firm-specific variables like profitability, debt, growth, and size affect dividends payment decisions in various markets and have tried to tie these variables to dividends policy theories in this regard (see, for example, Fama and French 2001; Okafor, O. N., & Warsame, H. A. 2013; Issa, A. 2015; Kuzucu, N. 2015; Labhane, N. B., & Mahakud, J. 2016; Yusof & Ismail 2016; Waheed-Ur-Rehman, D. et al. 2021). Historically, the majority of dividends research concentrated on developed markets, but relatively lately, few researches concentrated on developing markets.

This research extent literature by examining the determinants of dividends policy from the context of a developing country, by focusing specifically on firms listed on the Egyptian Stock Exchange. Thus, this research tries to give a thorough understanding of the effects of firm-specific factors on dividends policy decisions in the Egyptian stock market.

The research objectives are:

1. Measure and explain the relationship between firm life cycle and dividends policy in the Egyptian stock exchange.

2. Measure and explain the relationship between firm profitability and dividends policy in the Egyptian stock exchange.

3. Measure and explain the relationship between firm liquidity and dividends policy in the Egyptian stock exchange.

4. Measure and explain the relationship between firm financial leverage and dividends policy in the Egyptian stock exchange.

This paper is organized as follows. Section four reviews the theoretical and empirical literature that studied the determinants of the dividends policy. Section five discusses the model, data and methodology. Section six presents and discusses the results of the empirical analysis. Finally, section seven presents the conclusion of the paper and provides policy recommendation.

4. Literature Review:

This section is divided into two parts; the first part presents a brief on the dividends policy theories, and the second parts reviews the empirical studies that tackled the determinants of dividends policy, namely, earned/contributed capital mix (life cycle), profitability, liquidity and financial leverage.

4.1. Dividends Policy Theories:

The fundamental principles of the dividends policy of companies can be described either in terms of **information asymmetries, the tax-adjusted theory, or behavioral factors.**

4.1.1. Information asymmetries:

The information asymmetries encompass several aspects, including the *signaling models, agency cost, and the free cash flow hypothesis*. Akerlof (1970) defines *signaling effect* as a unique and concrete signaling equilibrium through which job seekers signal their quality to potential employers. The developed scenario is used in the labor market, but researchers use it to make financial decisions. Signaling theory suggests that corporate dividends policies, which are used as a means of delivering quality messages, are cheaper than other options. This means that using dividends as a signal indicates that alternative signaling methods are limited and not a complete alternative (Miller and Rock, 1985; Rodriguez, 1992).

Agency theory seeks to explain a company's capital structure as a result of attempts to minimize the costs associated with the separation of ownership and control. Agency costs are lower in firms that have more placement of stakeholder and management controls which means high managerial ownership incentives (Jensen and Meckling, 1976). The possibility of transferring wealth from bondholders to shareholders is another issue for agency issue related to information asymmetry. Potential conflicts between shareholders and bondholders can be mitigated through claims priority agreements. According to Fama and Jensen (1983), disputes can be avoided by paying shareholders large dividends. Debt obligations are needed to minimize dividends payments to prevent the transfer of wealth from bondholders to shareholders (John and Kalay, 1982). Another way that dividends policies affect agency costs is to reduce agency costs through increased supervising by capital markets.

According to the *free cash flow indicator*, Jensen (1986) states that the residual funds after funding all projects with a positive NPV create a conflict of interest between managers and shareholders. Dividends and debt interest payments reduce the free cash flow available to managers to invest in marginal net present value projects and manager perquisite consumption.

4.1.2. The tax-adjusted theory assumes that the investor demands and fixes the higher expected return of the stock from the dividends- paying stocks. The result of tax-adjusted theory is to divide the investor into dividends tax customers. Modigliani (1982) argues that **clientele effect** is responsible for changes in portfolio composition. As part of that, the Masulis and Trueman (1988) model predicts that investors with different tax obligations will not be uniform in their ideal fixed dividends policy. They conclude that as tax obligations increase (decrease), dividends payments decrease (increase) and profit reinvestment increases (decreases). The tax-adjusted model also assumes that investors will maximize their after-tax income. According to

Farrar and Selwyn (1967), in a partial equilibrium framework, individual investors choose the level of leverage for individuals and companies and choose whether to receive corporate distributions as dividends or capital gains. Tax adjustment theory has been criticized for being inconsistent with rational behavior. Dividends payments can be seen as a socio-economic consequence of corporate development. Frankfurt and Lane (1992) show that due to the asymmetry of information between management and shareholders, dividends are paid to make stock issuance more attractive.

4.1.3. Behavioral factors can influence dividends policy as well. According to Michel (1979), the systematic relationship between industry type and dividends policy means that management is influenced by the behavior of competitors' management when deciding how much to pay dividends. Management can increase or pay dividends to satisfy investors when they realize that shareholders desire dividends. Frankfurt and Lane (1992) argue that paying dividends is partly a tradition and partly a way to ease investor anxiety. Dividends payments to shareholders are meaningful of the relationship between management and owners and significant for improving the stability of the company. To understand what drives the dividends payment policy, Brav et al. (2005) conducted a detailed survey of 384 executives in the financial sector and the results showed that management strongly believes that investors are using dividends level as a useful signal of the company's value and its ability to maintain stable cash flow over the long term. Baker and Wurgler (2004) developed a behavioral framework that explicitly includes these motivations. Their model is a signal game between managers and company investors who hate losses and cannot benefit from dividends cuts.

4.2. Empirical Literature and Hypotheses Development:

Dividends are the portions of the company's profits that are given to shareholders in proportion to the number of shares owned. Cash or shares may be distributed as dividends. Dividends are a profit-sharing arrangement between shareholders and the corporation in proportion to the number of shares each shareholder owns.

The dividends policy determines whether corporate income from operational outcomes will be reinvested or distributed to shareholders (investors). The dividends payout ratio (DPR) or dividends per share (DPS) reflects the dividends policy.

Profitability, risk, cash flow, financial leverage, agency cost, and sales growth are a few factors that have been found to affect a company's dividends policy in prior empirical studies (see Higgins, 1981; Jensen et al., 1992; Amidu, M. and Abor, J., 2006; Abor, J., & Bokpin, G. A. 2010 ;Issa, A. 2015; Manneh, M. A., & Naser, K. 2015; Louziri, R., & Oubal, K. 2022).

Specifically, DeAngelo et al. (2006) found that, after controlling for profitability, sales growth, firm size, total equity, cash balances, and dividends history, there is a highly significant relationship between the decision to pay dividends and the mix of earned and contributed capital. This relationship holds for both dividends initiations and omissions. The life-cycle explanations for dividends advanced by Fama and French (2001), Grullon et al. (2002), and DeAngelo and DeAngelo (2006) all depend, implicitly or explicitly, on the trade-off between the benefits (such as the savings from flotation expenses) and the costs of retention (e.g., agency costs of free cash flow).

4.2.1. Life Cycle (Earned/Contributed capital mix):

Denis and Osobov (2008) looked at cross-sectional and time-series data on the likelihood of dividends payments in six developed financial markets (the United States, Canada, the United Kingdom, Germany, France, and Japan) from 1989 to 2002. They discover that the chance of paying dividends is related to the company's size, sales growth prospects, and profitability, much like Fama and French (2001). The possibility of paying dividends is closely related to the proportion of retained earnings to total equity in all six countries. The percentage of companies that pay dividends is high when this ratio is high and low when retained earnings are negative. Their data supports the U.S. findings provided by DeAngelo et al. (2006) that aggregate dividends do not decline with time but instead are concentrated among the largest and most profitable companies. This result is in line with the life-cycle theory's prediction. The life-cycle idea states that corporations tend to pay out higher dividends when they have accumulated more earnings at a later stage of maturity.

Through survey research, Baker and Powell (2012) and Baker and Kapoor (2015) examine dividends policy and provide their findings in accordance with the life cycle theory of dividends. As a result, it is anticipated that RE/TA, a proxy for firm life cycle, will have a positive relationship with dividends payments (DeAngelo et al., 2006; Thanatawee, 2011).

From the above-mentioned studies, the following hypothesis is proposed:

H_{01}: There is no significant relationship between dividends policy and firm life cycle in Egyptian real estate companies.

H_{A1}: There is significant relationship between dividends policy and firm life cycle in Egyptian real estate companies.

4.2.2. Profitability:

Profits are often thought of as the key indicator of a company's ability to pay dividends. Profits from the current and previous fiscal years play a significant role in determining dividends payments. According to Sharma & Bakshi (2019), a company's profitability is defined as its power to produce profits, from which net profit is calculated to decide the dividends payout rate.

Harada, K., & Nguyen, P. (2011) and Kuzucu (2015) categorize profitability as a factor with negative influence on corporate dividends policy. In contrast, AL-Kuwari (2010) stated government ownership and profitability of firms raise the possibility of paying dividends. Ji-ming et al. (2009) found that there is strong relationship between dividends payout and return on equity and earning per share. Profitability has a positive impact on dividends policy (Jensen & Meckling, 1976; Sharma & Bakshi, 2019). According to Adil et al. (2011), dividends yield have a significant association with profitability as indicated by return on equity and earnings per share. In addition, Amidu and Abor (2006), Bokpin (2011), Patra et al. (2012), and Botoc and Pirtea (2014) detect profitability as a factor with a positive influence on corporate dividends policy.

From the above-mentioned studies, the following hypothesis is proposed:

H_{02}: There is no significant relationship between dividends policy and firm profitability in Egyptian real estate companies.

H_{A2}: There is significant relationship between dividends policy and firm profitability in Egyptian real estate companies.

4.2.3. Liquidity:

The ability of a corporation to fulfil its short-term obligations is known as liquidity (Zutter & Smart, 2019). Liquidity, according to Sharma & Bakshi (2019), relates to how efficiently current assets may be used to cover short-term owing liabilities.

Dividends disbursements are significantly influenced by the liquidity or cash-flow status. Lack of cash results in a less generous dividends in case of poor liquidity condition.

The "liquidity theory of dividends," as Banerjee et al. (2007) described it, highlights a negative relationship between dividends policy and liquidity and is confirmed by Zhiqiang et al (2015). In the Indian setting for stock dividends, Baker and Kapoor's (2015) research likewise reveals strong support for the liquidity hypothesis.

From the above-mentioned studies, the following hypothesis is proposed:

H03: There is no significant relationship between dividends policy and firm liquidity in Egyptian real estate companies.

HA3: There is significant relationship between dividends policy and firm liquidity in Egyptian real estate companies.

4.2.4. Financial leverage:

The ratio of a company's obligations to its equity is known as financial leverage (Sari, 2017). Financial leverage, on the other hand, depicts a company's capital structure in relation to its liabilities and equity to its assets, according to Zutter & Smart (2019). Higher levels of liabilities will result in higher costs for the liabilities, while lower levels will result in lower net income and lower dividends rates, and vice versa (Rehman, 2012; Zutter & Smart, 2019).

In line with the findings of Abor and Bokpin (2010) indicate that leverage, debt, and external funding are less important determinants of dividends policy. However, the dividends payout rate for shareholders is negatively affected by the capital structure's debt to equity ratio (DER) (Alzomaia & Al-Khadhiri, 2013). Leverage is a key factor in determining the dividends policy of corporations, according to Bokpin (2011), Patra et al. (2012), and Arko et al. (2014). In Malaysia, corporate dividends policy is found to be negatively influenced by debt, according to Yusof and Ismail 2016; Wahjudi, E. 2020).

From the above-mentioned studies, the following hypothesis is proposed:

H_{04}: There is no significant relationship between dividends policy and firm financial leverage in Egyptian real estate companies.

H_{A4}: There is significant relationship between dividends policy and firm financial leverage in Egyptian real estate companies.

5.   Data & Methodology:

This section examines empirically the determinants of dividends policy in the real estate sector through studying the financial statements of real estate firms listed in the Egyptian Stock Exchange. This section is divided into four parts. The first part displays the data employed, the second part presents the model used, the third part discusses the methodology adopted in the empirical analysis and the fourth part reports the empirical results.

5.1. Data Collection:

The data used are secondary data obtained from website address: www.investing.com.The data encompasses real estate, property, and building construction companies listed on the EGX over the period 2012–2020.

In this study, the dependent variable is the dividends policy. Dividends policy is a plan of action to be followed in making dividends decisions on real estate companies listed on the EGX during the period 2012–2020. The dividends policy in this study is proxied using Dividends per share (DPS). The Dividends per share (DPS) = total dividends paid / total shares outstanding.

The independent variables are as follows:

1. **Life Cycle (CYCLE):** The life-cycle hypothesis posits that firms in maturity stage with higher accumulated profits tend to pay higher dividends. Thus, RE/TE, a proxy for firm's life cycle, is predicted to have a positive relation with dividends payouts.

2. **Profitability (PROF):** Earnings per Share is used to proxy for firm profitability. EPS is the operating income divided by the weighted average number of outstanding common shares. Firms with higher profitability should be more able to generate free cash flows and thus make higher dividends payments. Thus, free cash

flow hypothesis predicts a positive relation between profitability and dividends payouts.

3. **Liquidity (LIQ)** is the company's ability to meet its short-term obligations on time. Liquidity in this study is proxied using the current ratio (CR). The higher the level of liquidity, the greater will be the ability of firms to pay dividends to shareholders. The current ratio compares a firm's current assets to its current liabilities, and is expressed as follows: Current ratio = Current Assets/Current Liabilities.

4. **Financial Leverage (LEV):** Leverage in this study is proxied using the Debt ratio (DR). The debt ratio is the total debt divided by book value of total assets. Since firms with higher debt ratio are more likely to be financially constrained and should be less able to pay dividends, hence, the free cash flow hypothesis predicts a negative relation between debt ratio and dividends payouts.

The calculations of the relevant variables are shown below in **table (1)** which presents the variables, their formula, and references.

Table (1):
Calculations of the relevant variables

Variable	Measurement Dimension	Equation	References
Dividends Policy (**DP**)	Dividends Per Share (DPS)	$DPS = \dfrac{\text{Total Dividends Paid}}{weighted\ average\ number\ of\ Outstanding\ Shares}$	Azhagaiah, R., & Priya, S. N. (2008)
Life Cycle (**CYCLE**)	RE/TE	$RE/TE = \dfrac{Retained\ Earnings}{Total\ Equity}$	DeAngelo, DeAngelo, and Stulz (2006)
Profitability (**PROF**)	Earnings Per Share (EPS)	$EPS = \dfrac{Earnings\ After\ Tax}{weighted\ average\ number\ of\ Outstanding\ Shares}$	Sharma & Bakshi (2019); Zutter & Smart (2019)
Liquidity (**LIQ**)	Current ratio (CR)	$CR = \dfrac{Curent\ Assets}{Current\ Liabilities}$	Sharma & Bakshi (2019)
Financial Leverage (**LEV**)	Debt to Asset ratio (DR)	$DR = \dfrac{Total\ Liabilities}{Total\ Assets}$	Thanatawee, Y. (2011)

Source: *prepared by the authors.*

5.2. Model Specification:

This paper uses the following model to measure the changes in dividends policy due to the changes in the various firm variables which are firm life cycle, firm profitability, firm liquidity and firm financial leverage. The model will be tested by three statistical analysis methods which are: (1) Panel least squares regression which provides a useful benchmark, (2) two-step generalized methods of moments (GMM) to control for endogeneity, and (3) dynamic GMM in first differences to correct for any omitted variables:

$$DPS_{it} = \beta_0 + \beta_1 RE/TE_{it} + \beta_2\ EPS_{it} + \beta_3\ CR_{it} + \beta_4\ DR_{it} + \varepsilon_{it}$$

Where,

DPS= dividends payout ratio, dependent variable.

RE/TE= retained earnings divided by total equity, proxy for firm life cycle, independent variable.

EPS= earnings per share, proxy for firm profitability, independent variable.

CR= current ratio, proxy for firm liquidity, independent variable.

DR =debt ratio, proxy for firm financial leverage, independent variable.

β = coefficients, **Ɛ** = error term, **t** = time interval.

5.3. Methodology:

5.3.1 Multicollinearity test:

The variance inflation factor (VIF) model is used to test the collinearity between the independent variables of the model. A variable is independent of the other variable if VIF coefficient for any independent variable is equal to one. As a rule of thumb, if the VIF coefficient of the independent variable is greater than five, then it is collinearity with other independent variables (Berenson et al., 2009, p. 492).

5.3.2 Panel unit root test:

Panel unit root test, Levin-Lin-Chu test, is employed. The null hypothesis of this test is that panels contain unit roots against the alternative hypothesis that panels are stationary (Levin et al, 2002).

5.3.3 Hausman Specification Test:

Hausman specification test (1978) is employed to decide between using fixed effects versus random effects. The null hypothesis is that random effect is appropriate.

5.3.4 Panel Estimations:

This paper employs three statistical analysis methods: (1) Panel least squares regression which provides a useful benchmark, (2) two step generalized methods of moments (GMM) to control for endogeneity, and (3) dynamic GMM in first differences proposed by Arellanno and Bond (1991) to correct for any omitted variables, in which the lagged dependent variable is added to the regressors.

6. Empirical Results:

6.1. Multicollinearity test:

Table (2) displays the VIF results emphasizing that each of the independent variables is independent of the other variables.

Table (2):
VIF results

Independent variables	VIF
RE/TE	1.290
EPS	1.189
CR	1.173
DR	1.650

Source: multicollinearity test results.

6.2. Panel unit root test results:

In **Table (3)**, panel unit root test has been examined for all the variables under study at their levels and first differences.

Table (3):

Levin-Lin-Chu unit root test

Variable	Level statistic	Prob.	Order of integration
DPS	- 2.087	0.018	I(0)
RE/TE	1.598	0.945	I(1)
EPS	- 2.797	0.003	I(0)
CR	- 4.053	0.000	I(0)
DR	-19.837	0.000	I(0)

Source: panel test results.

The results reported in **table (3)** above show that all the variables are stationary implying that their order of integration is I(0); except for variable (RE/TE) is not stationary and will be first differenced.

6.3. Hausmann test results:

Table (4) below shows the results of Hausman test.

Table (4):
Hausmann test results

Test Summary	Chi-square statistic	Chi-square degrees of freedom	Prob.
Cross-section random	7.489	4	0.112

Source: Hausman test results.

In **table (4),** the p-value equals (0.112) which is greater than the significance level (0.05), implying that the null hypothesis of using random-effects is not rejected. Hence, the model follows random effects.

6.4. Panel Estimations Results:

In order to confirm the research results, this paper employs three statistical analysis methods which are: (1) Panel least squares regression which provides a useful benchmark, (2) two step generalized methods of moments (GMM) to control for endogeneity, and (3) dynamic GMM in first differences.

The results reported in **Table (5)** below depict the three-panel statistical analysis regression results. The first statistical analysis method which is the random effect panel least squares analysis is significant as noted by the probability of F test statistic is <0.05. Also, both the second and third analysis methods, which are the two-step GMM and the first difference dynamic GMM analysis methods, are valid as noted by the p-value of J-statistic of the Sargan-Hansen test. The Sargan-Hansen test is based on the assumption that model parameters are identified via a priori restrictions on the coefficients, where the null hypothesis is that the over identifying restrictions are valid i.e. instruments are valid instruments uncorrelated with the error term (Sargan, 1958 and Hansen, 1982). Sargan p-value must not be less < 0.05 and > 0.1. The higher the p-value of the sargan statistic the better. Hence in statistical analysis no. (2) and (3), the null hypothesis of Sargan-Hansen test is not rejected as noted by probability of J-statistic 0.375 and 0.425 for statistical analysis no. (2) & (3) respectively, are greater than 0.1.

Table (5):
Panel analysis results

Statistical Analysis Methods	No. (1) Random Effect Least Squares	No. (2) Two Step-GMM	No. (3) First Difference dynamic GMM
	Co-efficient (P-value)	Co-efficient (P-value)	Co-efficient (P-value)
DPS (t-1)			-0.024 (0.115)
RE/TE	-0.106 (0.079)	-0.376 (0.753)	-0.116 (0.003)***
EPS	0.026 (0.000)***	0.179 (0.000)***	0.034 (0.000)***
CR	0.001 (0.007)***	0.005 (0.069)*	0.001 (0.000)***
DR	0.065 (0.046)**	0.369 (0.000)***	-0.200599 (0.000)***
Adj.R-squared	0.118		
Prob(F-statistic)	0.000***		
J-statistic		3.108	14.33
J-(prob)		0.375	0.425

*** Significant at 1%, ** Significant at 5%.
Source: Random effect Panel Regression and GMM results.

In the statistical analysis method no. (3) which is the First Difference Dynamic GMM, the co-efficient of Life Cycle (RE/TE) is negative and significant as noted by the p-value. Hence, firms' life cycle is negatively related to dividends policy of real estate firms. The finding is consistent with what is hypothesized, so the alternative hypothesis H_{A1} is accepted, that there is a significant relationship between firm life cycle and dividends policy.

The negative relationship between firm life cycle and dividends policy can be justified according to Kouser et. al. (2015). They examined the impact of the financial crisis in 2008 on dividends payout policy in Karachi, using life cycle determinants. They found that during the financial crisis (2007-2009), companies used a conservative strategy and focused more on maintaining high liquidity rather than distributing dividends. Profitability variables, firm size and the relationship between investment opportunities and the probability to pay dividends did change significantly due to the financial crisis. Kouser et. al. (2015) concludes that the company's dividends payment decision depends not only on the company's stage in the life cycle, but also on the company's financial position. However, This result is not consistent with the results reported by DeAngelo et al. (2006) and Denis and Osobov (2008) on the life-cycle theory that firms with better earned or contributed equity tend to be more mature. As the company reaches the maturity phase, agency problems are more likely to occur.

The co-efficient of profitability (EPS) is positive and highly significant in all the three statistical analysis methods no. (1), (2) & (3) as noted by the p-value. Hence, firms' profitability is positively related to dividends policy of real estate firms. This result conforms to the results reported by (Alzomaia & Al-Khadhiri ,2013; Patra et al. ,2012; Rehman ,2012; Yusof & Ismail ,2016). The finding is consistent with what is hypothesized, so the

alternative hypothesis H_{A2} is accepted, that there is a significant relationship between firm profitability and dividends policy.

The co-efficient of Liquidity (CR) is positive and highly significant in the all the three statistical analysis methods no. (1), (2) & (3) as noted by the p-value. Hence, firms' liquidity is positively related to dividends policy of real estate firms. This result is consistent with the results reported by (Patra et al. ,2012). The finding is consistent with what is hypothesized, so the alternative hypothesis H_{A3} is accepted, that there is a significant relationship between firm liquidity and dividends policy.

The co-efficient of financial leverage (LEV) is positive and significant in the statistical analysis methods no. (1) & (2) while it is negative and significant in statistical analysis method no. (3). The financial leverage is negatively related to the dividends policy in the first difference GMM which conforms to the results of (Patra et al. ,2012; Yusof and Ismail 2016). However, a possible explanation for the positive co-efficient in the other estimated methods might by due to the trade-off theory of capital structure: as more debts are used, the more profit you get, and more dividends can be paid (Botoc and Pirtea, 2014; Parsian & Koloukhi 2014). The finding is consistent with what is hypothesized, so the alternative hypothesis H_{A4} is accepted, that there is a significant relationship between financial leverage and dividends policy.

4. Conclusion & Policy Recommendations:

The paper examined the dividends policy determinants in the EGX with special emphasis on the real estate sector. Panel data analysis was utilized involving real estate, property, and building construction companies listed in EGX over the period 2012-2020. Panel analysis techniques employed in the study were panel least squares and GMM. The results revealed a positive significant association between the dividend per share (DPS) and each of the firm profitability, firm financial leverage and firm liquidity. While, the dividend per share (DPS) was negatively and significantly associated with the firm life cycle. The real estate firms might have conservative strategy and focused more on maintaining high liquidity rather than distributing dividends. The relationship between firm specific factors and dividends policy is crucial for the decision making of firms' managers and investors.

Dividends policy surrounds many controversies, there is no reason to assume that a company's dividends policy is driven by a single reason. Therefore, the policy recommendation driven from this paper is that portfolio managers and investors need to have a thorough understanding of the firm-specific factors influencing dividends policy; in order to choose businesses with dividends policies that best match their investment goals. When formulating theories and their models to explain corporate dividends behavior, financial scholars and researchers will be able to better understand why some companies pay dividends while others do not by using the information from the analysis of the effects of financial characteristics on corporate dividends decisions. This will add to the body of knowledge in the field of finance pertaining to the debate over dividends policy.

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