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**The Impact of Peer Firms on Dividend Smoothing: The Moderating Role of**  
**Information Environment and Market Competition: An Empirical Study**

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Market Competition: An Empirical Study**

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**Abstract:**

**Purpose** – The current study seeks to examine the impact of peer firms (PF) on dividend smoothing (DS). Additionally, the study investigates how the information environment (IE) and market competition (COMP) moderate the relationship between PF and DS.

**Design/methodology/approach** – This study uses a quantitative research method to investigate the impact of PF on DS and then the moderating role of IE and COMP in 62 Egyptian firms from 2018 to 2021, using the Generalized Method of Moments (GMM) in Stata/IC15 to test the hypotheses.

**Findings** – The findings reveal a significant positive impact of PF on the dividend payout ratio and DS behavior. The moderating role of IE opaqueness weakens the positive impact of PF on dividend payout ratios and increases DS behavior. Moreover, the moderating role of COMP enhances the positive impact of PF on dividend payout ratios and increases DS behavior.

**Originality/value** – The current study extends the literature on PF and DS, particularly in Egypt. This study contributes to improving the understanding of the role of IE and COMP. Furthermore, the study increases firms' awareness concerning DS behavior which can be used as a strategic response to PF' performance. Finally, the study increases investors' awareness concerning predicting firms' dividends more precisely and choosing appropriate shares for their portfolios by analyzing the behavior of PF.

**Keywords:** Dividend Smoothing, Peer Firms, Information Environment, Market Competition, GMM model

## **1. Introduction**

Understanding dividend policy is a critical matter, as it allows firms to decide on both the payout ratio and the cash holdings ratio. Firms' stakeholders are interested in dividend policies. For instance, investors aim for stable dividends, creditors want low levels of payout ratio as high levels of this ratio indicate a risk of not getting their money back, and managers attempt to optimize this ratio to keep sustainable growth. The current study concentrates on dividend smoothing (DS) as one of the key aspects of dividend policy. DS indicates that firms seek to make periodic partial adjustments toward a target payout ratio rather than dramatic changes, as managers believe that the market promotes firms with a stable dividend payout policy (Leary and Michaely, 2011; Javakhadze et al., 2014; Tigero et al., 2023). In other words, DS means that the change in dividend payout ratios does not reflect the changes in earnings, i.e., there is a lack of adjustment of dividend payout ratios (Koussis and Makrominas, 2019).

The main idea of DS is to maintain or improve the current conditions of a firm by making gradual adjustments toward a target payout ratio (Leary and Michaely, 2011). The critical problem for managers is how much of their earnings to pay out as dividends; moreover, they must balance the needs of their stakeholders with the need to invest in the future (Rutto and Miroga, 2020). The reason for this dilemma is that managers want to satisfy the needs of many various stakeholders, and they are not sure how the dividend payout ratio will affect the firm's stock price and attract investors (Leary and Michaely, 2011; Rutto and Miroga, 2020). As a consequence, managers are hesitant to reduce dividends when earnings decrease because reducing dividends is usually interpreted as a bad sign that can reduce investment opportunities and increase debt (Javakhadze et al., 2014; Koussis and Ruzinskii, 2019; Balli et al., 2022). On the contrary, managers tend to keep dividends at the same level even when earnings increase to avoid costly external financing and use the increase in earnings for internal financing (Leary and Michaely, 2011; Rutto and Miroga, 2020).

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DS is affected by firm characteristics such as profitability, market-to-book ratio, and sales growth, as well as economic factors like Gross Domestic Product (GDP). In addition to the aforementioned factors, there is a growing interest in investigating the impact of peer firms (PF) on dividend payout policy in general and DS in particular. The term PF generally can be defined as "*the influence that other firms execute on a firm, which can be homogeneous and/or heterogeneous*" (Chen et al., 2022, P. 5). Concerning dividends, PF mean that a firm tends to change its dividend payout policy in a way that varies or is consistent with the action in some reference group that involves this firm (Grennan, 2019). The importance of examining the implications of PF is related to understanding how PF' decisions contribute to the process of firms' decision-making, especially in times of crisis (Machokoto et al., 2021), since the outcomes of PF are prominent even if the interaction between firms is occasional (Grennan, 2019). To illustrate, PF' decisions assist firms in projecting rivals' competitive action and quickly modifying their decisions to mitigate competitive threats (Lin et al., 2023).

Prior studies have reported numerous impacts of PF as they are crucial in determining cash holdings (e.g., Zhuang et al., 2022; Machokoto et al., 2021), corporate social responsibility policy (e.g., Cao et al., 2019; Li and Wang, 2022), capital structure (e.g., Bernard et al., 2021), earnings management (e.g., Du and Shen, 2018; Matsumoto et al., 2022), and trade credit (e.g., Gyimah et al., 2020). Furthermore, the literature highlighted some studies that addressed the impact of PF on dividend payout policy and DS (e.g., Adhikari et al., 2018; Chen et al., 2022; Jain and Kashiramka, 2023; Lee and Seo, 2023). These studies revealed that firms imitated their PF regarding dividend payout policy and DS; furthermore, this imitated behavior can be homogeneous or heterogeneous.

The current study seeks mainly to examine whether firms' DS policies are influenced by their industry PF in the Egyptian Stock Exchange (ESE), assuming that DS is a competitive tool to achieve financial flexibility over the period 2018 to 2021. The reasons for selecting Egypt as the context for this current study are, first, Egypt is an emerging country and there is a gap in the literature to test the implications of Peer' DS in emerging countries.

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Most studies have been conducted in developed countries, although emerging countries face distinctive challenges such as high levels of information asymmetry. Second, ESE is one of the oldest stock exchanges in the world, and it was the first stock exchange launched in the Middle East and North Africa (OECD, 2019). Third, in emerging markets like Egypt, firms are more financially constrained, which restricts their ability to pay stable dividends. Furthermore, the current study aims to identify the mechanism of DS in PF by using the information environment (IE) and market competition (COMP) as moderating factors. PF are predicted to be more evident in industries with less transparent information and more COMP. This is because managers in these conditions tend to imitate PF to avoid competitive threats.

The current study makes some noteworthy contributions. Firstly, it extends the literature on DS and PF, particularly in emerging countries, namely Egypt. Secondly, the study findings improve the understanding of the role of the IE and COMP. Thirdly, the study results have some practical implications; for instance, investors can be more able to predict firms' dividends more precisely and choose appropriate shares for their portfolios by analyzing the behavior of PF. Furthermore, the results can increase firms' awareness regarding DS behavior which can be used as a strategic response to peer competition. Moreover, the findings proved the focal role of information in determining DS and PF.

The rest of the study proceeds as follows. Section 2 reviews the literature and develops the hypotheses. Section 3 explains the empirical methodology. Section 4 presents the results and discussion. Finally, section 5 exhibits the conclusion.

## 2. Literature Review and Hypotheses Development

### 2.1 Dividend Smoothing Behavior

DS is defined as "*a time series measure that reflects the continuity and stability of dividend payouts in the long run. DS considerations force managers to take future dividend levels into account and make sure they do not deviate far from the historic dividend record, even when firms experience a negative earnings or cash flow shock*" (Chen et al., 2022, P.5). In the literature, several theories have been used to interpret DS. Signaling theory given by Bhattacharya (1979), for example, indicates that dividends send signals related to the firms' prospects, i.e., managers use dividends to send signals about firms' future performance (Rutto and Miroga, 2020). Raising dividends or keeping the current level of dividends demonstrates managers' confidence in future earnings and supports the continuation of dividends in the future (Leary and Michaely, 2011). Thus, signaling theory means that cutting dividends sends a negative signal to the market and reflects financial instability; in contrast, increasing dividends is a positive signal (Koussis and Ruzinskii, 2019). Therefore, according to signal theory, managers smooth dividends to send signals to the market that the present level of dividends is sustainable in the future.

From another perspective, the pecking order theory, given by Myers and Majluf (1984), indicates that managers prefer to pick the cheapest financing sources starting from retained earnings which are the most inexpensive financing form, then external debt, and then external equity which is the most expensive financing source (Bostanci et al., 2018). As a consequence, firms with higher external financing costs are more likely to smooth their dividends, i.e., they do not prefer to pay dividends even if there are positive earnings. In other words, managers tend to hold all internally generated cash inside the firm because internal financing is less costly than external financing (Leary and Michaely, 2011; Koussis and Ruzinskii, 2019). The reason for this behavior is to reduce financing costs by using internal funds, such as dividends, to finance their needs.

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Under signaling and pecking order theories, firms' characteristics and economic factors are considered substantial determinants for DS behavior. There are previous studies investigating how firms' characteristics and economic factors affected firms' behavior to smooth dividends, but the findings of these studies were different. For instance, Syed et al. (2018) found that firm size, one of the firms' characteristics that reflects firm maturity, had a negative impact on DS behavior, meaning that larger firms had lower levels of DS and vice versa. On the other hand, some studies (e.g., Jeong, 2013; Rutto and Miroga, 2020; Garcia-Feijoo et al., 2021; Tigero et al., 2023) concluded that firm size had a positive impact on DS behavior, meaning that larger firms had higher levels of DS and vice versa. However, Fernau and Hirsch (2019) found that firm size had an insignificant impact on DS.

In the same vein, profitability, a firm characteristic that measures a firm's efficiency in earning profits, has mixed results in the dividends smoothing literature. Shinozaki and Uchida (2017), for instance, found a positive impact of profitability on dividend speed adjustment, i.e., profitability negatively affected DS. On the contrary, Nowak et al. (2018) revealed that profitability had an insignificant impact on DS behavior. Also, Assets tangibility, market-to-book ratio, firm age, and sales growth have demonstrated mixed results (e.g., Javakhadze et al., 2014; Bostanci et al., 2018; Fernau and Hirsch, 2019; Koussis and Makrominas, 2019; Koussis and Ruzinskii, 2019; Garcia-Feijoo et al., 2021; Tigero et al., 2023). But regarding leverage, a firm characteristic that measures the use of debt to increase returns, the majority of studies revealed a positive impact of the leverage on dividend speed adjustment which means that higher leverage is associated with lower DS (e.g., Svensson and Müller, 2014; Syed et al., 2018). Concerning economic factors, GDP is the most common economic factor used in DS literature. For example, Balli et al. (2022) proved that GDP had a negative effect on DS behavior.

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To conclude, DS varies across firms according to the institutional environment, which includes firm characteristics and economic factors. Empirical studies have found different results concerning the impact of these characteristics and factors on DS behavior. Thus, the first hypothesis of the current study can be formulated as follows:

**H<sub>1</sub>: Firms' characteristics and GDP have a significant impact on DS**

## **2.2 Peer Firms and Dividend Smoothing**

PF in the firm decision-making process have received considerable attention. Rivalry theory is the main theoretical basis for PF. The rivalry theory indicates that firms imitate each other to maintain or improve their competitive position (Lieberman and Asaba, 2006; Machokoto et al., 2021). A growing body of research has investigated the impacts of PF on various aspects of corporate decision-making. For instance, in the cash-holding context, Zhuang et al. (2022) reported that firms with lower cash holdings than their PF tried to imitate their peers by increasing their cash holdings. Likewise, Machokoto et al. (2021) found that PF had a positive impact on cash holdings, especially in countries with well-developed legal systems, higher governance quality, and more developed capital markets. Moreover, the results indicated that the firm increased cash holdings, on average, by 5% to 7% as a response to a one standard deviation increase in cash holdings of PF. Regarding corporate research and development, Peng et al. (2021) and Zhang (2023) found that PF influenced the decision to invest in research and development, meaning that it was not a decision made in isolation from PF. Similarly, some studies have also found that corporate social responsibility policy in PF influences a firm's own corporate social responsibility policy (e.g., Liu and Wu, 2016; Li and Wang, 2022). Additionally, Du and Shen (2018) concluded that firms used earnings management to match the performance of their PF.

Regarding the relationship between PF and payout policies, numerous studies, most similar to the current study, have attempted to explain the implications of PF on dividend policy. Grennan (2019), for instance, analyzed to what extent peers' behavior affected dividend policy among American firms. The results showed that peer dividend policy played a key



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role in determining dividend policy, but this role was only evident for dividend increases, not for dividend decreases. Similarly, Wang et al. (2021) found that PF influenced the decision to pay or not to pay dividends among Chinese firms. In India, Jain and Kashiramka (2023) found that PF' payout policies were a key factor in firms' payout policies and that PF had a positive impact on firms' dividend policies. In the same context, Lee and Seo (2023) found that PF influenced cash dividend policy and that this impact was present for both dividend increases and decreases, but was stronger for dividend increases.

The results of the aforementioned studies support mimic behavior under the rivalry theory, i.e., the decision of dividend payout strongly correlated with the dividend payout of PF. The reasons for this mimicry are, firstly, firms in the same industry operate in similar supply chains, macro environments, and industry policy environments; furthermore, firms need the same elements and external information to make decisions (Wang et al., 2021). In addition, firms imitate their peers to reduce the effort and cost of information search (Zhuang et al., 2022). As a result, imitating and learning from rivals can help firms reduce the effort and cost of information search for decision-making. Therefore, DS, a competitive tool used in dividend payout policy, is also expected to be influenced by DS behavior in PF. In this context, Chen et al. (2022) investigated the impact of PF on DS among Chinese firms. Surprisingly, they found that peer behavior had a negative impact on DS, meaning that firms tended to smooth dividends more if their PF smoothed dividends less, and vice versa. This finding contradicted the prediction of mimic behavior under rivalry theory. In contrast to the result of Chen et al. (2022), the current study expects that firms' DS will be positively influenced by DS in PF in order to save time and money on information search and maintain their reputations, images, and competitive positions in the market. Therefore, the second hypothesis of the current study can be formulated as follows:

**H<sub>2</sub>: PF have a significant impact on DS**

### **2.3 The Impact of IE on the Relationship between PF and DS**

Under the signal theory, managers use dividend information to deliberately send signals to stakeholders, particularly investors about earnings in the following years; in other words, signal theory indicates that dividends help firms to transmit inside information about firms' future (Adhikari and Agrawal, 2018; Syed et al., 2018; Tigero et al., 2023). Consequently, when managers cannot precisely predict the decisions' findings based on firms' internal information, they mimic their rivals' decisions and ignore the internal information to retain firms' reputations and images (Wang et al., 2021). The critical question here is whether IE decreases or increases the impact of PF on DS behavior, viz, the moderating role of IE.

Several prior studies examined the moderating role of IE. Some studies have revealed that the PF effects were more evident among firms that were followed by more analysts, which is an indicator of better IE and a more transparent IE (e.g., Adhikari and Agrawal, 2018; Cao et al., 2019). On the other hand, other studies have concluded that the impact of PF was more pronounced among firms that operated in environments with high levels of asymmetric information and uncertain IE (e.g., Gyimah et al., 2020; Chen et al., 2022; Zhuang et al., 2022; Tigero et al., 2023). Consequently, it is hard to predict the impact of IE on the relationship between PF and DS. Therefore, the third hypothesis of the current study can be formulated as follows:

**H<sub>3</sub>: IE has a significant moderating impact on the PF-DS relationship.**

## 2.4 The Impact of Market Competition on the Relationship between Peer Firms and Dividend Smoothing

Numerous studies have investigated the moderating role of COMP. The majority of these studies concluded that PF were more pronounced among firms that faced higher levels of COMP (e.g., Adhikari and Agrawal, 2018; Machokoto et al., 2021; Zhuang et al., 2022; Jain and Kashiramka, 2023). Additionally, prior studies found that firms in industries with higher levels of COMP were more likely to engage in DS behavior in order to attract investors, which is consistent with agency motivations (e.g., Javakhadze et al., 2014).

COMP plays a substantial role in DS behavior and PF. The potential reasons for this role are, firstly, high levels of COMP mitigate firms' ability to discriminate themselves from their rivals in order to enhance their profitability and gain a competitive advantage (Hoberg et al., 2014). Therefore, imitating the dividend payout policies of PF becomes more crucial to show a positive image in the market. This mimicking behavior leads to DS behavior and raises the role of PF. Secondly; high levels of COMP indicate higher future uncertainty and failure risks which can lead to an increase in cash holdings in order to avoid bankruptcy as a result of unexpected external shocks and operating failures (Wang et al., 2021; Chen et al., 2022). Consequently, firms tend to reduce their dividend payouts and increase the emulating behavior of PF in order to survive. Accordingly, it is predicted that higher levels of COMP will lead to increased DS behavior and a stronger influence of PF. Therefore, the fourth hypothesis of the current study can be formulated as follows:

**H<sub>4</sub>: COMP has a significant moderating impact on the PF-DS relationship.**

### 3. Empirical Methodology

#### 3.1 Sample Selection and Data Collection

The initial sample of this study contains all firms listed on ESE from 2018 to 2021 comprised of (184) firms distributed to (18) sectors (ESE, 2022). The final sample of the study was selected according to the following criteria:

1. Firms must have been listed on ESE from 2018 to 2021.
2. Firms with missing data were excluded.
3. Firms with a financial year ending on 30th June were excluded to ease the comparability among firms.
4. Firms with financial statements in foreign currencies were excluded.
5. Banks and financial services firms were excluded due to the uniqueness of their activities.

After applying the aforementioned criteria, the final sample includes (62) firms in (7) sectors representing (33.7%) of the total number of all firms listed on ESE with (248) firm-year observations. Table (1) demonstrates more details about the final sample.

**Table (1) Sample distribution by sector**

No.	Sector name	Listed firms	Excluded firms	Sample firms	Percentage to total firms in the sample (%)
1	Basic Resources	16	6	10	16.13
2	Healthcare and Pharmaceuticals	18	12	6	9.68
3	Industrial Goods, Services, and Automobiles	7	3	4	6.45
4	Real Estate	34	12	22	35.48
5	Travel and Leisure	9	4	5	8.06
6	Food, Beverages, and Tobacco	23	10	13	20.97
7	Contracting and Construction Engineering	7	5	2	3.23
<b>Total</b>		<b>114</b>	<b>52</b>	<b>62</b>	<b>100%</b>

Source: (ESE, 2022)

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The study used a quantitative research method based on secondary data. Data for all variables were obtained from annual financial statements published on firms' websites, the INVESTING database, the Mubasher website, ESE website, and The World Bank database.

## **3.2 Variables Measurement**

### **3.2.1 Dividend Smoothing**

The Speed of Adjustment (SOA) is a measure of DS. It reflects the change in dividends as a result of a change in earnings (Jeong, 2013; Rutto and Miroga, 2020). The partial adjustment model proposed by Lintner (1956) is the original method for measuring SOA, and it is based on dividend levels. Lintner (1956) demonstrated that managers smooth dividends by periodically modifying dividend payouts. The most potential reason for this behavior is that managers assume that shareholders want a stable stream of dividends; consequently, most firms try to make periodic partial adjustments toward a target payout ratio rather than radical changes in this ratio. Therefore, the partial adjustment model of Lintner (1956) shows that managers do not make immediate movement to the new target dividend, but they smooth changes in dividends by moving part of the way to the target dividend each period. As a result, SOA is an inverse measure of DS, i.e., the higher the SOA, the lesser DS. In other words, firms with great SOA adjust dividends more quickly which reflects an unstable dividend payout policy, indicating a low level of DS. In contrast, the lower the SOA, the higher DS, i.e., firms with low SOA adjust dividends more slowly which means a stable dividend payout policy despite potential fluctuations in earnings, signifying a high level of DS.

Following prior studies (e.g., Bostanci et al., 2018; Koussis and Makrominas, 2019; Koussi and Ruzinskii, 2019), the current study uses a different approach to the partial adjustment model of Lintner (1956). This approach involves calculating SOA using a dynamic partial adjustment model. The model treats the problem of optimal dividend policy by calculating SOA towards target dividend payout ratios based on firm characteristics and economic factors. To illustrate, this approach uses a set

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of factors that determine firms' dividend payout ratios and examines how quickly firms modify their dividend payout ratios concerning these factors.

### **3.2.2 Peer Firms**

PF are calculated by dividend payout ratios of all firms in the same industry except the firm (i) as PF vie for the same customers, managerial experiences, economic sources, and projects (Grennan, 2019; Wang et al., 2021; Jain and Kashiramka, 2023). The peer reference group in the current study is determined according to the sector classification as defined in the ESE, then classifying firms in each sector according to their industry.

### **3.2.3 Information Environment**

IE is the first moderating variable in the current study. Analysts Following (AF) is the proxy of IE at the industry level. AF is a dummy variable that takes (1) if AF of the industry is lower than the median across all industries which indicates the opaqueness of IE and takes (0) otherwise (Chen et al., 2022). To calculate AF, firstly, we get the annual average AF of all firms in an industry, and then the mean AF from 2018 to 2021 for each industry are computed.

### **3.2.4 Market Competition**

COMP is the second moderating variable used in this study. It is measured by the Herfindahl-Hirschman Index (HHI). The HHI index is calculated by squaring the sales of all firms in each industry, and then summing the resulting numbers (Chang et al., 2019). Mathematically, the HHI index is written as follows:

$$HHI = \sum_{i=1}^N \left( \frac{X_i}{X} \right)^2$$

Where  $X_i$  is the sales of firm i,  $X$  is the total sales of all firms in the same industry. The HHI index is a measure of market concentration. Market concentration is opposite to COMP, i.e., the higher market concentration, the lower COMP (Healy et al., 2014). Therefore, the HHI index is an inverse measure of COMP. In other words, the higher value of HHI index

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refers to the lower value of COMP. For consistency in variables measurement, HHI is multiplied by (-1) to represent the measurement of COMP (Pham et al., 2021).

### 3.2.5 Firms' characteristics

The current study depends on a dynamic partial adjustment model to determine the optimal dividend policy. This dynamic model is based on firms' characteristics such as profitability, market-to-book ratio, firm size, firm age, leverage, sales growth, and assets tangibility. Also, the dynamic model needs some economic factors such as GDP. Firms' characteristics and GDP are defined in Table (2).

**Table (2) Variables description**

Variable	Notation	Definition	Reference
<b>Dependent variable</b>			
Speed of adjustment	$\lambda$	[(1- Coef) $DPS_{t-1}$ ] in each model	(Bostanci et al., 2018) (Koussi and Ruzinskii, 2019)
<b>Independent variables</b>			
Dividend payout ratio	DPS	Total dividends / total number of outstanding common shares	(Syed et al., 2018) (Koussis and Makrominas, 2019)
Profitability	Prof	Net income / Total assets	(Lee and Seo, 2023) (Lin et al., 2023)
Market-to-book ratio	MTB	Market value of equity / book value of equity	(Javakhadze et al., 2014) (Garcia-Feijoo et al., 2021)
Firm size	SIZE	Natural logarithm of total assets	(Rutto and Miroga, 2020) (Tigero et al., 2023)
Firm age	AGE	Natural logarithm of years since incorporation	(Syed et al., 2018) (Garcia-Feijoo et al., 2021)
Leverage	Lev	Total liabilities / total assets	(Chen et al., 2022) (Jain and Kashiramka, 2023)
Sales growth	SG	(Current sale-prior sales) / current sales	(Tigero et al., 2023)
Assets tangibility	AT	Net fixed assets / total assets	(Koussi and Ruzinskii, 2019) (Lee and Seo, 2023)
Gross domestic product	GDP	The natural logarithm of GDP	(Machokoto et al., 2021)

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Peer firms	Peer	dividend payout ratios of all firms in the same industry except the firm (i)	(Wang et al., 2021) (Jain and Kashiramka, 2023)
<b>Moderating Variables</b>			
Information Environment	IE	Measuring by AF which is a dummy variable that takes (1) if AF of the industry is lower than the median across all industries, takes (0) otherwise	(Chen et al., 2022)
Market Competition	COMP	Herfindahl-Hirschman Index (HHI) is calculated by squaring the sales of all firms in each industry, and then summing the resulting numbers	(Chang et al., 2019) (Pham et al., 2021)

The relationship between study variables can be illustrated as follows:

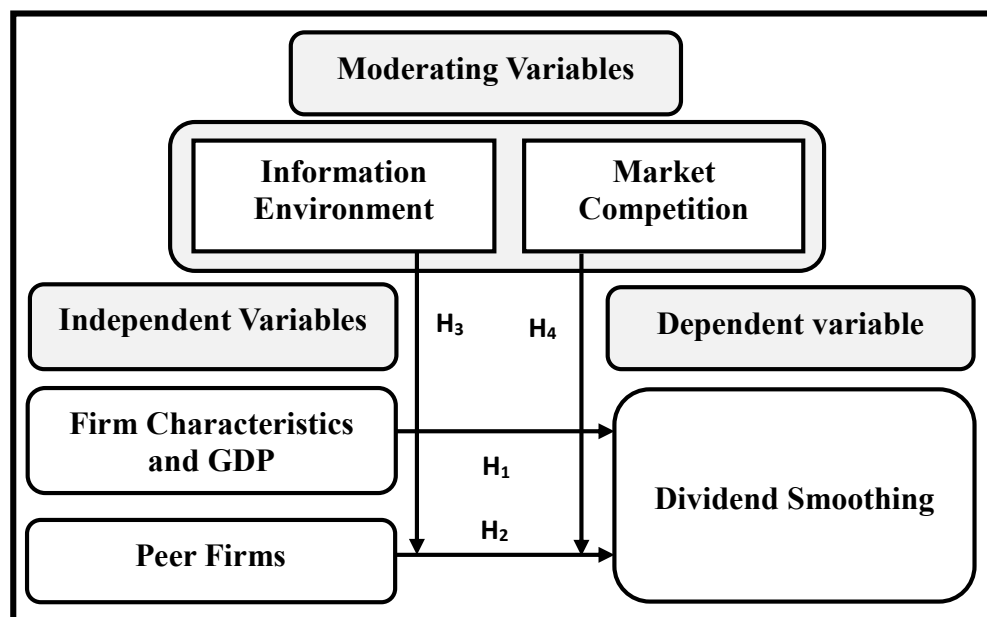


Figure (1): Framework of study variables



### 3.3 Models Specification

The current study relied on a dynamic partial adjustment model to compute SOA. This approach depends mainly on the partial adjustment model of Lintner (1956); however, it treats the problem of optimal dividend policy by calculating SOA towards the target dividend payout ratios based on firms' characteristics and some economic factors (Bostanci et al., 2018; Koussis and Makrominas, 2019; Koussi and Ruzinskii, 2019). In other words, this approach utilizes a set of factors that determine firms' dividend payout ratios and examines how quickly firms modify their dividend payout ratios concerning these factors. The most common firms' characteristics and economic factors used in prior studies are profitability, market-to-book ratio, firm size, firm age, leverage, sales growth, assets tangibility, and GDP; thus, the optimal dividend payout ratio can be defined as follows:

$$\text{DPS}^*_{it} = \alpha_1 \text{ PROF} + \alpha_2 \text{ MTB} + \alpha_3 \text{ Size} + \alpha_4 \text{ Age} + \alpha_5 \text{ Lev} + \alpha_6 \text{ SG} + \alpha_7 \text{ AT} + \alpha_8 \text{ GDP} + e_{it} \quad (\text{I})$$

Generally, firms cannot achieve the optimal dividend payout ratio. The deviation from this optimal ratio can be calculated by the difference between the optimal dividend payout ratio and actual dividend payout ratio ( $\text{DPS}^*_{it} - \text{DPS}_{it-1}$ ). Firms try to adjust the actual dividend payout ratio to meet the optimal dividend payout ratio. The adjustment magnitude between these two ratios is computed by the change of dividend payout ratio from current year to previous year ( $\text{DPS}_{it} - \text{DPS}_{it-1}$ ); therefore, the speed of adjustment ( $\lambda_{it}$ ), i.e., (SOA) as follows:

$$\lambda_{it} = \frac{[\text{DPS}_{it} - \text{DPS}_{it-1}]}{[\text{DPS}^*_{it} - \text{DPS}_{it-1}]} \quad (\text{II})$$

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The equation (II) can be restructured as follows:

$$\text{DPS}_{it} - \text{DPS}_{it-1} = \lambda_{it} (\text{DPS}^*_{it} - \text{DPS}_{it-1}) \quad \text{(III)}$$

$$\text{DPS}_{it} = \text{DPS}_{it-1} + \lambda_{it} (\text{DPS}^*_{it} - \text{DPS}_{it-1}) \quad \text{(IV)}$$

$$\text{DPS}_{it} = \text{DPS}_{it-1} + \lambda_{it} \text{DPS}^*_{it} - \lambda_{it} \text{DPS}_{it-1} \quad \text{(V)}$$

$$\text{DPS}_{it} = (1 - \lambda_{it}) \text{DPS}_{it-1} + \lambda_{it} \text{DPS}^*_{it} \quad \text{(VII)}$$

From the equations (I) and (VII), the first equation to examine the first hypothesis can be formulated as follows:

$$\begin{aligned} \text{DPS}_{it} = & (1 - \lambda_{it}) \text{DPS}_{it-1} + \lambda_{it} \alpha_1 \text{PROF}_{it} + \lambda_{it} \alpha_2 \text{MTB}_{it} + \lambda_{it} \alpha_3 \text{Size}_{it} \\ & + \lambda_{it} \alpha_4 \text{Age}_{it} + \lambda_{it} \alpha_5 \text{Lev}_{it} + \lambda_{it} \alpha_6 \text{SG}_{it} + \lambda_{it} \alpha_7 \text{AT}_{it} + \lambda_{it} \alpha_8 \text{GDP}_{it} \\ & + \lambda_{it} e_{it} \end{aligned} \quad \text{(1)}$$

According to model (1), the speed of adjustment ( $\lambda$ ), SOA, is calculated in the light of firms' characteristic and economic factors that affect the dividend payout ratio by  $[(1 - \lambda_{it}) \text{DPS}_{it-1}]$ . To test the impact of PF on DS behavior, the second hypothesis, model (2) is formulated as follows:

$$\begin{aligned} \text{DPS}_{it} = & (1 - \lambda_{it}) \text{DPS}_{it-1} + \lambda_{it} \alpha_1 \text{PROF}_{it} + \lambda_{it} \alpha_2 \text{MTB}_{it} + \lambda_{it} \alpha_3 \text{Size}_{it} \\ & + \lambda_{it} \alpha_4 \text{Age}_{it} + \lambda_{it} \alpha_5 \text{Lev}_{it} + \lambda_{it} \alpha_6 \text{SG}_{it} + \lambda_{it} \alpha_7 \text{AT}_{it} + \lambda_{it} \alpha_8 \text{GDP}_{it} \\ & + \lambda_{it} \alpha_9 \text{Peer}_{it} + \lambda_{it} e_{it} \end{aligned} \quad \text{(2)}$$

Model (2) examines the impact of PF on DS behavior by recomputed SOA in the light of model (2). The difference between the value of SOA in model (1) and model (2) reflects the impact magnitude of PF on DS behavior.

The moderating role of IE, the third hypothesis, is investigated by model (3) as follows:

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$$\begin{aligned} \text{DPS}_{it} = & (1-\lambda_{it}) \text{DPS}_{it-1} + \lambda_{it} \alpha_1 \text{PROF}_{it} + \lambda_{it} \alpha_2 \text{MTB}_{it} + \lambda_{it} \alpha_3 \text{Size}_{it} \\ & + \lambda_{it} \alpha_4 \text{Age}_{it} + \lambda_{it} \alpha_5 \text{Lev}_{it} + \lambda_{it} \alpha_6 \text{SG}_{it} + \lambda_{it} \alpha_7 \text{AT}_{it} + \lambda_{it} \alpha_8 \text{GDP}_{it} \\ & + \lambda_{it} \alpha_9 \text{Peer}_{-it} + \lambda_{it} \alpha_{10} \text{IE}_{it} + \lambda_{it} \alpha_{11} \text{Peer}_{-it} * \text{IE}_{it} + \lambda_{it} e_{it} \quad (3) \end{aligned}$$

Regarding model (3), the moderating role of IE on the relationship between PF and DS is determined by the difference between the value of SOA in model (2) and model (3). This difference indicates the impact extent of the moderating role of IE.

The fourth hypothesis related to the moderating role of COMP is tested using model (4) as follows:

$$\begin{aligned} \text{DPS}_{it} = & (1-\lambda_{it}) \text{DPS}_{it-1} + \lambda_{it} \alpha_1 \text{PROF}_{it} + \lambda_{it} \alpha_2 \text{MTB}_{it} + \lambda_{it} \alpha_3 \text{Size}_{it} \\ & + \lambda_{it} \alpha_4 \text{Age}_{it} + \lambda_{it} \alpha_5 \text{Lev}_{it} + \lambda_{it} \alpha_6 \text{SG}_{it} + \lambda_{it} \alpha_7 \text{AT}_{it} + \lambda_{it} \alpha_8 \text{GDP}_{it} \\ & + \lambda_{it} \alpha_9 \text{Peer}_{-it} + \lambda_{it} \alpha_{10} \text{COMP}_{it} + \lambda_{it} \alpha_{11} \text{Peer}_{-it} * \text{COMP}_{it} + \lambda_{it} e_{it} \quad (4) \end{aligned}$$

Concerning model (4), the moderating role of COMP on the relationship between PF and DS is calculated by the difference between the value of SOA in model (2) and model (4). This difference shows the impact amount of the moderating role of COMP.

## **4. Results and Discussion**

### **4.1 Descriptive Statistics**

Descriptive statistics summarize the key features of study data using measures of central tendency (such as mean) and measures of dispersion (such as standard deviation). Table (3) shows descriptive statistics for the study variables.

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Table (3) Descriptive statistics results

Variable	Obs.	Mean	Std. Dev.	Min	Max
DPS <sub>it</sub>	248	0.426	1.116	0	7.416
PROF <sub>it</sub>	248	0.028	0.117	-1.316	0.253
MTB <sub>it</sub>	248	5.48	60.692	-59.323	953.313
SIZE <sub>it</sub>	248	20.947	2.102	17.227	26.199
AGE <sub>it</sub>	248	3.406	0.496	2.079	4.736
LEV <sub>it</sub>	248	0.491	0.304	0.009	1.177
SG <sub>it</sub>	240	0.468	2.226	-1	19.872
AT <sub>it</sub>	248	0.223	.341	0	4.156
GDP <sub>it</sub>	248	26.507	.184	26.244	26.725
Peer- <sub>it</sub>	248	1.218	4.86	0	35.776
Peer- <sub>it</sub> *AF <sub>it</sub>	248	0.504	1.999	0	15.657
COMP <sub>it</sub>	248	2.649	6.9	0	63.091
Peer- <sub>it</sub> *COMP <sub>it</sub>	248	1.545	5.581	0	43.98
<b>Tabulation of IE</b>					
AF	Freq.	Percent	Cum.		
0	100	40.32	40.32		
1	148	59.68	100.00		
Total	248	100.00			

As shown in Table (3), the mean of the dividend payout ratio (DPS<sub>it</sub>) is (0.426), with a range between (0) and (7.416), and a standard deviation of (1.116). There is a large variation between the sample firms regarding the dividend payout ratio, as shown by the minimum and maximum values. However, the low mean value refers to the low value of the dividend payout ratio among firms included in the sample. Concerning PF (Peer-<sub>it</sub>), the mean is (1.218), with a range between (0) and (35.776), and a standard deviation of (4.86). Thus, there is also a large disparity between the sample firms regarding the dividend payout ratio of PF, as revealed by the minimum and maximum values. Nonetheless, the low mean value indicates a low value of the dividend payout ratio among PF which is in line with the mean of the dividend payout ratio.

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About the moderating variables, ( $IE_{it}$ ). Table (3) demonstrates that the frequency of ( $IE_{it}$ ) for the opacity of IE is (148) with (59.68%) indicating a high level of opaqueness in IE. The mean of ( $COMP_{it}$ ) is (2.649), with a range between (0) and (63.091), and a standard deviation of (6.9).

## **4.2 Hypotheses Testing Results**

The current study relied on the Generalized Method of Moments (GMM) to test study hypotheses depending on Stata/IC15. GMM is a statistical econometrics method used for Panel Data if one of the independent variables is a dynamic variable, namely, ( $X_{t-1}$ ) (Blundell and Bond, 1998). GMM method outweighs the other traditional methods like Ordinary least squares as it does not require study data to be normally distributed (Gourieroux et al., 1999). Also, the model coefficients of the GMM method are unbiased, consistent, and efficient (Arellano and Bond, 1991). Moreover, the GMM method increases the coefficients of Ordinary least squares in the case of the Heteroskedasticity problem (Wooldridge, 2001).

To determine the quality and validity of the study's estimated models, some tests were conducted. First, the Variance Inflation Factor (VIF) test was employed to ensure that the independent variables did not suffer from the Multicollinearity problem. If VIF is more than 10, multicollinearity is a problem (Kutner et al., 2005). Second, the Arellano-Bond test for AR (1) and AR (2) was done to verify that there was no autocorrelation among the residuals. If the P-value is more than (0.05), autocorrelation is not a matter of concern (Arellano and Bond, 1991).

#### 4.2.1 The Impact of Firms' characteristics and GDP on Dividend Smoothing

Table (4) shows the results of regression analysis for the impact of Firms' characteristics and GDP on DS.

**Table (4) Regression results for the impact of firms' characteristics and GDP on dividend smoothing**

DPS <sub>it</sub>	Coef.	T-value	P-value	VIF	1/VIF
DPS <sub>it-1</sub>	0.236	3.16	0.002	1.288	0.776
PROF <sub>it</sub>	9.996	3.39	0.001	2.406	0.416
MTB <sub>it</sub>	0.002	2.58	0.012	1.013	0.988
Size <sub>it</sub>	-0.514	-2.02	0.048	2.176	0.46
Age <sub>it</sub>	-0.393	-0.60	0.55	1.182	0.846
Lev <sub>it</sub>	4.55	5.15	0.000	2.977	0.336
SG <sub>it</sub>	0.006	0.16	0.873	1.058	0.945
AT <sub>it</sub>	-0.263	-3.19	0.002	1.156	0.865
GDP <sub>it</sub>	-2.21	-5.01	0.000	1.038	0.963
Constant	68.368	5.04	0.000		
<b>SOA 76%</b>					
<b>Test</b>		<b>Test- statistic</b>		<b>P-value</b>	
<b>F-test</b>		47.486		0.000	
<b>Arellano-Bond test AR (1)</b>		-1.00		0.371	
<b>Arellano-Bond test AR (2)</b>		0.8		0.423	
*** $p < .01$ , ** $p < .05$ , * $p < .1$					

The previous results of Table (4) imply that the model is statistically significant, where the calculated F-statistic is (47.486) at a significance level (P-value = 0.000). Multicollinearity is not a problem for this model as the value of (VIF) for all independent variables is less than (10). Further, autocorrelation in residuals is not a matter of concern according to the Arellano-Bond test for AR (1) and AR (2) since the values of (P-value) for Arellano-Bond test for AR (1) and AR (2) are (0.371) and (0.423) respectively, viz, more than (0.05).

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Regarding the principal coefficients of the model, there is a significant positive impact of  $DPS_{it-1}$ ,  $PROF_{it}$ ,  $MTB_{it}$ , and  $Lev_{it}$  on  $DPS_{it}$ . This positive impact is in line with Koussis and Makrominas (2019). On the other hand, there is a significant negative impact for  $Size_{it}$ ,  $AT_{it}$ , and  $GDP_{it}$  on the dividend payout ratio. This negative impact is consistent with Syed et al. (2018) and Balli et al., (2022). Both  $Age_{it}$  and  $SG_{it}$  have insignificant impact on the dividend payout ratio. The insignificant impact  $Age_{it}$  is in agreement with Syed et al. (2018), but the insignificant impact of  $SG_{it}$  contradicts with Tigero et al. (2023). Therefore, the regression equation for this model is as follows:

$$\begin{aligned} DPS_{it} = & + 68.368 + (0.236) DPS_{it-1} + (9.996) PROF_{it} + (0.002) MTB_{it} \\ & - (0.514) Size_{it} - (0.393) Age_{it} + (4.55) Lev_{it} + (0.006) SG_{it} \\ & - (0.263) AT_{it} - (2.21) GDP_{it} \end{aligned} \quad (1)$$

The positive impact of  $DPS_{it-1}$  on  $DPS_{it}$  indicates that the proposed model is dynamic (Blundell and Bond, 1998). Furthermore, the high value of SOA in model (1), (76%), denotes low levels of DS behavior among firms. In other words, the speed of firms to adjust their dividends payout ratio to the target dividend payout ratio is slow because cutting dividends is usually understood as a bad signal to the market (Grullon et al., 2002). Accordingly, the first hypothesis ( $H_1$ ) which indicates that “**Firms’ characteristics and GDP have a significant impact on DS**” can be accepted.

#### 4.2.2 The Impact of Peer Firms on Dividend Smoothing

Table (5) shows the results of regression analysis for the impact of PF on DS.

**Table (5) Regression results for the impact of peer firms on dividend smoothing**

DPS <sub>it</sub>	Coef.	T-value	P-value	VIF	1/VIF
DPS <sub>it-1</sub>	0.273	2.16	0.035	1.291	0.774
PROF <sub>it</sub>	18.785	3.26	0.002	2.425	0.412
MTB <sub>it</sub>	0.022	1.03	0.309	1.013	0.988
Size <sub>it</sub>	-0.913	-2.57	0.013	2.189	0.457
Age <sub>it</sub>	0.34	0.27	0.788	1.19	0.84
Lev <sub>it</sub>	8.835	3.85	0.000	3.042	0.329
SG <sub>it</sub>	-0.028	-0.36	0.721	1.058	0.945
AT <sub>it</sub>	-0.295	-1.74	0.086	1.166	0.858
GDP <sub>it</sub>	1.017	0.47	0.639	1.081	0.925
Peer-it	0.077	2.31	0.023	1.093	0.915
Constant	-13.722	-2.26	.014		
<b>SOA 73%</b>					
Test	Test- statistic		P-value		
F-test	17.214		0.000		
Arellano-Bond test AR (1)	-1.01		0.314		
Arellano-Bond test AR (2)	0.8		0.424		
*** $p < .01$ , ** $p < .05$ , * $p < .1$					

The above-mentioned results of Table (5) show that the model is statistically significant, where the calculated F-statistic is (17.214) at a significance level (P-value = 0.000). VIF for all independent variables is less than (10), so multicollinearity is not a problem for this model. Moreover, autocorrelation in residuals is not a matter of concern using the Arellano-Bond test for AR (1) and AR (2) because the values of (P-value) for Arellano-Bond test for AR (1) and AR (2) are (0.314) and (0.424) respectively, i.e., more than (0.05). The regression equation for the model (2) is as follows:



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$$\text{DPS}_{it} = - 13.722 + (0.273) \text{DPS}_{it-1} + (18.785) \text{PROF} + (0.022) \text{MTB} \\ - (0.913) \text{Size} + (0.34) \text{Age} + (8.835) \text{Lev} - (0.028) \text{SG} - (0.295) \\ \text{AT} \\ + (1.017) \text{GDP} + (0.077) \text{Peer}_{it}$$

Concerning impact of PF, there is a significant positive impact of  $\text{Peer}_{it}$  on  $\text{DPS}_{it}$ , i.e., when PF increase their dividend payout ratios, firms increase their dividend payout ratios. This result indicates that firms imitate dividend payout ratios of their peers. This result is in line with the results concluded by Grennan (2019) and Wang et al. (2021). The positive impact of PF on dividend payout ratios occurs as a result of the similarity of industry circumstances such as supply chains, macro-environment, and industry policy. Moreover, firms imitate their peers as they tend to decline efforts and costs for collecting information.

In the model (2), the value of SOA is (73%), i.e., (SOA) diminished roughly by 3% from (76%), in the model (1), to (73%) as a result of the positive impact of PF on  $\text{DPS}_{it}$ . This result is consistent with the results revealed by Jain and Kashiramka (2023) and Lee and Seo (2023). The decline in the value of SOA means that the positive PF on  $\text{DPS}_{it}$  cause an increase in DS behavior among firms, viz, homogeneous behavior. In other words, firms smooth dividends more when their peers smooth dividends more as the change in peers' dividend payout ratios motivates the firm to modify its dividend payout ratio. The reason for this imitation behavior is to remain comparable to peers and keep their images, reputations, and positions in the market. Consequently, the second hypothesis ( $H_2$ ) which indicates that “**PF have a significant impact on DS**” can be accepted. This result is opposed to Chen et al. (2022) which concluded that DS in PF negatively affected firms' DS in the Chinese environment.

### 4.2.3 The Impact of Peer Firms on Dividend Smoothing with the Moderating Role of Information Environment

Table (6) shows the results of regression analysis for the moderating role of IE.

Table (6) Regression results for the moderating role of the information environment

DPS <sub>it</sub>	Coef.	T-value	P-value	VIF	1/VIF
DPS <sub>it-1</sub>	0.333	6.13	0.000	1.304	0.767
PROF <sub>it</sub>	6.431	13.03	0.000	2.427	0.412
MTB <sub>it</sub>	-0.001	-16.71	0.000	1.036	0.966
Size <sub>it</sub>	-0.03	-1.21	0.233	2.193	0.456
Age <sub>it</sub>	0.698	4.90	0.000	1.196	0.836
Lev <sub>it</sub>	2.49	16.13	0.000	3.044	0.328
SG <sub>it</sub>	-0.001	-0.38	0.704	1.069	0.935
AT <sub>it</sub>	-0.883	-14.06	0.000	1.168	0.856
GDP <sub>it</sub>	-0.311	-2.73	0.008	1.636	0.611
Peer-it	0.393	7.04	0.000	1.262	0.792
IE <sub>it</sub>	-0.651	-8.61	0.000	1.69	0.592
Peer-it*IE <sub>it</sub>	-0.553	-6.45	0.000	1.283	0.779
Constant	5.971	2.31	.025		
<b>SOA 67%</b>					
Test	Test- statistic	P-value			
F-test	603049.308	0.000			
Arellano-Bond test AR (1)	-1.02	0.307			
Arellano-Bond test AR (2)	1.03	0.303			
*** $p < .01$ , ** $p < .05$ , * $p < .1$					

The aforesaid results of Table (6) displays that the model is statistically significant, where the calculated F-statistic is (603049.308) at a significance level (P-value = 0.000). Multicollinearity is not a problem for this model as the value of (VIF) for all independent variables is less than (10). Also, autocorrelation in residuals is not a matter of concern according to the Arellano-Bond test for AR (1) and AR (2) because the values of (P-

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value) for Arellano-Bond test for AR (1) and AR (2) are (0.307) and (0.303) respectively, i.e., more than (0.05). The regression equation for the model (3) is as follows:

$$\text{DPS}_{it} = + 5.971 + (0.333) \text{DPS}_{it-1} + (6.431) \text{PROF} - (0.001) \text{MTB} - (0.03) \text{Size} + (0.698) \text{Age} + (2.49) \text{Lev} - (0.001) \text{SG} - (0.883) \text{AT} - (0.311) \text{GDP} + (0.393) \text{Peer}_{it} - (0.651) \text{IE}_{it} - (0.553) \text{Peer}_{it} * \text{IE}_{it}$$

(3)

Regarding the impact of IE, there is a significant negative impact of  $\text{IE}_{it}$  on  $\text{DPS}_{it}$ , in other words, the increase in the information opacity drives to a decrease in dividend payout ratios. Furthermore, this negative impact weakens the impact of PF on dividend payout ratios as the moderating variable  $\text{Peer}_{it} * \text{IE}_{it}$  has a negative impact on  $\text{DPS}_{it}$ . Thus, the information opacity negatively affects the relationship between dividend payout ratios in PF and firms' dividend payout ratios, i.e., the opaqueness in IE mitigates the mimic behavior among firms. This finding supports the findings of Adhikari and Agrawal (2018) and Cao et al. (2019), but it contradicts the findings of Gyimah et al. (2020), Chen et al. (2022) and Tigero et al. (2023).

The value of SOA in the model (3) is (67%). Compared to the SOA value in model (2), there is a decline in the value of (SOA) approximately by 6% from (73%) to (67%) which indicates an increase in DS among firms. This result means that the moderating role of  $\text{IE}_{it}$ , the opacity of IE, weakens the dividend payout ratio speed adjustment. The decrease in SOA indicates an increase in DS behavior which means that the more the opacity of information opaqueness, the more DS behavior among firms. In addition, the homogeneous PF on DS are less pronounced when firms are in an environment that suffers from industry information opacity. Therefore, the third hypothesis ( $\text{H}_3$ ) which indicates that “**IE has a significant moderating impact on the PF-DS relationship**” can be accepted. This result is in agreement with Chen et al. (2022) and contradicts with Learly and Michaely (2011).

#### 4.2.4 The Impact of Peer Firms on Dividend Smoothing with the Moderating Role of Market Competition

Table (7) shows the results of regression analysis for the moderating role of COMP.

**Table (7) Regression results for the moderating role of market competition**

DPS <sub>it</sub>	Coef.	T-value	P-value	VIF	1/VIF
DPS <sub>it-1</sub>	0.481	7.53	0.000	1.303	0.767
PROF <sub>it</sub>	12.264	8.97	0.000	2.441	0.41
MTB <sub>it</sub>	0.001	0.36	0.717	1.016	0.985
Size <sub>it</sub>	-0.873	-6.19	0.000	2.391	0.418
Age <sub>it</sub>	-1.307	-2.96	0.004	1.218	0.821
Lev <sub>it</sub>	3.307	6.43	0.000	3.048	0.328
SG <sub>it</sub>	0.023	0.88	0.382	1.157	0.864
AT <sub>it</sub>	-0.459	-6.22	0.000	1.17	0.855
GDP <sub>it</sub>	-2.798	-6.87	0.000	1.081	0.925
Peer <sub>it</sub>	0.049	3.01	0.013	1.491	0.671
COMP <sub>it</sub>	-0.079	2.32	0.024	1.554	0.644
Peer <sub>it</sub> *COMP <sub>it</sub>	0.145	-3.30	0.006	1.709	0.585
Constant	12.546	3.24	0.013		
<b>SOA 52%</b>					
Test	Test- statistic		P-value		
F-test	238.666		0.000		
Arellano-Bond test AR (1)	-1.00		0.315		
Arellano-Bond test AR (2)	1.01		0.311		
*** $p < .01$ , ** $p < .05$ , * $p < .1$					

The above-mentioned results of Table (7) show that the model is statistically significant, where the calculated F-statistic is (238.666) at a significance level (P-value = 0.000). VIF for all independent variables is less than (10), so multicollinearity is not a problem for this model. Furthermore, autocorrelation in residuals is not a matter of concern using the Arellano-Bond test for AR (1) and AR (2) as the values of (P-value) for

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Arellano-Bond test for AR (1) and AR (2) are (0.315) and (0.311) respectively, i.e., more than (0.05). The regression equation for the model (3) is as follows:

$$\begin{aligned} \text{DPS}_{it} = & + 12.546 + (0.481) \text{DPS}_{it-1} + (12.264) \text{PROF} + (0.001) \text{MTB} \\ & - (0.873) \text{Size} - (1.307) \text{Age} + (3.307) \text{Lev} + (0.23) \text{SG} \\ & - (0.459) \text{AT} - (2.798) \text{GDP} + (0.049) \text{Peer}_{-it} - (0.079) \text{COMP}_{it} \\ & + (0.145) \text{Peer}_{-it} * \text{COMP}_{it} \end{aligned} \quad (4)$$

About the impact of COMP, there is a significant negative impact of COMP<sub>it</sub> on DPS<sub>it</sub>, i.e., the increase in COMP leads to a decrease in dividend payout ratios. Moreover, this negative impact strength the effect of PF on dividend payout ratios as the moderating variable Peer<sub>-it</sub>\*COMP<sub>it</sub> has a positive impact on DPS<sub>it</sub>. Consequently, COMP positively affects the relationship between dividend payout ratios in PF and firms' dividend payout ratios, i.e., COMP enhances the imitating behavior among firms. This finding supports the findings demonstrated by Adhikari and Agrawal (2018), Machokoto et al. (2021), Zhuang et al. (2022), and Jain and Kashiramka (2023).

In model (4), the SOA value is (52%). Compared to the SOA value in the model (2), there is a decrease in the value of (SOA) by around 21% from (73%) to (52%) which denotes an increase in DS among firms. This result indicates that the moderating role of COMP weakened dividend payout ratio speed adjustment. The decline in SOA refers to an increase in DS behavior which means that high levels of COMP cause high levels of DS behavior among firms. Additionally, the homogeneous PF on DS are more noticeable if firms operate in an environment with more industry competition. Therefore, the forth hypothesis (H<sub>4</sub>) which indicates that “**COMP has a significant moderating impact on the PF-DS relationship**” can be accepted. This result is in agreement with Javakhadze et al. (2014).

## **5. Conclusion**

This study primarily sought to investigate the impact of PF on DS; furthermore, it aimed to examine the moderating role of IE and COMP in this relationship. To achieve this, the study depended on a sample of Egyptian-listed firms from 2018 to 2021.

The results revealed that, first; PF positively impacted the dividend payout ratio and DS behavior. Second, the results indicated that IE opacity weakened the positive impact of PF on dividend payout ratios, i.e., the opaqueness in IE alleviated the imitating behavior among firms. Additionally, the opaqueness in IE increased the behavior of DS as a result of a decrease in SOA, and the homogeneous PF on DS was less pronounced in the opaqueness IE. Third, COMP supported the positive impact of PF on the dividend payout ratios, in other words, COMP improved the emulating behavior among firms. Additionally, higher COMP increased DS behavior because of a decrease in SOA, and the homogeneous PF on DS were more apparent in higher COMP.

Despite the above-mentioned results, there are some limitations to these results. Firstly, the study is limited to one emerging market, viz, Egypt; therefore, a more comprehensive study can be conducted to grasp the impact of PF in several emerging markets. Secondly, the findings of the present study relied on the selection of independent variables and special statistical techniques. This selection may lead to different results when modifying these independent variables and using other statistical techniques. Finally, the current study excluded banks and non-bank financial services. As a consequence, this study can be replicated using banks and non-bank financial services. Moreover, future studies can be conducted to compare differences between financial and non-financial firms concerning the impact of PF on DS behavior.

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**ملخص الدراسة:**

**الهدف:** استهدفت الدراسة اختبار أثر الشركات النظرية على تمهيد توزيعات الأرباح، بالإضافة إلى التحقق من الدور المُعدّل لكل من بيئة المعلومات والمنافسة في السوق على هذه العلاقة.

**المنهجية:** اعتمدت الدراسة على الأساليب الاحصائية لتقييم أثر الشركات النظرية على تمهيد توزيعات الأرباح، فضلاً عن الدور المُعدّل لكل من بيئة المعلومات والمنافسة في السوق بالتطبيق على عينة مكونة من (62) شركة مقيدة في سوق الأوراق المالية المصري خلال الفترة 2018م-2021م، وقد استخدمت الدراسة لاختبار فروضها طريقة العزوم المعممة باستخدام برنامج Stata/IC15.

**النتائج:** خلصت نتائج الدراسة إلى وجود أثر إيجابي للشركات النظرية على معدل توزيعات الأرباح وسلوك تمهيد توزيعات الأرباح. علاوة على ذلك، فقد أشارت نتائج الدراسة إلى أن ارتفاع درجة الغموض في بيئة المعلومات يؤدي إلى ضعف الأثر الإيجابي للشركات النظرية على معدل توزيعات الأرباح، إلا أنه يؤدي إلى زيادة سلوك تمهيد توزيعات الأرباح. كما توصلت نتائج الدراسة إلى أن ارتفاع المنافسة في السوق يعمل على تعزيز الأثر الإيجابي للشركات النظرية على معدل توزيعات الأرباح، فضلاً عن زيادة سلوك تمهيد توزيعات الأرباح.

**الأهمية:** تساهم الدراسة في تقديم أدلة تطبيقية جديدة حول الشركات النظرية وتمهيد توزيعات الأرباح خاصة في مصر. فضلاً عن أنها تُساهم في زيادة الوعي حول دور بيئة المعلومات والمنافسة في السوق. بالإضافة إلى زيادة الوعي لدى الشركات فيما يتعلق بسلوك تمهيد توزيعات الأرباح والذي يُمكن استخدامه كأداة استراتيجية لأداء الشركات النظرية. أخيراً، تعمل الدراسة على زيادة وعي المستثمرين بشأن التنبؤ بأرباح الشركات بشكل أكثر دقة واختيار الأسهم المناسبة لمحافظهم الاستثمارية من خلال تحليل سلوك الشركات النظرية.

**الكلمات الدالة:** تمهيد توزيعات الأرباح، الشركات النظرية، بيئة المعلومات، منافسة السوق، نموذج العزوم المعممة