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Retained Earnings and Dividends in Real Estate Sector in Egypt

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This study examines the trade-off between retained earnings (REs) and dividends in the Egyptian context to determine whether REs affect dividend policy and payout. Additionally, the study examines how the life cycle of a company influences the aforementioned relationships. The results of a multiple regression analysis indicate that REs are positively and significantly related to dividend policy and payout. However, when the company life cycle is introduced as a moderator, the results suggest a significantly negative relationship. Furthermore, a confirmatory test reveals that lagged REs influence dividend policy and payout. These findings carry significant implications for various stakeholders in Egypt. To the best of the knowledge of the authors, no study has investigated the causal relationship between REs and dividends in the Egyptian real estate context.

Keywords

Dividends, Retained Earnings, Growth, Real Estate Sector, Egyptian Stock Exchange

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1. Introduction

There is an intimate relationship between retained earnings (REs) and dividend policy. The dividend policy of a company is its strategy for determining the amount of earnings to distribute to shareholders and retain for investment. Establishing the right dividend policy poses a challenge for management to achieve maximum shareholder welfare (Hartono and Robiyanto, 2023). The policy delineates the allocation of profits between dividend payments to shareholders and reinvestment in the company (Thirumalaisamy, 2013).

REs represent the portion of net income that management chooses to keep to finance internal operations instead of distributing to shareholders in the form of dividends. In capital-intensive industries, a substantial portion of REs is essential to maintain a competitive position, which covers expenses such as equipment repairs, new equipment acquisition, and maintaining industry competitiveness (Mulama, 2014).

The relationship between REs and dividends is controversial because the literature has examined this relationship from two different viewpoints. Many previous studies (Afza and Mirza, 2010; Thanatawee, 2011; El-Ansary and Gomaa, 2012; Perretti et al., 2013; Singla and Samanta, 2019; Yusra et al., 2019; Sharma, 2021; Cadenovic et al., 2024) consider REs as one of the main determinants for dividend policies and payouts. On the other hand, many other studies, such as Mahakud (2005) and Mulama (2014), show the opposite relationship. Furthermore, different theories have shown different connections between REs and dividends. Mahenthiran et al. (2020) distinguish between mandatory dividends required by law and excess dividends beyond the mandated minimum payout. They show that mandatory dividends are defined in terms of lagged earnings; however, excess dividends are higher in firms with more growth opportunities.

Accordingly, this paper examines whether REs affect dividend policies and payouts, and how company growth influences the aforementioned relationships in real estate firms in Egypt.

The determinants of dividend policies vary across sectors, and identifying the factors that drive dividend payouts for a specific sector is deemed valuable to both the industry and researchers. From the perspective of investors, the real estate sector holds significant potential in terms of dividends and capital appreciation (Singla and Samanta, 2019). Therefore, this study can provide useful insights for investors who seek to understand the drivers of dividend policies, payouts, and REs in the real estate sector. Additionally, it is crucial for companies to establish an appropriate dividend policy to attract and retain investors.

Most research on dividend policies has predominantly focused on developed economies, such as the United States of America (USA) and the United Kingdom (UK). In contrast, only a few studies, including those by El-Ansary and Gomaa (2012), Desoky and Mousa (2019), Andrikopoulos et al. (2020), Budagaga (2020), and Mrzygłód et al. (2021), have explored the dividend-RE policy of firms in emerging markets like Egypt. However, the Egyptian market, being an emerging market, is still deemed inefficient and requires several enhancements (Abdelazim et al., 2023). Therefore, the Egyptian market necessitates proper attention to comprehend the factors that influence this market.

The real estate industry has distinct characteristics as a long-term sector that greatly relies on imported materials, which makes it highly susceptible to fluctuations in exchange rates. Analyzing how companies in this industry manage REs and dividends can offer valuable insights into their risk management strategies. Furthermore, the real estate market in Egypt has witnessed significant development in recent years that is driven by the sustained focus of the government on infrastructure projects and the creation of new cities like the new administrative capital, Al Galala, and New Alamein. Consequently, it becomes crucial to examine whether Egyptian real estate companies prioritize growth opportunities or emphasize rewarding shareholders through dividends. Additionally, the Egyptian government has implemented various reforms and incentives to attract investment in the real estate sector, including the introduction of new laws and regulations to facilitate property ownership and streamline the investment process. This has led to a surge in foreign direct investment in the sector, along with increased interest from local investors who are seeking profitable opportunities. Therefore, studying REs and dividend policies becomes essential for gaining insights into the financial performance, growth prospects, and overall attractiveness of Egyptian real estate companies as investment opportunities.

The remainder of the paper is structured as follows: the next section reviews the theories that elucidate the relationship between dividends and REs. The third section provides a review of the literature on the determinants of dividend policies, as well as the determinants of REs. The fourth section delves into the research methodology employed in this study. Following that, the fifth section elucidates the results obtained. Finally, the last section draws the conclusions and discusses the implications of the findings.

2. Theories that Explain Decisions around Dividends

REs are intricately linked to dividend policies. Nevertheless, it is unlikely for a single theory or determinant to comprehensively explain dividend policies on its own (Dewasiri et al., 2019).

2.1 Dividends Irrelevance Theory

The irrelevance theory in Miller and Modigliani (1961) posits that the value of firms depends on their present and future cash flows, while dividends have no effect on the value of the firm. According to this theory, investors are not concerned with the dividend policy of a company since they can sell a portion of their equity portfolio if they need cash. They are indifferent to whether the returns are from dividends or capital gains.

2.2 Dividends Relevance Theory

The two primary dividend relevance theories are attributed to Walter (1956) and Gordon (1959). First, the bird-in-hand theory in Gordon (1959) suggests that dividends are related to and significantly influence the value of a firm, as investors are risk-averse. Furthermore, Gordon (1959) suggests that firms that pay dividends give the impression of generating a substantial profit and consequently have easy access to the capital markets. Second, Walter (1956) indicates the importance of the relationship between the internal rate of return of a firm and its cost of capital in determining the dividend policy that maximizes the wealth of shareholders.

2.3 Pecking Order Theory

Myers and Majiuf (1984) formulate the pecking order theory for capital structure, and argue that firms prefer REs as their main source of funds, followed by debt and external equity financing. Profitable firms, as demonstrated by Bhattu-Babajee and Seetanah (2022), tend to rely on REs to meet their investment needs, thus reducing the necessity for external capital.

2.4 Cash Flow Hypothesis

The free cash flow hypothesis suggests a conflict of interest between managers and shareholders. To avoid overinvestment problems, Easterbrook (1984) and Jensen (1986) suggest that excess cash should be returned to shareholders through dividends or share repurchases. A positive stock market reaction is expected upon a dividend announcement, which signals to shareholders that management will use corporate cash flows wastefully (Thanatawee, 2011).

2.5 Agency Theory

The agency theory contends that dividend policy serves as a mechanism to reduce agency costs (Jensen and Meckling, 1976). However, it is criticized for focusing on opportunistic behavior and overlooking other players (Ronoowah and Seetanah, 2023). Agency conflicts may arise between large and minority shareholders, with large shareholders preferring more dividends or extracting private benefits, thus leading to fewer dividends (Harada and Nguyen, 2011).

2.6 Signaling Theory

The signaling theory posits that dividends are used to communicate firm profitability to outside shareholders (Baker et al., 2019). Dividend announcements convey information about firm performance, thus influencing shareholder reactions (Miller and Modigliani, 1961; Pettit, 1972).

2.7 Catering Theory of Dividends

Baker and Wurgler (2004) argue that dividend decisions are motivated by the demand of investors for dividend-paying stocks. Contrary to the catering hypothesis, when controlling for risk, catering incentives may no longer significantly explain for the decline in dividend payments among US firms (Denis and Osobov, 2008).

2.8 Clientele Theory

The clientele theory assumes that different investor groups prefer different dividend payout policies. Some investors prefer high dividends, while others prefer low dividends (Al-kayed, 2017).

2.9 Life-Cycle Theory

According to the life-cycle theory of dividends, mature firms are more likely to pay dividends, while young firms are more likely to retain profits due to abundant investment opportunities and limited resources (El-Ansary and Gomaa, 2012).

3. Literature and Hypothesis Formulation

The determinants of dividend policies have been the subject of study for decades; however, consensus on the factors that influence the propensity to pay dividends and dividend payout remains elusive (Dewasiri et al., 2019). Given the significance of dividend policies, making an optimal dividend decision is crucial. In addition to competing theoretical perspectives on dividend policies, previous studies indicate that dividend decisions may be influenced by various factors, including earnings, firm size, investment opportunities, lagged dividends, and cash flow.

According to Fama and French (2002), three characteristics significantly affect dividend decisions: investment opportunity, yield, and firm size. Numerous studies suggest that larger companies have better opportunities to raise funds at a comparatively lower cost due to more consistent cash flows. Additionally, larger companies tend to be more diversified, bear less risk, and have greater access to capital markets. Consequently, they are less reliant on internal funding

and more likely to distribute higher dividends to their shareholders (Fama and French, 2001). Baker et al. (2007) note that many Canadian firms that pay dividends are visibly larger in size, exhibit higher profits, possess substantial positive cash flows, maintain a larger ownership structure, and have more growth opportunities.

DeAngelo et al. (2004) conduct a comprehensive study, and conclude that there is a significant relationship between dividend payments and several key factors, including profitability, cash balance, firm size, leverage, growth, and past dividends. In alignment with this, Amidu and Abor (2006) find that profitable firms generally distribute more dividends. A trend observed by Ahmed and Javid (2008) among Pakistani companies suggests reliance on past dividends and current earnings to determine dividend payments, with stable companies exhibiting more propensity to pay dividends. Afza and Mirza (2010) find positive associations among operating cash flow, profitability, and dividend policy, while noting negative associations with ownership, cash flow sensitivity, size, and leverage. Trinh et al. (2022) show that financial reporting quality is linked to increased dividend payouts, even after controlling for firm and country specifics. Additionally, Cadenovic et al. (2024) find that as the REs of privately held firms increase, there is a greater likelihood of paying dividends, and the amounts paid tend to be higher.

Baker et al. (2019) affirm several crucial factors that influence dividend decisions, including past dividends, profitability, investment opportunities, concentrated ownership, net working capital, firm size, investor preferences, earnings, free cash flow, corporate governance, and industry type. In a related vein, Al-malkawi (2007) observes that the proportion of stocks held by insiders and state ownership significantly impacts the amount of dividends paid. Notably, firm size, age, and profitability emerge as the determinant factors that influence corporate dividend policies in Jordan. Arko et al. (2014) provide evidence that dividend decisions and payouts are influenced by firm profitability, investment opportunities, leverage, taxation, institutional shareholding, and risk. In line with these findings, Yusof and Ismail (2016) find that firms with higher earnings, larger size, a greater percentage of shares owned by large shareholders, higher investment opportunities, and lower debt levels tend to pay higher dividends to their shareholders.

In the context of Indonesia, Yusra et al. (2019) report a positive and significant effect of REs on both the likelihood of companies paying dividends and the rate of dividend payments. Shifting the focus to Sri Lanka, Dewasiri et al. (2019) find a set of key determinants that influence the propensity of firms to pay dividends, including past dividend decisions, earnings, investment opportunities, profitability, free cash flow, corporate governance, state ownership, firm size, and industry factors. Furthermore, they highlight that past dividends, investment opportunities, profitability, and dividend premium are critical determinants that influence dividend payouts. In a broader examination,

Ranajee et al. (2018) find that across different firms and time periods, the crucial determinants for both the likelihood of dividend payments and dividend amounts include firm leverage, profitability, the holdings of non-promoters, growth prospects, and specific dividend events. However, they note that financial constraints tend to negatively impact dividend payments. This comprehensive overview demonstrates the nuanced and multifaceted nature of factors that influence dividend decisions across different contexts.

In a multi-country analysis that includes Brazil, Russia, India, China, and South Africa, Mrzygłód et al. (2021) find several key factors that influence dividend levels. Size, leverage, long-term debt, growth, and a proxy for liquidity risk are deemed important, along with lagged dividends.

Shifting focus to the Middle East and North Africa (MENA) regions, Andrikopoulos et al. (2020) highlight firms in these regions exhibiting an increased tendency to pay dividends during periods of negative market sentiment, particularly after the Arab Spring revolution from 2010 to 2015. Their results also support the notion of catering incentives, thus indicating that MENA firms tend to align with the desire of investors for cash distributions.

Building on this, Budagaga (2020) delves into the determinants of dividend propensities and payout decisions among banks in the MENA markets. He finds a common set of determinants, including bank size, profitability, capital adequacy ratio, credit risk, and bank age. Notably, credit risk has a significantly negative impact on dividend payment decisions during the financial crisis period, which prompted banks to adopt conservative policies and prioritize cash retention over dividend distribution. Interestingly, growth opportunities and liquidity do not exhibit significant impacts on dividend payment decisions by banks in the MENA markets. This collective analysis sheds light on the intricacies of dividend dynamics across different geographic and industry contexts.

Yousef et al. (2021) conduct a study in the Gulf Cooperation Council (GCC) countries, and reveal that a larger proportion of REs to the contribution mix is associated with a greater likelihood of dividend payment. Notably, they observe that, in Islamic and conventional banks, the life cycle characteristics differ in terms of magnitude and significance in explaining dividend payouts. In the realm of Islamic banking, Al-kayed (2017) finds that profitability, lagged dividends, and leverage are significant determinants of dividend policies. In contrast, profitability, liquidity, leverage, growth, and lagged dividends are those of conventional banks.

Further insights come from Lee et al. (2022), who illustrate that companies that face large investment needs and limited access to capital tend to retain reinvestment profits to meet growth requirements. Additionally, companies with large debt ratios often prioritize debt financing over dividend payments.

In the Vietnamese economy, they observe that many small and medium-sized companies rely on REs, thus resulting in lower dividend payouts or none at all.

The life-cycle theory finds support in various studies. For instance, DeAngelo et al. (2006) show that there is a significantly positive relation between earned/contributed capital mix and the probability of firms paying dividends. Similarly, Thanatawee (2011) supports the free cash flow and life-cycle hypotheses, by showing that there are positive influences of free cash flow and earned equity on the dividend payouts of firms in Thailand. This collective evidence underscores the nuanced interplay of factors that shape dividend decisions across different financial landscapes.

Perretti et al. (2013) conduct a study on American depository receipt (ADR) firms, and reveal that several factors are related to the decision to pay cash dividends on a regular basis. The size of the firm, mix of earned and contributed capital, and growth opportunities are identified as significant determinants. Moreover, increases in profitability are found to diminish the risk of ADR firms decreasing their dividends. Conversely, poor economic conditions in the home country increase the likelihood of a decrease in dividends. The study also underscores the significance of growth opportunities as a determinant of dividend decisions. In a broader examination of six countries (the USA, Canada, the UK, Germany, France, and Japan), Denis and Osobov (2008) provide additional insights. Larger, more profitable firms, along with those with a larger proportion of earned equity, are more likely to pay dividends. However, the study shows that the effect of growth opportunities on the likelihood of dividend payments is mixed, thus suggesting a nuanced relationship between growth opportunities and dividend decisions across these different countries. These findings contribute to a comprehensive understanding of the factors that influence dividend policies in various financial landscapes.

Studies in various countries have consistently supported that the life-cycle theory impacts dividend decisions. Ranajee et al. (2018) illustrate that in line with this theory, firm age and size are positive and significant factors that influence dividend levels. In India, Singla and Samanta (2019) report that profitability, life-cycle and firm size have significantly positive effects on dividend payments. However, a negative relationship with cash flow suggests the presence of an agency problem. Notably, the payment of high dividends serves as a signal to current and prospective investors, which encourages positive market sentiments, even in cases of negative profits. In Jordan, Jaara et al. (2018) reveal that mature, large, and highly profitable companies consistently pay more dividends. Historical dividends have a positive and significant impact, which indicate a trend of dividend payout rather than random payments. However, the study notes a negative impact of risk on payout levels.

Turning to Egypt, El-Ansary and Gomaa (2012) provide evidence that supports the life-cycle theory of dividends in Egypt. The mix of earned/contributed capital emerges as a significant determinant of dividend policy in Egyptian firms. Additionally, profitability positively influences dividend amounts, and the ownership structure (public or private) has significantly positive effects on dividends. Interestingly, ownership concentration and structure have no effect on dividend payments. Desoky and Mousa (2019) extend these findings by identifying ownership concentration, institutional shareholding, and firm growth as significant factors related to dividend payouts for firms listed on the Egyptian Exchange (EGX). This collective evidence underscores the pervasive influence of life-cycle dynamics on dividend decisions across different national contexts.

The previous section shows that REs are considered to be an essential determinant for dividend payment; however, evidence from many previous studies shows that the opposite relation exists. According to Bhole (1980), dividend payouts have been identified as determinants of REs. Moreover, Mahakud (2005) finds that dividend policies and investment opportunities to be essential determinants of REs which affect the retention of earning decisions of companies. In addition, Kaushik (2007) propounds that there exist significant differences between domestic and multinational companies with regard to managing and determining REs.

Furthermore, Salvary (2007) suggests that cash flow and dividends are the most influencing variables on REs. Companies with low investment opportunities for growth and expansion choose to distribute a large part of their earnings as dividends. Thus, the level of REs is very much influenced by the growth rate of the companies. Similarly, Al-najjar and Belghitar (2011) and Thirumalaisamy (2013) find that firms with better investment opportunities usually maintain higher levels of REs to avoid financial distress.

Accordingly, there are two viewpoints in the literature on the relationship between REs and dividends. The first viewpoint provides evidence that REs are one of the main determinants for dividend policies and payouts. The second viewpoint documents that dividend is an essential determinant for REs. In line with previous studies, such as Al-malkawi (2007); Thanatawee (2011); El-Ansary and Gomaa (2012); Perretti et al. (2013); Singla and Samanta, (2019); and Yusra et al. (2019), this study aligns with and substantiates the viewpoint that posits REs as a primary determinant for dividends because this viewpoint is more logically justified. Consequently, the following hypotheses are proposed:

H1: REs positively affect dividend policies.

H2: REs positively affect dividend payouts.

4. Methodology

The researchers have conducted an empirical study on a sample of 27 real estate companies listed on the EGX over the period of 1997 to 2019. The sample companies cover a diverse range within the real estate sector, with the majority or 17 companies specializing in housing and development, six companies focusing on real estate investment, two companies targeting property management, and one contractor company.

SPSS (version 20) is used to analyze the data. Descriptive statistics, correlation tests, and multiple regression models are used to examine the relationship between the underlying variables. Descriptive statistics are used to analyze the basic features of the data. A correlation test is carried out to make the results more robust. Multiple linear regression is the most appropriate tool for evaluating the individual and combined effects of a set of independent variables on a dependent variable; this method has been primarily utilized to minimize the problem of multicollinearity. The significance of the coefficient of various explanatory variables is tested at the 95% level of significance.

The main test of the empirical study determines the effect of REs on dividend policies and dividend payouts in companies listed on the EGX with the use of the two models. The first model measures the effect of REs as an independent variable on dividend policies, with life cycle, lagged dividends, the amount of cash held, *ROE*, capital adequacy, liquidity, and *SIZE* used as the control variables. The second model tests the effect of REs on dividend payout by using the same controls. The following regression models are estimated:

H1:

$$DIVDUM_{(i,t)} = \beta_0 + \beta_1 RE_{(i,t)} + \beta_2 LIFECYC_{(i,t)} + \beta_3 LAGGEDDIV_{(i,t)} + \beta_4 CASHHOLD_{(i,t)} + \beta_5 ROE_{(i,t)} + \beta_6 CAPADEC + \beta_7 LIQ + \beta_8 SIZE + \varepsilon_{(i,t)} \quad (1)$$

H2:

$$DIVAMOUNT_{(i,t)} = \beta_0 + \beta_1 RE_{(i,t)} + \beta_2 LIFECYC_{(i,t)} + \beta_3 LAGGEDDIV_{(i,t)} + \beta_4 CASHHOLD_{(i,t)} + \beta_5 ROE_{(i,t)} + \beta_6 CAPADEC + \beta_7 LIQ + \beta_8 SIZE + \varepsilon_{(i,t)} \quad (2)$$

Table 1 summarizes the research variables, their symbols, and their empirical measures.

Table 1 Research Variable

Variable	Symbol	Measure	Reference
Dividend policy	*DIVDUM*	The decision to pay or not to pay dividends and takes on the value (1) if the company pays dividends and 0 if it does not).	(Arko *et al.*, 2014; Ranajee, Pathak and Saxena, 2018; Andrikopoulos, El-Ansary and Hassan, 2020; Budagaga, 2020)
Dividend Amount	*DIVAMOUNT*	Total dividend paid per year.	
Retained Earnings	*RE*	Retained earnings figures reported in the balance sheet.	
Life-cycle/Maturity	*LIFECYC*	Retained earnings to book value of equity (RE/TE). (Firms in maturity stage have higher accumulated profits).	(Thanatawee, 2011; Singla and Samanta, 2019; Andrikopoulos, El-Ansary and Hassan, 2020; Yousef, Tanna and Patra, 2021)
Lagged dividend D(t-1)	*LAGGEDDIV*	Dividend per share for the accounting period (t-1).	(Yusof and Ismail, 2016; Al-kayed, 2017; Sharma and Bakshi, 2019)
Cash holding	*CASHHOLD*	Ratio of cash to total asset net of cash and cash equivalents	(Ranajee, Pathak and Saxena, 2018)
Profitability	*ROE*	ROE	(Budagaga, 2020)

(Continued…)

(Table 1 Continued)

Variable	Symbol	Measure	Reference
Capital ownership/ Capital adequacy	CAPADEC	TE / TA	(Yusra, Hadya and Fatmasari, 2019; Budagaga, 2020)
Liquidity	*LIQ*	Avg current Ratio	(Sharma and Bakshi, 2019; Singla and Samanta, 2019)
Size	*SIZE*	Log of total assets	(Thanatawee, 2011; Yusof and Ismail, 2016; Ranajee, Pathak and Saxena, 2018; Singla and Samanta, 2019; Yusra, Hadya and Fatmasari, 2019; Andrikopoulos, El-Ansary and Hassan, 2020; Budagaga, 2020; Yousef, Tanna and Patra, 2021)
Lagged Retained earnings	*LAGGEDRE*	Retained earnings figures reported in the balance sheet for the accounting period (t-1)	

5. Results and discussion

5.1 Descriptive statistics and correlation matrix

Table 2 provides the summary statistics for the main variables. The mean of *RE*s is 348,877.4291. It can be observed that the minimum amount is a negative amount, which means that some companies are facing negative REs. This could indicate that the company is either facing severe losses or is profitable but distributed dividends are higher than the total amount of earnings since the founding of the company. The mean of *DIVDUM* is 0.2966, which means that roughly 30% of company-year observations paid dividends. The mean for *LIFECYC* is 0.1044, which indicates that most of the Egyptian real estate companies are still in the growth stage. Moreover, the mean for return on equity (*ROE*) equals 0.1127, and the minimum value is -0.6816, which reveals that some companies in the field of real estate in Egypt are experiencing total losses.

Concerning the correlation test, REs have a positively significant correlation with lagged *RE*s (0.933), *SIZE* (0.497), *DIVAMOUNT* (0.465), and *LIFECYC* (0.443). In addition, dividend policy has a positively significant correlation with *DIVAMOUNT* (0.498), lagged dividends (0.323), and *ROE* (0.331). Finally, *DIVAMOUNT* has a positively significant correlation with Lagged *RE*s (0.496), *SIZE* (0.403), and *ROE* (0.243). The detailed correlation results are shown in Table 3.

Table 2 Descriptive Statistics

Variable	Mean	Median	Min.	Max.	Std dev.
RE	348877.4291	42510	-7717513	10426471	1490479.9652
DIVDUM	0.2966	0.0000	0.00	1.00	0.4573
DIVAMOUNT	18336.3197	0.0000	0.00	371441.21	56756.4740
LIFECYC	0.1044	0.2306	-26.25	0.87	1.5950
LAGGEDDIV	0.09	0.00	0	2	0.227
CASHHOLD	0.1026	0.0422	0.00	1.02	0.1526
ROE	0.1127	0.0588	-0.6816	1.0717	0.1801
CAPADEC	0.4514	0.3772	0.00	0.99	0.2500
LIQ	5.3847	1.6200	0.11	118.80	13.0532
SIZE	5.7863	5.7603	3.76	8.02	0.8177
LAGGEDRE	283868.87	37301.00	-7717513	8714635	1331585.321

Table 3 Correlation Matrix

Variable	*RE*	*DIVDUM*	*DIVAMOUNT*	*LIFECYC*	*LAGGEDDIV*	*CASHHOLD*	*ROE*	*CAPADEC*	*LIQ*	*SIZE*	*LAGGEDRE*
RE	1	.095	.465**	.443**	-.011	-.047	-.038	-.053	-.069	.497**	.933**
DIVDUM	.095	1	.498**	.114*	.323**	.179**	.331**	-.088	.017	-.012	.123*
DIVAMOUNT	.465**	.498**	1	.067	.106	-.069	.243**	-.174**	-.092	.403**	.496**
LIFECYC	.443**	.114*	.067	1	.112	.001	.036	.048	.005	-.001	.444**
LAGGEDDIV	-.011	.323**	.106	.112	1	-.072	.092	-.030	.079	-.024	-.019
CASHHOLD	-.047	.179**	-.069	.001	-.072	1	.090	.241**	.066	-.218**	-.070
ROE	-.038	.331**	.243**	.036	.092	.090	1	-.203**	-.147**	.184**	-.124*
CAPADEC	-.053	-.088	-.174**	.048	-.030	.241**	-.203**	1	.497**	-.466**	-.067
LIQ	-.069	.017	-.092	.005	.079	.066	-.147**	.497**	1	-.331**	-.064
SIZE	.497**	-.012	.403**	-.001	-.024	-.218**	.184**	-.466**	-.331**	1	.452**
LAGGEDRE	.933**	.123*	.496**	.444**	-.019	-.070	-.124*	-.067	-.064	.452**	1

5.2 Main statistical tests

As shown in Table 4, the results indicate a significant relationship between REs and dividend policies at the 0.05 level of significance (p-value = 0.001, regression coefficient = 0.231), where REs are positively and significantly correlated with the probability of the sample companies paying dividends. This result aligns with Yusof and Ismail (2016), Dewasiri et al. (2019), Baker et al. (2019), Sharma and Bakshi (2019), and Yusra et al. (2019), which shows that REs, as a measure of long-term profitability, affect the probability of companies paying dividends. Companies with no REs will probably pay no dividends.

Table 4 Summary of the main tests

	Panel 1: The effect of retained earnings on dividend policy		**Panel 2: The effect of retained earnings on dividend payout**	
Variables	**P-Value**	**Regression Coefficient**	**P-Value**	**Regression Coefficient**
RE	0.001***	0.231	0.000***	0.424
DIVDUM				
DIVAMOUNT				
LIFECYC	0.001***	0.213	0.498	-0.041
LAGGEDDIV	0.000***	0.301	0.080*	0.090
CASHHOLD	0.001***	0.193	0.482	-0.038
ROE	0.002***	0.199	0.000***	0.253
CAPADEC	0.018**	-0.164	0.700	-0.025
LIQ	0.018**	0.152	0.342	0.057
SIZE	0.011**	-0.209	0.015**	0.189
R^2	**0.321**		**0.361**	

Notes: Significance at: *10, * *5, and ***1 percent levels

Regarding the control variables, *LIFECYC*, *LAGGEDDIV*, *CASHHOLD*, *ROE*, and *LIQ* have a significantly positive relationship with dividend policy, with regression coefficients of 0.231, 0.213, 0.301, 0.193, 0.199, and 0.152, respectively, while *CAPADEC* and *SIZE* have a significantly

negative relationship with dividend policy, with regression coefficients of -0.164 and -0.209, respectively. Finally, the adjusted R2 of H1 equals 32.1%, which indicates that 32.1% of the change in the dependent variable is explained by the independent variables. Accordingly, H1 is accepted.

For H2, which posits that REs affect the amount of dividends paid, the results indicate a significantly positive relationship between the REs and dividend amount (p-value = 0.000, regression coefficient = 0.424). Thus, for Egyptian real estate companies, higher dividends paid are attributed to higher earnings retained by companies. This result is in line with Yusra et al. (2019). Regarding the control variables, only *ROE* and *SIZE* have a significantly positive relationship with dividend amount, with regression coefficients of 0.253 and 0.189, respectively. Finally, the adjusted R^2 of H2 equals 36.1%. Accordingly, H2 is accepted.

5.3 Additional tests

An additional test is performed by using company growth as a moderator in the previously mentioned relationships. The two following regression models are estimated:

$$DIVDUM_{(i,t)} = \beta_0 + \beta_1 RE_{(i,t)} + \beta_2 RE*LIFECYC_{(i,t)} + \beta_3 LAGGEDDIV_{(i,t)} + \beta_4 CASHHOLD_{(i,t)} + \beta_5 ROE_{(i,t)} + \beta_6 CAPADEC + \beta_7 LIQ + \beta_8 SIZE + \varepsilon_{(i,t)} \quad (3)$$

$$DIVAMOUNT_{(i,t)} = \beta_0 + \beta_1 RE_{(i,t)} + \beta_2 RE*LIFECYC_{(i,t)} + \beta_3 LAGGEDDIV_{(i,t)} + \beta_4 CASHHOLD_{(i,t)} + \beta_5 ROE_{(i,t)} + \beta_6 CAPADEC + \beta_7 LIQ + \beta_8 SIZE + \varepsilon_{(i,t)} \quad (4)$$

Table 5 shows a significantly positive relationship between REs and dividend policy (p-value = 0.000, regression coefficient = 0.541). However, when the life cycle of the company is added as a moderator, the results indicate a negative relationship between REs and dividend policy. The moderator variable shows a p-value of 0.011 and a regression coefficient of -0.339. Companies with high REs tend to be more mature with sufficient cumulative profit levels that result in paying dividends. Meanwhile, companies with low REs in the early stages may need additional funds, which cause them to retain their profits. *LAGGEDDIV*,

CASHHOLD, *ROE*, and *LIQ* have a significantly positive relationship with dividend policy, with regression coefficients of 0.308, 0.170, 0.335, and 0.173, respectively. *CAPADEC* and *SIZE* show a significantly negative relationship with dividend policy, with regression coefficients of -0.171 and -0.173, respectively. The adjusted R^2 of H5 is 30.7%.

Moreover, a significantly positive relationship is found between REs and dividend payout (p-value = 0.000, regression coefficient = 1.121). Nevertheless, when the life cycle of a company is added as a moderator, the relation between REs and dividend payout becomes negative. The moderator variable shows a p-value of 0.000 and a regression coefficient of -0.735. Only *ROE* has a significantly positive relationship with dividend payout, with a regression coefficient equal to 0.288. The adjusted R^2 is 46.4%.

Table 5 Summary for the additional tests

	Panel 1: The effect of retained earnings on dividend policy with growth as a moderator		**Panel 2: The effect of retained earnings on dividend payout with growth as a moderator**	
Variables	**P-Value**	**Regression Coefficient**	**P-Value**	**Regression Coefficient**
RE	0.000***	0.541	0.000***	0.121
*RE*LIFECYC*	0.011**	-0.339	0.000***	-0.735
DIVDUM				
*DUMMY*LIFE*				
DIVAMOUNT				
*DIVAMOUNT *LIFE*				
LAGGEDDIV	0.000***	0.308	0.064*	0.087
CASHHOLD	0.004***	0.170	0.467	-0.036
ROE	0.000***	0.335	0.000***	0.288
CAPADEC	0.015**	-0.171	0.437	-0.047
LIQ	0.007***	0.173	0.352	0.051
SIZE	0.035**	-0.173	0.092*	0.119
R^2	**0.307**		**0.464**	

Notes: Significance at: *10, * *5, and ***1 percent levels

5.4 Confirmatory statistical tests

In order to enhance the reliability of the results, the researchers examine the effect of lagged REs on dividend policy and dividend payout. The two following regression models are estimated:

$$DIVDUM_{(i,t)} = \beta_0 + \beta_1 LAGGEDRE_{(i,t)} + \beta_2 LIFECYC_{(i,t)} + \beta_3 LAGGEDDIV_{(i,t)} + \beta_4 CASHHOLD_{(i,t)} + \beta_5 ROE_{(i,t)} + \beta_6 CAPADEC + \beta_7 LIQ + \beta_8 SIZE + \varepsilon_{(i,t)} \quad (5)$$

$$DIVAMOUNT_{(i,t)} = \beta_0 + \beta_1 LAGGEDRE_{(i,t)} + \beta_2 LIFECYC_{(i,t)} + \beta_3 LAGGEDDIV_{(i,t)} + \beta_4 CASHHOLD_{(i,t)} + \beta_5 ROE_{(i,t)} + \beta_6 CAPADEC + \beta_7 LIQ + \beta_8 SIZE + \varepsilon_{(i,t)} \quad (6)$$

Table 6 (Panel 1) shows a significantly positive relationship between lagged REs and dividend policy (p-value = 0.000, regression coefficient = 0.309). *LIFECYC*, *LAGGEDDIV*, *CASHHOLD*, *ROE*, and *LIQ* have significantly positive relationships with dividend policy, with regression coefficients of 0.217, 0.298, 0.197, 0.209, and 0.143, respectively. The results indicate that *CAPADEC* and *SIZE* have a significantly negative relationship with dividend policy, with coefficients of -0.181 and -0.273, respectively. Finally, the adjusted R^2 is 34.2%.

Table 6 Summary for confirmatory tests

	Panel 1: The effect of lagged retained earnings on dividend policy		**Panel 2: The effect of lagged retained earnings on dividends amount**	
Variables	**P-Value**	**Regression Coefficient**	**P-Value**	**Regression Coefficient**
LAGGEDRE	0.000***	0.309	0.000***	0.523
LIFECYC	0.001***	0.217	0.495	-0.039
LAGGEDDIV	0.000***	0.298	0.076*	0.088
CASHHOLD	0.001***	0.197	0.499	-0.036
ROE	0.001***	0.209	0.000***	0.276
CAPADEC	0.008***	-0.181	0.556	-0.638
LIQ	0.023**	0.143	0.413	0.048
SIZE	0.001***	-0.273	0.136	0.113
R^2	**0.342**		**0.411**	

Notes: Significance at: *10, * *5, and ***1 percent levels

In Panel 2, there is a significantly positive relationship between lagged REs and dividend amount (p-value = 0.000, coefficient = 0.523). *ROE* has a significantly positive relationship with dividend amount, with a coefficient of 0.276. Finally, the adjusted R^2 is 41.1%.

6. Conclusion

This paper uses a sample of 26 real estate companies listed on the EGX from 1997 to 2019 to examine the relationship between REs and dividends. The results of the main statistical test indicate that REs are positively and significantly related to both dividend policies and dividend payouts.

In an additional test where the life cycle of the company is added as a moderator, the results indicate a significant relationship as well; however, surprisingly, the relationships are negative. This phenomenon can be explained by La Porta et al. (2000), who conclude that firms with large reinvestment opportunities present lower dividend payouts. Additionally, this negative relationship can also be justified by the signaling theory, wherein firms may be willing to pay high dividend payout ratios even with low levels of REs because they rely on dividends to attract external sources of financing.

Finally, in the confirmatory test, the researchers examine whether lagged REs affect both dividend policies and dividend payouts. The results indicate a significantly positive relationship between lagged REs and both dividend policies and dividend payouts.

It is important to note that the findings of this study cannot be generalized to all types of companies in the Egyptian context, which is one of the limitations. The research specifically focuses on the relationship between REs and dividends in the real estate sector, with the use of a small sample of 26 companies with data that span 22 years. Future studies that explore the relationship between dividends and REs should consider examining different sectors to enhance the generalizability of the results.

Technically, the study solely uses the proxy (dividend per share/earning per share) to measure dividend payout without considering other proxies. Future research is recommended to explore alternative measures for dividend payout.

Given the current era of extensive construction projects and the establishment of new cities in Egypt, the real estate sector is undergoing significant development and growth. Consequently, effective financial resource management becomes crucial for real estate companies to seize these opportunities. Therefore, future research should focus on understanding and addressing the challenges and opportunities that are emerging in the real estate sector. Additionally, investigating the impact of the types of projects undertaken by real estate firms, such as luxury versus regular housing, on their income retention or distribution behavior could be a valuable avenue for future research.

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