

Factors affecting the Sustainable Growth Rate and its impact on Firm Value: Empirical Evidence from the Egyptian Stock Exchange

Dr/ Dalia Muhammed Khairy El Madbouly¹

Abstract:

Currently, the sustainable growth has become essential for any firm to survive and expand without running into financial problems. This research empirically examines the effect of the Firm Performance accounting indicators as leverage, liquidity, profitability, asset efficiency, and size on the Sustainable Growth Rate (SGR). Moreover, this research also examines the effect of the Sustainable Growth Rate on the value of firms listed in the Egyptian Stock Market. The research use a sample of Egyptian listed firms for 5 year's period starting from 2015 till 2019. The empirical results have found statistically significant positive relationships between the SGR and the firm leverage, profitability, and firm asset efficiency. However, there is a statistically significant negative relationship between the SGR and the size of the firm. Meanwhile, the relationship between the SGR and the firm's liquidity is insignificant. In addition, the empirical results have found a statistically significant positive effect of the SGR on the Firm Value for firms listed in the Egyptian Stock Market. This research recommends that the financial regulatory authority to establish a database for listed Egyptian firms according to their sustainable growth rate to attract potential investors as well as to attract and enhance foreign investments. Moreover, the research recommends that Accounting Departments in the Egyptian Universities should focus on the sustainable growth rate issue in their conferences to enhance the awareness of the Egyptian firms by this topic; thus firms will be able to compete, expand and perform well in the long run without running into financial problems.

Keywords: Sustainable growth rate, Firm performance, leverage, Asset efficiency, Firm value.

¹Assistant professor of Accounting, Accounting Department, Faculty of Commerce, Damnhour University.

العوامل المؤثرة علي معدل النمو المستدام وأثره على قيمة الشركة: دليل تطبيقي من البورصة المصرية

الملخص:

أصبح النمو المستدام ضروريًا لبقاء أي شركة ونموها في الوقت الحالي دون الوقوع في صعوبات مالية. يهدف هذا البحث الي دراسة وإختبار تأثير المؤشرات المحاسبة لأداء الشركات؛ مثل الرافعة المالية والسيولة والربحية وكفاءة الأصول والحجم على معدل النمو المستدام للشركات. كما يهدف هذا البحث أيضًا الي دراسة وإختبار أثر معدل النمو المستدام على قيمة الشركات المدرجة في البورصة المصرية. وأجريت الدراسة علي عينة من الشركات المصرية المدرجة لمدة 5 سنوات تبدأ من 2015 حتى 2019. وقد وجدت النتائج التجريبية لهذا البحث وجود علاقة إيجابية معنوية بين معدل النمو المستدام وبين كلا من الرافعة المالية، والربحية، وكفاءة أصول الشركة. كما وجدت النتائج التجريبية لهذا البحث وجود علاقة سلبية معنوية بين معدل النمو المستدام وبين حجم الشركة. وتوصلت النتائج العملية لهذا البحث إلي عدم وجود علاقة معنوية بين معدل النمو المستدام وبين سيولة الشركة. كما توصلت النتائج التجريبية لهذا البحث إلي وجود تأثير إيجابي معنوي لمعدل النمو المستدام علي قيمة الشركات المسجلة في البورصة المصرية. ويوصي البحث بأن تقوم سلطة التنظيم المالي بإنشاء قاعدة بيانات للشركات المسجلة في البورصة المصرية وفقًا لمعدل نموها المستدام لجذب المستثمرين المحتملين وكذلك جذب وتعزيز الاستثمارات الأجنبية. كما يوصي البحث أيضا بضرورة أن تهتم أقسام المحاسبة في الجامعات المصرية في مؤتمراتها العلمية بموضوع معدل النمو المستدام لزيادة وتعزيز وعي الشركات المصرية بهذا الموضوع، وبالتالي تكون الشركات قادرة على المنافسة والتوسع والأداء الجيد على المدى الطويل بدون الوقوع في مشاكل مالية.

الكلمات المفتاحية: معدل النمو المستدام، أداء الشركة، الرافعة المالية، كفاءة الأصول ، قيمة الشركة.

1- Introduction:

For many years, the main focus of any business is to achieve profit. In fact, profits have been considered as the key performance measure for any firm, even though firms may strive to continue, grow, and expand in the long term. Usually, the profitability ratio is measured by the return on assets, which compares the net income to the firms' assets. However, in recent years the concept of firm's growth has become very important as it is the outcome of the firm's efficient performance. Currently, the main focus is how much growth the firm can achieve because it reflects how efficient the firm is in capitalizing its available resources and how the firm is efficient in its decision making process and appropriate financial planning. Without a doubt, a minimum level of growth is required for firms to continue, compete and perform well in the long run.

Recently, the issue of growth sustainability has received a great interest all over the world, because it focuses on the firm's ability to continue, grow and expand its business while maintaining the necessary funding sources. It has currently become the main focus of every firm manager to ensure that the firm can maintain and increase its performance without engaging into financial problems. In certain cases, firms with high growth rates may suffer from financial problems and will not be able to have enough financial resources to run its activities and to continue in the future. Many firms get bankrupted because of the high growth which is not balanced with an appropriate source of funds. Accordingly, the sustainable growth has become one of the areas which have received a great focus by managers and investors when taking their business investment decisions and currently the Sustainable Growth Rate has become the most important indicator in measuring the firm performance.

Currently, the firm's growth is demanded to be sustainable. It becomes a necessary condition for the survival and the development of any firm, and is considered a scale to measure the strength of the firm. The main idea behind the sustainable growth is that the actual growth of the firm must be matched with its resources. Evidently, firm's growth and the external finance needed are related to each other, the higher the rate of growth in assets, the greater will be the external finance needed holding all other things being the same (Karakaya et al., 2017, Ross et.al 2016 as cited in

Mukherjee & Sankar, 2017). It is clear that the excessive growth is risky and undesirable as it will cause a shortage in the firm's resources; it requires more external finance which will lead to increase in financial leverage and financial risk and therefore will lead to bankruptcy or insolvency of the firm (Ross et.al 2016 as cited in Mukherjee & Sankar, 2017). On the opposite, slower growth will cause the firm's resources not to be effectively utilized and this will also threaten the survival of the firm. Shortly, the sustainable growth rate has become one of the firm's goals to survive and remain attractive to their investors, bankers and analysts at the present time.

1.1. Research problem:

Although reaching the desired sustainable growth rate has become the main objective for every firm's manager, however in today's severe competition and quickly changing economic and political environment, reaching the desired sustainable growth rate is not an easy task (Amouzesh, Moenifar & Mousavi, 2011). In reality, firms may invest more equity capital or increase its financial leverage in order to grow faster. However, although firms can grow at extremely rapid rates for some time, such growth cannot be sustained and in some cases firms may suffer from financial problems such as financial loss, high costs, higher debt, bankruptcy, and decline in the market value (Fonseka, Ramos, & Tian, 2012). Financial problems can make the firm do not have enough financial resources to run its activities. Accordingly, achieving the sustainable growth rate help firms to prevent being over-leveraged and avoid financial distress. On the opposite, slower growth will cause the firm's resources not to be effectively utilized and this will also threaten the survival of the firm. Therefore, this research seeks to answer the following questions:

- How much growth a firm should achieve?
- Does the excessive rate of growth is desirable?
- What would be the optimum rate of growth?
- Is there a relationship between the Sustainable Growth Rate and the Firm's performance accounting indicators as; Leverage, Liquidity, Profitability, Size, Operational Efficiency for Firms listed in the Egyptian Stock Exchange?

- Does the Firm's Sustainable Growth Rate affect the value of Firms listed in the Egyptian Stock Exchange?

1.2. Research Objective:

The objective of this research is to analyze the concept of the sustainable growth rate and to investigate the relationship between the sustainable growth rate and the firms' performance accounting indicators as the financial leverage, liquidity, profitability, asset efficiency and size in order to determine the factors that are associated with the sustainable growth rate of firms listed in the Egyptian Stock Exchange. Moreover, this research aims also at examining the effect of the sustainable growth rate on the value of firms listed in the firm Egyptian Stock Exchange.

1.3. Research importance and motivations:

Unfortunately in today's competitive business environment, we have witnessed the collapse of major firms due to financial distress which was the outcome of improper financial planning. Currently, the long term survival along with the success and the value creation of any firm is at stake, they depend upon the firm's sustainable rate of growth. The importance of this research stems from the importance of the sustainable growth topic as the sustainable growth rate is essential for the success and survival of any firm. Recently, the issue of sustainable growth is one of the most important areas that have been receiving more comprehensive attentions by managers and investors for several reasons:

First, Sustainable growth is essential for a firm's survival and expansion in the current competitive business market (Teng et al., 2021). The Sustainable Growth Rate helps firms to manage its financial and operating policy towards healthy growth without having financial problems and without being over-leveraged. It focuses on the firm's ability to continue, grow and expand its business while maintaining the necessary funding sources. With the Sustainable Growth Rate, financial managers and investors can assess whether firm's strategies for growing sales are feasible and whether they are based on firm's actual operational performance and financial policy. The higher the rate of growth creates severe need for additional external finance as a result of the shortage of funds, thus lead to

additional debts and on the opposite side, a lower rate of sustainable growth will lead to a misuse or under capitalization of available resources and thus creating opportunity costs (Karakaya et al., 2017, Ross et.al 2016 as cited in Mukherjee &Sankar, 2017).

Second, the sustainable growth rate is considered a valuable financial performance measure for every firm as it combines the operating elements (profit margin and asset efficiency) and the financial elements (capital structure and retention rate) into one comprehensive measure (Al-Slehat & Altameemi, 2021). It is considered a precious comprehensive measure to assess the strength and the long run sustainability of any firm as it takes into consideration both the firms' operating and financial parameters.

Third, the sustainable growth rate is a valuable planning tool for managers which is used to determine the financial and operating decision, whether to continue, increase or decrease. In fact, it is considered a valuable tool for long term financial planning and analyzing the firm's growth. It helps managers to determine what should be the firm's growth rate in sales so that it can be sound with firm's actual operational performance and financial policy. They can assess whether the firm's future growth plans are realistic and feasible based on the firm's current performance and financial policy. Accordingly, the sustainable growth rate is a valuable planning tool because it provides managers with insight into the levels of feasible firm's growth after taking into consideration the relationship between the four factors mentioned above and the sustainable growth rate (Pandit and Tejani, 2011).

Fourth, a few number of previous studies have been carried out on the sustainable growth rate issue and its determinants by different researchers abroad. Besides, these previous researches have given mixed results about the relationship of the liquidity and the sustainability growth rate. In Egypt, a very few attempts on the sustainable growth rate issue and its determinants have been made and its effect on the valuation of firms listed in the Egyptian Stock Market. Accordingly, the importance of this study stems from the lack of studies related to the sustainable growth rate especially in a developing country such as Egypt and the importance of this research stems also from its attempts to narrow this gap from an accounting perspective (Mukherjee, and Sankar Sen, 2018).

1.4. Research plan:

According to the basic objectives mentioned above, the rest of this paper is organized as follow: Section two presents an overview of the Sustainable Growth Rate, the difference between the Sustainable Growth Rate and the Internal Growth Rate, the factors influencing the sustainable growth rate, and the Challenges of sustainable growth rate. Section three presents a review of literature related to sustainable growth rate and its determinants, its impact on the firms' value in the Stock Market, as well as developing the research hypotheses. Section four presents the design of the empirical study. Section five presents the results of this research. Finally, section six presents the conclusions, recommendations, and Future researches.

2- Overview of the Sustainable Growth Rate:

2.1- Sustainable Growth Rate:

Currently, the Sustainable Growth Rate (SGR) has become a very critical objective for every firm. Although firms can grow at extremely high rates for a time, such growth cannot be sustained. Thus, the Sustainable Growth Rate has become the main focus of every finance manager, as the responsibility of the finance manager is to balance between the sources and the uses of the funds so that the firm can survive and maintain the chance to grow and expand. Actually, there are many definitions for the Sustainability Growth Rate which are as follows:

The concept of Sustainable Growth Rate was originally developed by C. Higgins. He demonstrated that the financial policies of many firms might be at variance with their growth objective. He proposed the use of the Sustainable Growth Rate (SGR) as the maximum growth rate in sales that a firm can achieve while maintaining a relatively stable set of financial policies (Higgins, 1977). According to Higgins (1989), the Sustainable Growth Rate is the maximum rate at which the firms' sales can increase without depletion of financial resources (Higgins, 1989).

According to Platt, Platt, & Chen (1995), the sustainable growth rate (SGR) is the Maximum rate of growth a firm can sustain without increasing its financial leverage. It means that firms maintain their capital structure

and do not sell new equity and can expand their firm's sales and assets (Platt, Platt, & Chen, 1995).

According to Firer (1995), the sustainable growth rate is the maximum growth rate a firm can have while all its financial parameters are constant.

According to Van Horne (1998), the sustainable growth rate is the percentage of the maximum growth in sales that can be achieved based on target operating, debt and dividend pay-out ratios (Van Horne, 1998).

According to Churchill & Mullins 2001, the sustainable growth rate is the rate at which the firm can sustain growth from the generated sales without requiring additional funding (Churchill & Mullins 2001). The term Sustainable Growth is the growth which requires capital by self-financing in conditions of unchanged leverage (Higgins, 1977).

According to Campbell, 2004, Sustainable growth is the maximum sustainable growth rate without increasing its financial leverage (Campbell, 2004), which means that the SGR involves maximizing sales and revenue growth without increasing its financial leverage (Campbell, 2004 as cited in RĂDĂȘANU, 2015).

According to Pandit and Tejani (2011), the Sustainable growth rate is the rate of growth that is the most realistic estimate of growth in a firm's earnings, assuming that the firm does not alter its capital structure. The sustainable growth rate is the maximum rate at which a firm can grow revenue without depleting its financial resources.

According to Amouzesh et. al. (2011), the sustainable growth is the appropriate increase in assets without equity issuance, so any increase in assets must be funded from additional liabilities or from retained earnings.

According to Mukherjee and Sankar Sen (2017), the Sustainable Growth Rate is the maximum rate of growth in sales that a firm can afford without issuing any additional new equity or changing its financial policy. It indicates the maximum rate of growth in sales a firm can achieve by means of utilizing its existing equity finance (i.e. not new), past retained earnings and debts while keeping the debt-equity ratio constant.

According to Sunday & Godspower (2022), the sustainable growth is the achievable growth that a firm could maintain without running into problems.

Other researchers also define the term Sustainable growth rate as the maximum rate at which a firm can grow revenue without having to invest new equity capital. Researchers define the term sustainable growth rate as the growth rate in profits that a company can reasonably achieve, consistent with its established financial policy. According to the Sustainable growth rate, the firms reinvest all the earnings in new opportunities and maintaining a stable debt to equity ratio (Rahim, 2017, Amouzesh et al, 2011).

To conclude based upon the above stated definitions, it is apparent that the Sustainable Growth Rate is the rate at which a firm can grow while keeping the debt to equity ratio constant and issues no new equity. The increase comes from the retained earnings and increase in debt but with keeping the debt equity ratio constant. The sustainable growth rate requires no external new equity financing, but the debt financing is accepted in order to make the debt-equity ratio constant due to the addition in the retained earnings.

Moreover from the above stated definitions, it is obvious that the sustainable growth rate can be used as a road map that will guide managers to assess the firm's feasible growth in sales. Thus, managers can evaluate whether the firm's growth in sales is affordable within the firm's operating performance and financial policy.

2.2. The difference between the Internal Growth Rate (IGR) and the Sustainable Growth Rate (SGR):

Actually, there are two types of growth; the Internal Growth Rate (IGR) and the Sustainable growth Rate (SGR). We have to differentiate between those two types of growth as follows: (According Ross et al. 2005 as cited in Pratama 2019).

The Internal Growth Rate (IGR) is the maximum growth rate that can be achieved by a firm without any external funding. It is the maximum rate of

growth that a firm can sustain without having to finance growth with additional equity or debt. In this case, firms provide finance internally without issuing new stocks or debts. The increase comes only from the firms' retained earnings. Thus, the Internal Growth Rate (IGR) requires no outside financing, which means no new debt and no new equity, and the firm's growth depends entirely on internally generated funds from the retained earnings.

The calculation of the Internal Growth Rate versus the sustainable growth rate is shown by the following two formulas: (Dhannapal & Ganesan, 2010):

$$\text{Internal Growth Rate IGR} = (\text{ROA} * b) / (1 - \text{ROA} * b)$$

$$\text{Sustainable Growth Rate SGR} = (\text{ROE} * b) / (1 - \text{ROE} * b)$$

Where ROA: Return on Assets = Net Income/ Total Assets.

ROE: Return on equity= Net income/owner's equity.

b: Retained Earning Rate.

In fact, the main difference between the internal growth rate and the sustainable growth rate is that the internal growth rate informs how much the firm can grow using its retained earnings as the only source of financing. However, the sustainable growth rate informs how much the firm can grow by using internally generated funds and issuing debt but with maintaining a constant debt to equity ratio. Accordingly, the Internal growth rate is the maximum growth rate per year a firm can grow from sales without any external financing, while the sustainable growth rate means a maximum growth rate per year that a firm can grow without issuing new equity financing and with maintaining a constant debt to equity ratio. Churchill and Mullins (2001), Ross et al. 2005 as cited in Pratama (2019).

2.3. Factors influencing the sustainable growth rate- an Accounting view:

For firms to be able to maintain and increase their growth, they have to determine the factors that affect their sustainable growth. Researchers demonstrate that the concept of SGR examines the association between the elements of the firm's main activities reflected in sales growth and the funding decision elements that are reflected in the sources of funds (Pratama, 2019). Actually, previous researchers have found that the combinations of operating and financial elements that correlate with sustainable growth rate are profit margin, asset efficiency, and capital structure and retention rate of earnings as the calculation of the sustainable growth rate is calculated by multiplying the return on equity by the earnings retention ratio (Amouzesh, Zahra, & Zahra, 2011). The calculation of the Sustainable growth rate is calculated as follows:

$$\begin{aligned} \text{SGR} &= \text{ROE} * \text{Earnings Retention Rate} \\ &= (\text{Profit Margin} * \text{Asset Efficiency} * \text{Capital Structure}) * \text{Retention Rate} \\ &= [(\text{Net Income/Sales}) * (\text{Sales/Assets}) * (\text{Assets/Beginning of Period Equity})] * (1 - \text{Dividend Payout Ratio}) \end{aligned}$$

To indicate if a firm for example earns 20% return on equity (ROE), it can grow 20% simply by reinvesting all the earnings in new opportunities and maintaining a stable debt to equity ratio. For firms to grow faster, firms have to invest more equity capital or increase its financial leverage. Although firms can grow at extremely high rates for a time, such growth cannot be sustained.

According to Higgins, the firm's sustainable growth rate depends upon the firm's retained earnings; the funds generated from the retained earnings increase the firm's equity. With the increase in the firm's net equity, the firm can borrow more funds which will enable the firm to increase its asset base. The increase in assets will lead to increase in operations and sales; which will result in increase in profit and thereby increases in Shareholders' Wealth (Raiyani, 2011), as follows:

Retained Earnings → Increase in Equity → Increase in Debt → Increase in Assets



Increase in Sales → Increase in Profit → Increase in Shareholders' Wealth

Shortly, the firm must identify its competitors and make a strategic plan to create a sustainability growth. To enhance and sustain its growth, firms have to determine and concentrate on the factors that affect the sustainable growth rate. As researchers have found that the operating and financial elements that are related to the sustainable growth rate are profit margin, asset efficiency, and capital structure and retention rate, therefore in order for firms to sustain its growth as well as to increase it, firms need to concentrate on the following factors: Amouzesh, Zahra, & Zahra (2011).

1) The first factor is the Profit Margin: The increase in the profit margin enhances the firm's ability to produce funds internally and increases the sustainability growth rate.

2) The second factor is the Net Asset Turnover: The increase in the firm's net asset turnover enhances the produced sales. Accordingly; as the sales are growing, so that it can increase the sustainability growth rate.

3) The third factor is the Financial Policy: The increase in the debt ratio enhances the leverage of a firm finance, and because this will make additional funds available, therefore it can increase the sustainability growth rate.

4) The fourth factor is the Dividend Policy: The decrease of the net profit percentage that is paid as the dividend to their shareholders; increases the retention ratio which in turn increases the equity produced internally and therefore increases the sustainability growth rate (Amouzesh et al., 2011). However, the reduction in the dividend payment affects the share prices in the Stock Capital Market. According to the signaling hypothesis, the reduction of dividend payment affects the prices of firm's shares in the stock capital market.

If the firm succeeds to enhance and maintain its sustainability growth rate, then the firm can maintain a long-term advantage and keep its financial health (Kumar, 2018). The sustainability growth rate will get the investors' interest in the capital market.

2.4. Challenges of sustainable growth rate:

Certainly, achieving the sustainable growth rate has currently become the prime concern of any firm's manager, whether small or big. However in today's fast changing economic, political and competitive environment, achieving the sustainable growth rate is not an easy task, especially in the present highly complex global environment (Dhannapal & Ganesan, 2010). Business experts argue that achieving sustainable growth is impossible without concentrating on two important aspects, which are the growth strategy and the growth capability.

Researchers indicate that firms that do not pay adequate attention to one aspect or the other are likely to fail in their efforts to achieve sustainable growth in the long run. This means that if a firm has a good growth strategy in place, however, the firm has not taken efforts to increase its infrastructural facilities; then the sustainable growth will fail in the long run. Similarly, if a firm has sufficient resources and infrastructural facilities however the firm has a poor growth strategy, then the firm will also fail in the long run. Accordingly, managers of firms have to focus simultaneously on both the firm's growth strategy and the firm's growth capability.

3. Literature Review:

Previous researchers have demonstrated that handling the firm's performance such as financial leverage, liquidity, asset efficiency, cash flow ratio, and size have become the most important factors that can influence the sustainable growth of the firm.

3.1. Financial leverage:

Leverage refers to financing methods of a firm and its ability to meet its financial obligations. A good firm performance is the firm which can manage and increase its financial condition. Many previous empirical researches have examined the relationship between the financial leverage

and the firm's sustainable growth rate. Previous researchers have found that the debt leverage has a significant positive effect on the firm's sustainable growth rate (Rahim, 2017, Fonseka et al. 2012, Ross, 1977, and Bagus, I Gusti Pratama & Wiksuana, 2016; Efendi & Wibowo, 2017; as cited in Mumu et al., 2019). As the financial leverage increased, the firm's sustainable growth rate increased and if the financial leverage decreased, the firm's sustainable growth rate also decreased and that the debt leverage has a positive influence on the growth of the firm (Srinivasa, 2011). An increase in the debt ratio increases the firm's financial leverage; and consequently this will make additional resources available which in turn enhances the firm's sustainable growth rate.

Previous researchers indicated that firms are tending to increase their leverage when they face attractive growth opportunities, however, too high leverage will cause firms to face problems especially in managing their debts (Chung, Na, & Smith, 2013). As well, the leverage amplifies the losses or gains in the business activities (Ilie & Olaru, 2013). The leverage busts the gains and supports economic growth during the good times. Accordingly, firms are using leverage at large scale. On the opposite side, firms will deleverage during the bad times because leverage also busts losses. Thus, financial crises happen because of the high degree of leverage and consequently deleveraging will follow the financial crisis. In fact, firms deleverage because they face risks and situations where they want to strengthen their financial stability (Wu & Chau Kin Au Yeung, 2012).

However, other researchers have found that a low-growth firm will tend to issue new debt than equity during improved market and economic conditions while for high-growth firms will be more likely to raise debt and equity (Wu & Chau Kin Au Yeung (2012). On the contrary, other researchers have found a different result that the financial leverage has no significant effect on the firm's sustainable growth rate, these results have been shown by (Utami, Muthia, & Thamrin, 2018, and Mardiyati, Umi dan Ahmad, 2012; Haryanto, 2014;; Arzu, 2018 as cited in Mumu et al., 2019). This research measures the financial leverage using the Debt to Asset Ratio. The Debt to Asset Ratio is a debt ratio that is used to measure the ratio between total debts to total assets. In other words, how much the company's assets are financed by debt (Lenka , 2017), Kasmir, 2014 as cited in Ilham 2019). This research expects that the firm's financial

leverage is positively associated with the firm's sustainable growth rate, accordingly, the first research hypothesis is assumed to be as follows:

H₁: There is a significant positive relationship between the firm's financial leverage and the firm's sustainable growth rate.

3.2. Firm's profitability:

Actually, the firm's profitability enhances the firm's sustainable growth rate, as an increase in the firm's profits will enhance the firm's ability to generate more funds internally and accordingly this will lead to an increase in the firm's sustainable growth. Firms can increase its profitability by increasing its manpower productivity which in turn will increase its sales. The earnings from revenue should be used for additional investment as increasing more number of retail outlets, providing more variety of products, improving the infrastructure in terms of wider and attractive places to attract more customers and increase the sales volume which in turn will increase the firm's profitability and growth. Researchers have proven that profitable firms with efficient planning and capital management will lead to successful firms with a high sustainable growth rate (Johnson & Soenen, 2003).

Previous empirical researches have examined the effect of the firm's profitability on the firm's sustainable growth rate. They have found a positive effect of the firm's profitability on the firm's sustainable growth rate (Amouzes et al., 2011). Accordingly, the research hypotheses will be as follows:

H₂: There is a significant positive relationship between the firm's profitability and the firm's sustainable growth rate.

3.3. Liquidity:

Many previous empirical researches have examined the relationship between the firm's liquidity and its sustainable growth rate. Many previous researchers have found no significant effect of firm's liquidity on the firm's sustainable growth rate, these results have been shown by Amouzes et al., 2011; Rahim, 2017; Arzu, 2018. However, Mumu et al. (2019) have found a significant positive effect of liquidity on the SGR; that the bigger

the firm liquidity, then it would increase the SGR value of a firm at Indonesia Stock Exchange. Also, Hartono & Utami (2016) have found different result that the firm's liquidity measured by the Current Ratio has a positive effect on the firm's sustainable growth rate using firms listed in the IDX 30 index on the Indonesia Stock Exchange. On the opposite; Pratama, (2019) showed that the liquidity had a significant negative effect on sustainable growth rate (Pratama, 2019).

Because of the lack of consensus among the previous empirical results, this study examines whether there is a relationship between the firm's liquidity and the firm's sustainable growth rate or not and we do not predict the direction of this relationship. Accordingly, the third hypothesis will be as follows:

H₃: There is a significant relationship between the firm's liquidity and the firm's sustainable growth rate.

3.4. Asset efficiency:

In fact, an increase in the firm's asset efficiency measured by the asset turnover increases the sales generated for each round in assets; and accordingly this will decrease the firm's need for new assets. As sales grow in this manner; this will lead to an increase in the firm's sustainable growth rate. Many previous empirical researches have examined the relationship between the Asset efficiency and the firm's sustainable growth rate. Researchers have measured the efficiency of asset by the asset turnover and the results have shown that total asset turnover has a positive effect on the sustainability growth rate (Rahim, 2017).

Many researchers have found a positive effect of Asset efficiency on the firm's SGR (Mumu et al., 2019, Pratama, 2019, Rahim, 2017). Accordingly, the fourth research hypothesis will be as follows:

H₄: There is a significant positive relationship between the firm's asset efficiency and the firm's sustainable growth rate.

3.5. Firm's size:

Previous empirical researches have examined the effect of firm's size on the firm's sustainable growth rate. Some researchers have found a significant positive effect of firm's size on the firm's sustainable growth rate (Rahim 2017; Platt, Platt, & Chen, 1995, and Nuswandari, 2009; Sumarna, 2017 as cited in Mumu et al., 2019). However, other researchers have found a significant negative relationship between the firm's size and the sustainable growth rate; that is the bigger the size of a firm, the bigger the fund needed for the active payment, thus the bigger the firm's size, it would decrease the sustainable growth rate of firms (Mumu et al., 2019). Meanwhile other researchers have found different results that the firm size has no significant effect on the firm's sustainable growth rate of firms (Wirajaya, 2013 as cited in Mumu et al., 2019).

Because of the lack of consensus, we examine the relationship between the firm's size and the firm's sustainable growth rate. But we do not predict the direction of the relationship. Accordingly, the fifth hypothesis will be as follows:

H₅: There is a significant relationship between the firm's size and the firm's sustainable growth rate.

3.6. The effect of the Sustainable Growth Rate on the firm's Value:

Currently, scholars are interested to investigate the relationship between the firm's ability to grow sustainable and the firm's value. In fact, the firm's value reflects the perception of the firms' investors to the success of the firms as reflected by the firms' share prices. Certainly, maximizing the firm's value is critical for all firms because it will increase shareholders' wealth (Hirdinis, 2019; Lonkani, 2018; Sabrin et al., 2016). The increase in the share price will enhance the firm's value and, eventually the shareholders' wealth (Sudiyatno et al., 2012; Suhanda et al., 2019, Listiani & Supramono, 2020).

A method to determine the firm's value is the Market to Book Ratio which also called the Price to Book Ratio. The Market to Book Ratio is a financial valuation metric used to evaluate the firm's current market value

relative to its book value. The market value is the current stock price of all outstanding shares which reflects the price that the market believes the firm is worth. The book value is the amount which would be left if the firm liquidated all of its assets and paid all its liabilities. The book value equals the net assets of the firm and comes from the balance sheet. In other words, the ratio is used to compare the firm's net assets that are available in relation to the selling price of its stock. If this ratio equal to or above one, this indicates that a firm's market value exceeds its recorded book value because the market appreciates the firm's future and performance. Conversely, if this ratio less than one, this shows that the market appreciates this firm less (Listiani & Supramono, 2020).

In fact, potential investors tend to select the shares of firms which promise a higher sustainable growth rate as these firms with higher sustainable growth rates have greater internal financing sources and eventually better future prospects (Ataünal et al., 2016; Sutjiati, 2017). Previous empirical researchers have found a positive effect of the firm's sustainable growth rate on the firm's value. Lo & Sheu (2007) have empirically found the positive effect of firm's sustainable growth on firm's value using a sample of 439 large US non-financial firms in the period of 1999-2002. Also, Amouzesh et al., (2011) have found significant effect of the difference between actual growth and sustainable growth rate on the firm's value using a 54 sample firms listed on the Iran financial market in the period of 2006-2009. Moreover, Sutjiati (2017) examines the association between the sustainable growth and firm value of 21 firms listed on the Indonesian Stock Exchange in the period of 2011-20114 and has found that sustainable growth rate significantly affects the firm's value. In addition, Listiani & Supramono (2020) have found a significant effect of the firm's sustainable growth rate on the firm's value using a sample of 134 Indonesian manufacturing firms in the period of 2013-2018.

H₆: There is a significant relationship between the firm's sustainable growth rate and the firm's value.

4. The Design of the Empirical Study:

4.1. Research population and Sample:

The population of this research consists of all firms listed in the Egyptian Stock Exchange during the period 2015-2019 which are 218 firms. The research sample consists of 215 firms' observations of 43 firms for 5 years period from 2015 till 2019 after excluding the outliers. The sample is an arbitrary sample which has taken into consideration the following in its selection:

- The firms included in the research sample are listed in the Egyptian Stock Exchange in this year.
- The shares of these firms have been traded in the Stock Market during this period.
- The firms included in the research sample are non-financial firms because the firms operating in the financial services have special nature and are subject to strict regulations on how they run their businesses and how much capital they need to set aside to be able to continue operating; which are different from other non- financial firms.
- The firms included in the research sample prepare its financial statements in the local currency.

The firms included in the research sample as divided into sectors are indicated in table (1) in the Appendix and the Names of Firms included in the Research Sample are indicated in table (2).

4.2. Data collection method:

The researcher has gathered the information from the web site of the Egyptian Stock of Exchange as well as from the annual financial reports of the listed firms for the period 2015-2019.

4.3. Statistical methods used in the analysis of data:

The data of this research is undergone for statistical analysis in order to check the validity of the hypotheses. The researcher used the SPSS program to provide the statistical indicators. The decision of accepting or

rejecting of these hypotheses depends on 90% significance level, which means that the data were analyzed on the assumption that the level of significance equals to 90%, and the maximum acceptance probability of falling into the error is 0.1. The researcher used two Regression Models as mentioned below.

4.4. Research Model:

4.4.1. The First Regression Model:

The following Multiple Regression Model is used to investigate the relationship between the SGR on the firm's performance accounting indicators of firms listed in the Egyptian Stock Exchange, this model will be as follows:

$$SGR_{it} = \beta_0 + \beta_1 LEVG_{it} + \beta_2 ROA_{it} + \beta_3 CR_{it} + \beta_4 CFR_{it} + \beta_5 ROS_{it} + \beta_6 SIZE_{it} + \varepsilon_{it}$$

Measurement of the Research Variables:

With respect to the dependent variable, the dependent variable is the firm's Sustainable Growth Rate (SGR) of firms listed in the Egyptian Stock Exchange. The SGR is measured as follows (Amouzesh et al. 2011, Mukherjee & Sankar, 2017, Şahin A.& Ergün B., 2018, Sunardi et al., 2021):

$$SGR = ROE * b / 1 - (ROE * b)$$

Where: b= retained earning rate in year t.

$$ROE = \text{Return on equity (net income/owner's equity) in year t.}$$

With respect to the independent variables, the independent variables are a set of firms' performance accounting indicators, which are as follows:

1- Financial Leverage (X1):

$LEVG_{it}$: Leverage refers to financing methods of a firm and its ability to meet its financial obligations, and is measured by the Debt to Asset Ratio. This debt ratio is used to measure the ratio between total debts to total

assets. In other words, how much the company's assets are financed by debt. This ratio is measured as follows: (Rahim, 2017, Lenka, 2017, Kasmir, 2014 as cited in Ilham 2019):

DTA_{it} : Debt to Assets Ratio = Total Liabilities/Total Assets of the firm.

2- Firm's profitability (X2):

ROA_{it} : Return on Assets is a profitability ratio; which is measured by the Net income/ Total Assets of the firm. (Amouzesch et al. 2011, Şahin A.& Ergün B., 2018).

Return on Assets (ROA) = Net Income/ Total Assets.

3- Liquidity (X3):

The liquidity ratio is measured by two ratios which are the Current Ratio and the Cash Flow Ratio (CFR):

- Current Ratio (CR) = Current Assets / Current Liabilities. (Amouzesch et al. 2011, Şahin A.& Ergün B., 2018).

- Cash Flow Ratio (CFR) = Net operating cash flow/ Total current liabilities (Mukherjee & Sankar, 2017)

4- Asset Efficiency (X4):

The Asset efficiency is measured by the Return on Sales as follows:

ROS_{it} = Net Income / Total Sales.

5- Firm's Size (X5):

$SIZE_{it}$ is a proxy for the firm's size which is measured by the Natural log of firm's Total Assets (Rahim, 2017).

Size_{it} = Natural Log (Total Assets).

4.4.2. The Second Regression Model:

The following Regression Model is used to investigate the effect of the SGR on the firm's valuation in the Egyptian Stock Exchange; this model will be as follows:

$$MTB_{it} = \beta_0 + \beta_1 SGR_{it} + \varepsilon_{it}$$

With respect to the dependent variable, the dependent variable is the firm's value which is measured by the MTB ratio.

$$MTB_{it} = \text{Market Value} / \text{Book Value. (Amouzesh et al. 2011)}$$

With respect to the independent variable, the independent variable is the firm's Sustainable Growth Rate (SGR) of firms listed in the Egyptian Stock Exchange. The SGR is measured as in the first regression model mentioned above.

5. Research Results:

5.1- Descriptive Statistic:

First, the descriptive statistics were conducted for the explanatory variables. Table (3) which provides the descriptive analysis, including the mean and the standard deviation for the explanatory variables is presented in the Appendix.

5.2. Correlation Analysis:

In this research, The Pearson Correlation Analysis is used to assess the correlation between the sustainable growth rate and the firm's performance and valuation accounting indicators; which are the leverage, performance, liquidity, asset efficiency, size, and the MTB. The results of the correlation analysis are presented in Table (4) in the Appendix.

The Pearson Correlation results show that there is a significant positive relationships were found between the SGR and the leverage ratio measured by the debt to asset ratio ($r = .191$), and between the SGR and the profitability ratio measured by ROA ($r = .440$) and ROE ($r = .884$) at the $P < 0.01$ level. Accordingly, these results support the first hypothesis H_1 , which states that there is a significant relationship between the SGR and the

firm's leverage. The statistical results also support the second hypothesis H_2 , which states that there is a significant positive relationship between the SGR and the firm's profitability. However, there is no significant correlation was found between the SGR and the firm's liquidity as measured by the current ratio ($r=-.107$, $p=.128$) and the cash flow ratio ($r=-.021$, $p=.763$). Accordingly, these results do not appear to support hypotheses the third hypothesis H_3 which states that there is a significant relationship between the SGR and the firm's liquidity in the Egyptian Stock Market.

In addition, there is a significant positive relationship was found between the SGR and the firm's Asset efficiency measured by the asset turnover ratio ($r = .126$) and the return on sales ratio ($r = .271$) at the $P < 0.01$ level. Accordingly, these results support the fourth hypothesis H_4 , which states that there is a significant relationship between the SGR and the firm's asset efficiency. However, there is a significant negative relationship was found between the SGR and the firm's size ($r = -.124$) at the $P < 0.01$ level. Accordingly, these results support the fifth hypothesis H_5 , which states that there is a significant relationship between the SGR and the firm's size.

Further, the statistical results show that there is a significant positive relationships between the SGR and the firm's valuation as measured by the MTB ratio ($r = .252$) at the $P < 0.01$ level. Accordingly, these results support the sixth hypothesis H_6 , which states that there is a significant relationship between the SGR and the firm's valuation.

5.3- Results of Regression Analyses:

5.3.1. The results of running the First Regression Model:

The results of running the First Multiple Regression Model of the SGR and the Firm's performance accounting indicators using the SPSS are presented in Table (5-A) in the Appendix. The following table (5-B) provides a Summary of the Regression Model of SGR on the firm's performance accounting indicators:

As mentioned in the Table (5-B) below, the Model Summary indicates that the Model is significant (Sig.=.000) which means that the overall Model is accepted, the R Square=.375, and the Adjusted R Square= .356.

To test the first hypotheses, the results of running the Multiple Regression Model indicate that the leverage variable is significant at the $P < 0.01$ level ($t=6.522$, $sig=.000$). **Accordingly the first research hypothesis (H₁) is supported;** there is a statistically significant positive relationship between the SGR and the firm's leverage and this result is consistent with the results of Rahim 2017, Fonseka et al. 2012, Srinivasa 2011, Ross 1977, and Bagus, I Gusti Pratama & Wiksuana, 2016; Efendi & Wibowo, 2017; as cited in Mumu et al., 2019, that the firm's sustainable growth rate increased as the financial leverage increased. In fact, the financial leverage makes additional resources available to the firm which in turn enhances the firm's sustainable growth rate.

Table (5-B): Summary of the Multiple Regression Model of the SGR on the firm's performance accounting indicators

Variable	Expected Sign	Standardized Coefficients B	T	Sig.	Model Summary		
					R Square	Adjusted R Square	Sig.
LEVG	+	.425	6.522	.000	.375	.356	.000
ROA	+	.546	8.251	.000			
Current ratio	+/-	.039	.632	.528			
Cash flows ratio	+/-	.026	.456	.649			
Return on sales	+	.131	2.134	.034			
Firm's size	+/-	-.197	-3.321	.001			

In addition, the results of running the Multiple Regression Model indicate that the relationship between the SGR and the firm's ROA is significant at the $P < 0.01$ level ($t= 8.251$, $sig=.000$). Thus, **the second hypothesis is accepted**, there is a significant positive relationship between the SGR and the firm's ROA and this result is consistent with the results of Amouzesh et al., 2011. Actually, the firm's profitability enhances the firm's sustainable growth rate, as an increase in the firm's profits will

enhance the firm's ability to generate more funds internally and accordingly this will lead to an increase in the firm's sustainable growth.

However, the relationship between the SGR and the firm's liquidity, as measured by the current ratio and the cash flows ratio, is insignificant at the $P < 0.01$ level. The relationship between the SGR and the current ratio is insignificant at ($t=.632$, $sig=.528$). Also, the relationship between the SGR and the cash flows ratio is insignificant at ($t=.456$, $sig=.649$). Accordingly, **the third hypothesis is rejected**; the relationship between the SGR and the firm's liquidity is insignificant, and this result is also consistent with the results of Amouzesh et al., 2011; Rahim, 2017; and Arzu, 2018 that there is no significant effect of firm's liquidity on the firm's sustainable growth rate.

With respect to the fourth hypothesis, the results of running the Multiple Regression Model indicate that the asset efficiency variable as measured by the return on sales is significant at the $P < 0.01$ level ($t=2.134$, $sig=.034$). **Accordingly the fourth research hypothesis (H₄) is supported**; there is a statistically significant positive relationship between the SGR and the firm's asset efficiency, and this result is consistent with the results of Mumu et al., 2019, Pratama, 2019, Rahim, 2017. In fact, as the firm's asset efficiency increase, this will lead to growth in sales. As more sales generated; this will lead to an increase in the firm's sustainable growth rate.

With respect to the fifth hypothesis, the results of running the Multiple Regression Model indicate that the firm's size is significant at the $P < 0.01$ level ($t=-3.321$, $sig=.001$). **Accordingly the fifth research hypothesis (H₅) is supported**; there is a statistically significant negative relationship between the SGR and the firm's size and this result is consistent with the results of Mumu et al., 2019. In fact, the bigger the size of a firm, the bigger will be the fund needed for the active payment. Accordingly, the bigger the firm's size, it would decrease the sustainable growth rate of firms.

5.3.2. The results of running the Second Regression Model:

The results of running the Second Regression Model of the Firm's Value on the SGR using the SPSS are presented in Table (6-A) in the

Appendix. The following table (6-B) provides a Summary of the Regression Model of the SGR on the Firm's Value is given below:

As mentioned in the Table (6-B) below, the Model Summary indicates that the Model is significant (Sig.=.000) which means that the overall Model is accepted, the R Square=.063, and the Adjusted R Square= .059.

Table (6-B): Summary of the Regression Model of Firm's Value on the SGR

Variable	Expected Sign	Standardized Coefficients B	T	Sig.	Model Summary		
					R Square	Adjusted R Square	Sig.
SGR	+	.252	3.707	.000	.063	.059	.000

To test the sixth hypothesis, the results of running the Second Regression Model indicate that there is a statistically positive relationship between the Firm's Value and the SGR at the $P < 0.01$ level ($t=6.522$, $sig=.000$). **Accordingly the sixth research hypothesis (H_6) is supported;** there is a significant positive effect of the SGR on the Value of firms listed in the Egyptian Stock Market, this result is also consistent with the results of Lo & Sheu 2007, Amouzesh et al. 2011, Sutjiati 2017, and Listiani & Supramono 2020. Actually, investors tend to select the shares of firms which promise a higher sustainable growth rate; as these firms with have better future prospects.

Robustness test:

This research performs a robustness test to increase the confidence in the findings of the empirical study. The research runs again another regression tests; however; the research instead of measuring the financial performance as the ROA, the research used the ROE instead; measured as Net Income divided by Total Equity. Also, the research instead of measuring the asset efficiency as the return on sale, the research used the asset turnover ratio instead; measured as Sales divided by Total Assets (Rahim, 2017). The

empirical results of are shown in table (7-A), (7-B) in the Appendix. A summary of the results are indicated in the following table (7-C):

Table (7-C): A Summary of the Regression Model of Firm's ROE on SGR & the Regression Model of Firm's Asset Turnover on the SGR:

Variable	Expected Sign	Standardized Coefficients B	T	Sig.	Model Summary		
					R Square	Adjusted R Square	Sig.
ROE	+	.884	26.965	.000	.782	.781	.000
Asset Turnover	+	.126	1.802	.073	.016	.011	.073

As mentioned in the Table (7-C) above, the statistical results show that there is a significant positive relationship between the Firms' ROE and the SGR (B=.884, Sig=.000). The results indicate that the Model Summary is significant (Sig.= .000), the R Square=.782, and the Adjusted R Square=.781; which means that the overall Model is accepted and there is a significant positive relationship between the Firms' ROE and the SGR. In addition, the statistical results show that there is a significant positive relationship between the Firms' Asset Turnover ratio and the SGR (B=.126, Sig=.073). The results indicate that the Model Summary is significant (Sig.= .000), the R Square=.16, and the Adjusted R Square= .11; which means that the overall Model is accepted and there is a significant positive relationship between the Firms' Asset Turnover ratio and the SGR.

6- Conclusion, Recommendations, and Future researches:

The empirical results indicate that there are statistically significant positive relationships between the SGR and the firm's leverage, profitability, and firm's asset efficiency, that is the higher the debt ratio ratios will increase sustainable growth rate of firms while the lower the debt ratio ratios will decrease sustainable growth rate firms. Also, the higher the firm's profitability, this will increase sustainable growth rate of firms. In addition, the higher the firm's asset efficiency, the higher will be the sustainable growth rate of firms. However, the results indicate that there

is a statistically significant negative relationship between the SGR and the firm's size. Whereas, the results indicate that there is no significant relationship between the SGR and the firm's liquidity. In addition, the results indicate that the empirical results have found a statistically significant positive effect of the SGR on the Firm's Value for firms listed in the Egyptian Stock Market. Our results would give an implication to the determinants and valuation of sustainable firm's growth.

The research recommends that Egyptian firms have to monitor and plan their levels of leverage in managing their business, in addition to set an important strategy for their business to grow sustainable and to be able to achieve their future goals. In addition, the research also recommends that the financial regulatory authority to establish a database for listed Egyptian firms according to their sustainable growth rate to attract potential investors as well as to attract and enhance foreign investments. Moreover, the research recommends that Accounting Departments in the Egyptian Universities should focus on the sustainable growth rate issue in their conferences to enhance the awareness of the Egyptian firms by this topic; thus firms will be able to compete, expand and perform well in the long run without running into financial problems.

This research suggests future researches should be conducted taking into consideration other financial ratios such as other leverage and profitability ratios. Future studies should be directed to investigate the effect of different ownership structures on the sustainable growth rate of firms in Egypt. For example, Future studies should be focus on examining the impact of the family ownership on the sustainable growth rate of firms in Egypt; it would be interesting also to study the effect of the institutional and the government ownership on the sustainable growth rate of firms listed in the Egyptian Stock Market.

Additional research might also be directed towards the effect of deviation of actual growth rate from sustainable growth rate on liquidity and firm performance of firms listed in the Egyptian Stock Market. Finally, future research may be conducted to identify the determinants of the

sustainable growth rate a comparative study between Egypt and other developing countries.

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Appendix

Table (1): Firms included in the Research Sample by Sector:

Sector	Number of firms in the sample	The percent of each sector in the sample	The percent of the sample firms to firms in its sector
Food and Beverage	8	18.6%	29.6 %
Real Estate	7	16.2%	22.5 %
Construction and Building Materials	5	11.6%	55 %
IT , Media & Communication Services	1	2.3%	20 %
Industrial goods, services, and Automobiles	4	9.3%	66.7 %
Healthcare and Pharmaceuticals	5	11.6%	35.7 %
Oil and Gas	1	2.3%	50 %
Trade and Distributors	1	2.3%	25%
Paper& Packaging	3	6.97%	75%
Basic Resources	7	16.27%	41.1 %
Housing and Personal products	1	2.3%	14.2 %
Total	43	100%	100%

Table (2): The Names of listed Firms included in the Research Sample

Serial	Names of firms	Sector
1.	Juhayna Food Industries Co.	Food and Beverage
2.	Delta Sugar Co.	Food and Beverage
3.	Arab Dairy Co.	Food and Beverage
4.	Cairo Poultry Co.	Food and Beverage
5.	Cairo Oils and Soap Co.	Food and Beverage
6.	Egyptian Starch & Glucose Co.	Food and Beverage
7.	East Delta Mills	Food and Beverage
8.	North Cairo Mills	Food and Beverage
9.	Madient Nasr for housing and development	Real Estate
10.	Heliopolis Company for Housing & Decelopment	Real Estate
11.	Palm Hills Developments	Real Estate
12.	Talaat Moustafa Group	Real Estate
13.	SODIC - 6 October Development & Investment	Real Estate
14.	Zahraa AlMaadi for Investment & Development	Real Estate
15.	ElGiza General Co, For Contracting & Real Estate	Real Estate
16.	ElOubour Paints & Chemical Industrirs Co.	Construction and Building Materials
17.	Insulation materials store	Construction and Building Materials

18.	Lecico Egypt	Construction and Building Materials
19.	Industrail Valve manufacturing Company	Construction and Building Materials
20.	Ezz Ceramic & Porcelaintiles	Construction and Building Materials
21.	Telecom Egypt	IT , Media & Communication Services
22.	El Sewedy Electric	Industrial goods, services, and Automobiles
23.	Electo Cable Egypt	Industrial goods, services, and Automobiles
24.	Electric Utility manufacturer	Industrial goods, services, and Automobiles
25.	Ghabbour Auto	Industrial goods, services, and Automobiles
26.	Delta for Printing & Packaging	Paper& Packaging
27.	Universal Company for Packing Material	Paper& Packaging
28.	General Company for Paper industrial (Rakta)	Paper& Packaging
29.	Alexandria Company for Pharmaceuticals & Chemicals Industrials	Healthcare and Pharmaceuticals
30.	ElArabeya Company for Pharmaceuticals & Chemicals Industrials	Healthcare and Pharmaceuticals
31.	Egyptian international Pharmaceuticals	Healthcare and Pharmaceuticals
32.	Memphis for Pharmaceuticals & Chemicals Industrials	Healthcare and Pharmaceuticals
33.	Minapharm P harmaceuticals	Healthcare and Pharmaceuticals
34.	AMOC - Alexandria Mineral Oils Co.	Oil and Gas
35.	GMC Company	Trade and Distributors

36.	Abu Qir Fertilizers	Basic Resources
37.	Egyptian international & Industrial Co.	Basic Resources
38.	Egypt Fertilizers	Basic Resources
39.	Sidi Kirayr Petrochemicals	Basic Resources
40.	Kafr ElZayat Pesticides & Chemicals	Basic Resources
41.	Ezz Steel	Basic Resources
42.	Egypt Aluminuim CO.	Basic Resources
43.	Oriental Weavers (Elnasagoun Elsharkyuon)	Housing and Personal products (Textile & Durables)

Table (3): The Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
SGR	205	-.99	1.88	.1145	.26769
Debt to Assets	205	.00	2.70	.5447	.33647
ROA	205	-.59	.80	.0843	.14984
ROE	205	-.99	2.06	.2070	.31837
Current Ratio	205	.27	150.29	6.2468	17.32390
Cash Flow Ratio	205	-12.98	107.58	.7299	7.85053
Asset Turnover Ratio	203	.01	3.98	.8840	.79615
Return on sales	203	-.89	5.18	.2217	.52762
SIZE	205	7.74	10.98	9.1952	.78361
MTB	205	-1.55	11.65	1.7424	2.01938
Valid N (listwise)	203				

Table (4): The Pearson Correlations

		SGR	Debt to Assets	ROA	ROE	Current Ratio	Cash Flow Ratio	Asset Turnover	Return on Sales	SIZE	MTB
SGR	Pearson Correlation	1	.191 ^{**}	.440 ^{**}	.884 ^{**}	-.107	-.021	.126	.271	-.124	.252 ^{**}
	Sig. (2-tailed)		.006	.000	.000	.128	.763	.073	.000	.076	.000
	N	205	205	205	205	205	205	203	203	205	205
Debt to Assets	Pearson Correlation	.191 ^{**}	1	-.336 ^{**}	.124	-.330 ^{**}	.008	.006	-.114	.109	-.006
	Sig. (2-tailed)	.006		.000	.077	.000	.911	.931	.104	.121	.936
	N	205	205	205	205	205	205	203	203	205	205
ROA	Pearson Correlation	.440 ^{**}	-.336 ^{**}	1	.672 ^{**}	-.088	-.011	.271	.375 ^{**}	.031	.568 ^{**}
	Sig. (2-tailed)	.000	.000		.000	.209	.874	.000	.000	.660	.000
	N	205	205	205	205	205	205	203	203	205	205
ROE	Pearson Correlation	.884 ^{**}	.124	.672 ^{**}	1	-.144	-.030	.218	.304	-.095	.453
	Sig. (2-tailed)	.000	.077	.000		.039	.674	.002	.000	.177	.000
	N	205	205	205	205	205	205	203	203	205	205
Current Ratio	Pearson Correlation	-.107	-.330 ^{**}	-.088	-.144	1	-.057	-.155	.016	-.209 ^{**}	-.100
	Sig. (2-tailed)	.128	.000	.209	.039		.414	.027	.824	.003	.153
	N	205	205	205	205	205	205	203	203	205	205
Cash Flow Ratio	Pearson Correlation	-.021	.008	-.011	-.030	-.057	1	-.064	-.010	.202	-.030
	Sig. (2-tailed)	.763	.911	.874	.674	.414		.361	.893	.004	.667
	N	205	205	205	205	205	205	203	203	205	205
Asset Turnover	Pearson Correlation	.126	.006	.271	.218	-.155	-.064	1	-.267 ^{**}	-.260 ^{**}	.186 ^{**}
	Sig. (2-tailed)	.073	.931	.000	.002	.027	.361		.000	.000	.008
	N	203	203	203	203	203	203	203	203	203	203
Return on Sales	Pearson Correlation	.271	-.114	.375 ^{**}	.304	.016	-.010	-.267 ^{**}	1	.082	.146
	Sig. (2-tailed)	.000	.104	.000	.000	.824	.893	.000		.244	.037
	N	203	203	203	203	203	203	203	203	203	203
SIZE	Pearson Correlation	-.124	.109	.031	-.095	-.209 ^{**}	.202	-.260 ^{**}	.082	1	-.080
	Sig. (2-tailed)	.076	.121	.660	.177	.003	.004	.000	.244		.252
	N	205	205	205	205	205	205	203	203	205	205
MTB	Pearson Correlation	.252 ^{**}	-.006	.568 ^{**}	.453	-.100	-.030	.186 ^{**}	.146	-.080	1
	Sig. (2-tailed)	.000	.936	.000	.000	.153	.667	.008	.037	.252	
	N	205	205	205	205	205	205	203	203	205	205

** . Correlation is significant at the 0.01 level (2-tailed).

		SGR	Debt to Assets	ROA	ROE	Current Ratio	Cash Flow Ratio	Asset Turnover	Return on Sales	SIZE	MTB
SGR	Pearson Correlation	1	.191**	.440*	.884*	-.107	-.021	.126	.271*	-.124	.252**
	Sig. (2-tailed)		.006	.000	.000	.128	.763	.073	.000	.076	.000
	N	205	205	205	205	205	205	203	203	205	205
Debt to Assets	Pearson Correlation	.191**	1	.336**	.124	-.330**	.008	.006	-.114	.109	-.006
	Sig. (2-tailed)	.006		.000	.077	.000	.911	.931	.104	.121	.936
	N	205	205	205	205	205	205	203	203	205	205
ROA	Pearson Correlation	.440*	.336**	1	.672*	-.088	-.011	.271*	.375**	.031	.568**
	Sig. (2-tailed)	.000	.000		.000	.209	.874	.000	.000	.660	.000
	N	205	205	205	205	205	205	203	203	205	205
ROE	Pearson Correlation	.884*	.124	.672*	1	-.144*	-.030	.218*	.304*	-.095	.453*
	Sig. (2-tailed)	.000	.077	.000		.039	.674	.002	.000	.177	.000
	N	205	205	205	205	205	205	203	203	205	205
Current Ratio	Pearson Correlation	-.107	.330**	-.088	.144*	1	-.057	-.155	.016	.209**	-.100
	Sig. (2-tailed)	.128	.000	.209	.039		.414	.027	.824	.003	.153
	N	205	205	205	205	205	205	203	203	205	205
Cash Flow Ratio	Pearson Correlation	-.021	.008	-.011	-.030	-.057	1	-.064	-.010	.202*	-.030
	Sig. (2-tailed)	.763	.911	.874	.674	.414		.361	.893	.004	.667
	N	205	205	205	205	205	205	203	203	205	205
Asset Turnover	Pearson Correlation	.126	.006	.271*	.218*	-.155	-.064	1	-.267*	.260**	.186*
	Sig. (2-tailed)	.073	.931	.000	.002	.027	.361		.000	.000	.008
	N	203	203	203	203	203	203	203	203	203	203
Return on Sales	Pearson Correlation	.271*	-.114	.375**	.304*	.016	-.010	-.267*	1	.082	.146
	Sig. (2-tailed)	.000	.104	.000	.000	.824	.893	.000		.244	.037
	N	203	203	203	203	203	203	203	203	203	203
SIZE	Pearson Correlation	-.124	.109	.031	-.095	-.209*	.202*	-.260*	.082	1	-.080
	Sig. (2-tailed)	.076	.121	.660	.177	.003	.004	.000	.244		.252
	N	205	205	205	205	205	205	203	203	205	205
MTB	Pearson Correlation	.252**	-.006	.568**	.453*	-.100	-.030	.186*	.146	-.080	1
	Sig. (2-tailed)	.000	.936	.000	.000	.153	.667	.008	.037	.252	
	N	205	205	205	205	205	205	203	203	205	205

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table (5-A): Summary of the Multiple Regression Model of the SGR on the firm's performance accounting indicators

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.613 ^a	.375	.356	.21574

a. Predictors: (Constant), SIZE, ROA, Cash Flow Ratio, Current Ratio, Return on Sales, Debt to Assets.

ANOVA ^b						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.483	6	.914	19.635	.000 ^a
	Residual	9.123	196	.047		
	Total	14.606	202			

a. Predictors: (Constant), SIZE, ROA, Cash Flow Ratio, Current Ratio, Return on Sales, Debt to Assets.

b. Dependent Variable: SGR.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.445	.189		2.358	.019
	Debt to Assets	.341	.052	.425	6.522	.000
	ROA	.976	.118	.546	8.251	.000
	Current Ratio	.001	.001	.039	.632	.528
	Cash Flow Ratio	.001	.002	.026	.456	.649
	Return on Sales	.067	.031	.131	2.134	.034
	SIZE	-.067	.020	-.197	-3.321	.001

Table (6-A): Summary of Regression Model of Firm's Value on SGR

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.252 ^a	.063	.059	.25971

a. Predictors: (Constant), MTB

ANOVA ^b						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.927	1	.927	13.741	.000 ^a
	Residual	13.692	203	.067		
	Total	14.619	204			

a. Predictors: (Constant), MTB

b. Dependent Variable: SGR

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.056	.024		2.348	.020
	MTB	.033	.009	.252	3.707	.000

a. Dependent Variable: SGR

Table (7-A): Summary of the Regression Model of Firm's ROE on the SGR

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.884 ^a	.782	.781	.12537

a. Predictors: (Constant), ROE

ANOVA ^b						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	11.428	1	11.428	727.106	.000 ^a
	Residual	3.191	203	.016		
	Total	14.619	204			

a. Predictors: (Constant), ROE

b. Dependent Variable: SGR

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.039	.010		-3.775	.000
	ROE	.743	.028	.884	26.965	.000

a. Dependent Variable: SGR

Table (7-B): Summary of the Regression Model of Firm's Asset Turnover on the SGR

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.126 ^a	.016	.011	.26742

a. Predictors: (Constant), Asset Turnover

ANOVA ^b						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.232	1	.232	3.247	.073 ^a
	Residual	14.374	201	.072		
	Total	14.606	202			

a. Predictors: (Constant), Asset Turnover

b. Dependent Variable: SGR

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.077	.028		2.754	.006
	Asset Turnover	.043	.024	.126	1.802	.073

a. Dependent Variable: SGR