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Determinants of Sustainable Growth Rate and Market Value: Evidence from Saudi Arabia

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ABSTRACT

The purpose of this study is to investigate the best model to predict the effect of sustainable growth rate and its determinants on the market value through relation derived through the Gordon Growth Model equation for the Saudi banks from 2010 to 2019. By applying Higgins basic model and PRAT model, the statistical results of multiple regression show that there is a positive significant effect for growth rate, ROE, profit margin, assets turnover, and financial leverage on market value, but no effect for retention rate on market value. Furthermore, the results of stepwise multiple regression show that the best statistical model for predicting market value using the Higgins basic model contains ROE after excluding the retention rate, which explains approximately 92% of the changes in the market value of Saudi banks, and the best statistical model for predicting market value using the PRAT model contains profit margin and assets turnover after excluding the retention rate and financial leverage, which explains approximately 70% of the changes in the market value of Saudi banks. By providing a research perspective on Saudi Arabia's banking industry, this study aims to fill a gap in the literature. There was no study that investigated that relationship by applying Higgins and PRAT models.

INTRODUCTION

Many researchers have examined the relationship between financial performance measurements and market performance measurement methods in recent years, attempting to predict market value using all methods of measurement. Those studies sought to identify any market performance measures that could accurately reflect the enterprise's actual performance and thus its closest accounting performance. This study investigates the effect of components of the sustainable growth rate equation on market value. In order to demonstrate the ability of financial performance measures in the sustainable growth equation to predict market value, the study relied on previous studies that linked financial performance measurements with market value. Furthermore, this study investigates the impact of earnings retention policies on enterprise market value, which, according to previous research, is an important component of dividend payout decisions and the second component of the sustainable growth equation.

The study's goal is to establish a link between sustainable growth and its components on one hand, and market value as measured by the profitability multiplier on the other. This will help shed light on how the rate of sustainable growth affects the market value of banks operating in the Saudi banking sector. This can be thought of as a new and different way of looking for a new effect on changes in the market value of that sector. This study aims to do the following:

- Determine the possibility of predicting market value using the sustainable growth rate.
- Predicting market value using the return on equity and retention rate as components of the Higgins basic model's sustainable growth rate (Higgins, 1977, 2018).
- Forecasting market value using the detailed components of the sustainable growth rate equation, which include profit margin, asset turnover, financial leverage, and retention rate (Higgins, 1977, 2018).

The analysis of an enterprise's sustainable growth is important for both owners and creditors, because owners understand that the enterprise's value is dependent on the future growth of profits, cash flows, and dividends. Creditors are interested in sustainable growth because it reflects the success of the enterprise, which, in turn, reflects its ability to pay future obligations. Furthermore, the study's significance can be seen in its ability to provide clear evidence for financial analysts on the feasibility of using this tool in predicting the market value of Saudi bank shares if a relationship between the study variables is established. Furthermore, it is the first study (to the best of the researcher's knowledge) that investigates the possibility of predicting market value, which has not previously been measured in the local environment, using the profitability multiplier ratio and the sustainable growth rate, and applies it to the banking sector.

Concerning the study's problem, the study is designed to ask the following questions:

- Does the rate of sustainable growth affect the market value of Saudi banks?
- Do the components of the basic Huggins model influence the market value of Saudi banks?
- Do the detailed Higgins model components affect the market value of Saudi banks?

1. THEORETICAL FRAMEWORK & LITERATURE REVIEW

1.1 Sustainable growth rate and market value

According to previous studies, the market value is influenced by fundamental elements represented in financial decisions, such as financing decisions, investment decisions, dividend decisions, and accounting profits (Altahtamouni, 2018), whereas the study of (Modigliani & Miller, 1963) is regarded as one of the studies that demonstrated that the market value is influenced by financing and investing decisions. The market value of a share is determined by the following two factors:

- The cash flow's present value in the future.
- The discount rate used to discount those future cash flows.

Cash flows are what an investor will receive at the end of a period, because the value of a common stock is equal to the present value of all cash flows (dividends) that are expected to be received during that period. Although the share value is determined by expected dividends, this does not necessarily imply that the establishment can increase its value by increasing current dividends, this is due to the fact that shareholders are concerned with both current and future dividends.

Dividend payout ratio is a measure of dividend policy because it is the means by which the enterprise can recoup any surplus after investing and covering operating costs. Furthermore, dividends reflect the directors' perspectives on the company's future goals (Palepu, et.al. 2000). For example, a company that is currently distributing high profits reduces its retained earnings and reinvests its profits. As a result, future dividends and profits will be reduced. It is worth noting at this point that future dividend growth occurs as a result of increased returns and what is measured by return on share.

According to Corrado and Jordan (2005), there are several ways to estimate the future growth of dividends in the constant growth model, such as the sustainable growth rate, which uses the enterprise's

return to estimate dividend growth. This demonstrates that the growth in distributions corresponds to the growth in returns. The increase in return on share is caused by inflation, the amount of retained earnings, and the enterprise's rate of return on equity. This means that the growth in profits will play a role in the growth in dividends (Weston & Brigham, 1993). R. Higgins proposed the concept of sustainable growth in 1977. He defined it as the maximum rate at which a company's sales can be increased without exhausting all of its financial resources. He also defined it as the annual increase in sales that is consistent with the enterprise's financial policies, and Olson and Pagano (2005) explained that the sustainable growth rate is a rate that varies from year to year because the ratios on which it is calculated are not fixed. Furthermore, while this growth is described as "sustainable," it is not continuous from year to year. Furthermore, sustainable growth can be defined as the rate of increase in sales, assets, and debt, in addition to the equity that can be preserved (indefinitely) without any attempt on the part of the administration to change the relationship between debt and equity or between the performance of return on equity and the dividend payout ratio (Gallinger, 2000). Furthermore, (Platt et al., 1995) defined it as the rate at which the enterprise's sales and assets grow without causing a change in the enterprise's capital structure.

As a result, enterprises must maintain sustainable growth in order to remain profitable, engage in profitable investments, and achieve high rates of return on equity and return on assets, which measure the rate of return on investment (Yakubu et al., 2022). It can also be stated that the enterprise's growth rate is an important factor in distinguishing between enterprises that maintain their value and those that destroy it. Furthermore, understanding the sustainable growth rate will lead to understanding the extent to which the enterprise is likely to face difficulties. For example, if a company is likely to go bankrupt in the future, this can be interpreted as an indication of the company's inability to keep up with its sustainable growth for real sales growth.

Higgins (1977, 2018) developed the following equation to calculate the rate of sustainable growth (SGR) as a basic model and as a PRAT model:

$$\text{SGR} = \text{ROE} \times \text{Retention rate} \quad (1)$$

While $\text{ROE} = \text{profit margin} \times \text{assets turnover} \times \text{financial leverage}$

Higgins (1977, 2018; Platt et al., 1995) used the PRAT model to express the SGR equation as follows:

$$\text{SGR} = P \times R \times A \times T \quad (2)$$

These are the following ratios: P (profit margin), R (retention rate), A (asset turnover), and T (financial leverage). Profit margin and asset turnover both evaluate a company's operating performance. Retention rate and financial leverage, on the other hand, capture a firm's dividend policy and financing decisions (Pinto, et al, 2015). Combinations of the components of sustainable growth also provide important insights. For example, net margin multiplied by asset turnover equals return on assets, return on assets multiplied by financial leverage equals return on equity, and retention rate multiplied by financial leverage is the compound financing factor reflecting the company's compound strategies for financing operations with retained earnings and debt (Lockwood & Prombutr, 2010).

As a result, a link can be made between the enterprise's sustainable growth rate and its market value, because the enterprise's value is determined by its profits and growth. Profits and growth are determined by the effects of financial market policy and market strategy (Palepu, et.al., 2000). Analysts use the concept of sustainable growth to evaluate the enterprise's ratios in a holistic manner. Furthermore, an increase in sustainable growth is accompanied by an increase in sales and profits. This may increase the likelihood of debt repayment and reduce the risk of default.

1.2 Profitability Multiplier

Publicly traded companies always try to capture relative attractiveness in the stock market, and the firm's wealth maximization goal always drives this. However, investors attempt to assess the firm's absolute position as well as its relative attractiveness. Various valuation techniques are used by researchers,

market analysts, fund managers, and investors in this context (Dutta, et al, 2018; Setianto et al., 2022). Various valuation techniques are used by researchers, market analysts, fund managers, and investors in this context. However, the majority of them rely on the price-to-earnings ratio (P/E ratio) for valuing and evaluating individual stocks (Molodovsky 1953), where P/E ratio is a useful metric for evaluating the relative attractiveness of a company's stock price compared to a firm's current earnings. The trailing P/E ratio is commonly regarded as an indicator of expected earnings growth, but it is also influenced by transitory (unsustainable) current earnings, an effect known to fundamental analysts as the "Molodovsky effect," from Molodovsky (1953): A P/E ratio can be high due to expected long-run earnings growth, but a company with expected long-run earnings growth can have a low trailing P/E ratio because current earnings are temporarily high.

According to Dutta et al. (2018), the P/E ratio, calculated by dividing the stock price by earnings per share, is also known as "Price Earnings Multiples." The profitability multiplier is the amount of money an investor is willing to pay to make one dollar of profit (Brigham, Ehrhardt, 2008). It is one of the market values measures that can be used to evaluate the enterprise. Financial analysts point out that a stock with a high stock price to earnings per share ratio is a growth stock (Corrado, Jordan, 2005). They also believe that these companies frequently do not divide all of their profits in order to reinvest them in better investment opportunities. When it comes to enterprises with increasing expected returns, the above-mentioned percentage must also rise.

The Gordon Growth Model equation can be used to determine stock prices and measure their intrinsic value based on the relationship between profitability multiplier and sustainable growth rate. Gordon and Shapiro (1956) and Gordon (1962) developed the Gordon growth model, which assumes that dividends grow at a constant rate indefinitely.

$$P_0 = \frac{D_0(1 + g)}{r - g} \quad (3)$$

$$\text{Or } P_0 = \frac{D_1}{r - g} \quad (4)$$

Where:

Dividend growth (g) = sustainable growth rate according to Gordon's equation (Stowe et.al., 2007)

The equation can be formulated by dividing both sides of the equation by the earnings per share:

$$P_0 / E_1 = \frac{D_1/E_1}{r - g} \quad (5)$$

$$P / E = \frac{\text{Dividend payout ratio}}{\text{the required rate of return on investment} - \text{sustainable growth rate}} \quad (6)$$

Gordon (1962) and (Fun and Basana, 2012) show that firm PE ratios are positively correlated with firm growth rate based on the above equation. After reviewing previous research, I discovered a few studies that investigated the relationship between the sustainable growth rate and the profitability multiplier specially by applying Higgins model and PRAT model. I discovered some studies that investigated the relationship between the profitability multiplier and other variables in order to determine the determinants of the profitability multiplier that affect the investor's investment decision.

The purpose of (Liu et al., 2002) study was to test the relationship between several multiples and the market share price. The research was carried out on a sample of American businesses. The study concluded that the profitability multiplier is the best explanation for market share price, and the historical profit multiplier is the second-best explanation for market share price. The sales multiplier was the worst estimate of the stock's market price, followed by the cash flow multiplier and the book value multiplier.

The Ramcharran (2002) study examined the impact of economic growth and credit risks on the price-to-return ratio in a variety of emerging markets. The findings revealed the existence of an effect of

economic growth and an effect of credit risk on the price-to-earnings ratio. Also, study of (Olson & Pagano, 2005) aimed to investigate and analyze the impact of sustainable growth on the performance of American banks and their extraordinary returns by applying to banks that merged between 1987 and 2000. The study concluded that for the banks that merged during that time period, sustainable growth was the most important determinant of performance, as measured by the change in the difference between stock return and market return. The findings also concluded that dividends were a factor in bank performance during that time period. Pandey (2005) investigated the factors that influence market value, as measured by market value to book value. The researcher concluded that the sustainable growth rate has a negative impact on market value. The researcher justified this finding by stating that the relationship between sustainable growth and value is primarily determined by how large or small the value of the return on equity (ROE) is in comparison to the cost (K). If the ROE is less than K, the sustainable growth, which is calculated using profit reinvestment, will have a negative impact on the value.

Amouzesh et al. (2011) attempted to investigate the relationship between sustainable growth rate and the performance of Iranian firms. They investigated the relationship between the deviation of actual growth rate from sustainable growth rate, return on equity (ROA), price to book value ratio (P/B), and current and acid ratios using the linear regression equation. They discover that the difference between the actual and sustainable growth rates is related to the ROA and P/B ratios. Afza and Tahir (2012) uses Ordinary Least Square (OLS) regression on pooled data from 25 firms listed on the Karachi Stock Exchange to identify the factors explaining variations in P/E ratio for Pakistan's chemical sector. The results show that the dividend payout ratio and Tobin's Q continue to be the most important determinants of P/E ratios for both pooled and time-series analysis.

In an attempt to test the determinants of price earning ratio (Premkanth, 2013), test the determinants of price earning ratio in Sri Lankan firms. He discovered that the ROE has a negative impact on the P/E and the dividend payout has a positive impact on the P/E among Sri Lankan listed companies. Wu (2014) investigated the relationship between return on equity and profitability multiplier. He discovers a U-shaped relationship between forward P/E and return on equity (ROE). The study (Madoroba and Kruger, 2015) aims to investigate the behavior of the Johannesburg Stock Exchange's sustainable growth rate and the stock prices of 64 listed companies. In conclusion, the findings of this study emphasize that the Gordon Growth Model for equity valuation must account for firms' complex growth parameters in order to avoid mispricing shares. The purpose of the (Aisyah and Rodoni, 2016) study was to examine the impact of the net profit margin, current ratio, and dividend payout ratio on the price earning ratio and price book value. The study's findings concluded that the dividend payout ratio has an effect on the price earning ratio.

Hartono and Utami (2016) studied the relationship between the sustainable growth rate and the profitability multiplier on a sample of Indonesian companies. Both variables were discovered to have an inverse relationship. Ochuko, (2017) investigated the effect of price-earnings ratio determinants on Nigerian firms using the fixed effect model and the random effect model. The dividend payout ratio, share price, dividend per share, profitability, market return, and company size were all found to have an effect on the price-earnings ratio. In the study of (TAHIR et al, 2017), they attempted to identify the factors explaining variations in the Price-to-Earnings ratio for the banking sector of Pakistan by using Ordinary Least Square regression model on balanced data of all the banking firms listed at Karachi Stock Exchange. According to the findings, the Dividend Payout Ratio remains the most important determinant of the Price-to-Earnings Ratio for both balanced and time-series data analysis. Altahtamouni (2018) sought to identify market value determinants for Jordanian banks, as measured by market to book value. He discovered that profitability, investment decisions, and long-term growth all have an impact on market value.

The study of Fesokh and Haddad (2019) seeks to investigate the factors that explain the behavior of the Price/Earnings ratio, with the primary goal of establishing a relationship between the Price/Earnings ratio and the factors that influence it. The findings (OLS regression) revealed that Tobin's Q, dividend growth, leverage, and size had the greatest impact on the Price/Earnings ratio. According to the findings of (Freihat, 2019) study, the most important factors influencing the price-earning ratio in the Amman Stock Exchange are dividend payout ratio and size. Aribawa et al. (2020) conducted research to determine the determinant of price earning ratio (PER) in property and real estate companies listed on the Indonesian Stock Exchange. The outcomes of each variable can be explained as follows: Tobin's Q has a positive impact, whereas Earning Growth and Size have a negative impact.

Do and Pham (2020) investigated the relationship between profitability multiplier and sustainable growth rate in Vietnamese firms. They concluded that the rate of sustainable growth and its components have an impact on the price-earnings ratio. Itemgenova and Sikveland (2020) investigated the factors that explain market value. According to the findings, return on equity is an important determinant of the price-earnings ratio and is negatively related to it. Listian and Supramono (2020) investigated the extent to which the sustainable growth rate could transfer the relationship between fixed asset growth and market value of a sample of Indonesian firms. The findings show that a firm's value is positively impacted by its sustainable growth rate. Iskenderolu and Karadeniz (2022) investigated the company-specific variables that influence price-to-earnings ratios for Turkish tourism companies listed on the Istanbul Stock Exchange. The analysis found a positive relationship between the Tobin Q ratio and the price-earnings ratio, but a negative relationship between the financial leverage ratio, stock price volatility, and the price-earnings ratio. In addition, there is no statistically significant relationship between sales volume and the price-earnings ratio.

2. METHODOLOGY

2.1 Sample and Data

The study population includes the Saudi banking sector from 2010 to 2019. In terms of the study sample, all banks in the Saudi banking sector were chosen if data were available throughout the study period.

2.2 Study Hypotheses

As previously stated, the assumed relationship between the sustainable growth rate and the profitability multiplier is a positive one. Thus, the following study hypotheses can be developed to test the relationship between SGR (as the basic model and the PRAT model) and market value:

H01: There is no statistically significant effect of sustainable growth rate on the market value.

H02: There is no statistically significant effect of Higgins basic model (return on equity and retention rate) on the market value.

H03: There is no statistically significant effect of PRAT model (profit margin, assets turn over, financial leverage and retention rate) on market value.

2.3 Variables measurement

Table 1 explains the study variables in accordance with previous studies as well as the theoretical framework and hypotheses of this study.

Table 1. Variable definitions and measurements

| Variable | Descriptions | Measurements |
|-------------------------------|-------------------------|---------------------------------------|
| Dependent Variable | | |
| Market value measured by (PE) | Price Earnings ratio | Ending share price/Earnings per share |
| Independent Variables | | |
| SGR | Sustainable Growth Rate | Return on Equity× Retention Rate |
| ROE | Return on Equity | Net income / Equity |
| P | Profit Margin | Net Income / Sales |
| R | Retention Rate | (1 - Dividend payout ratio) |
| A | Assets Turnover | Sales / Total assets |
| T | Financial leverage | Total asset / Equity |

Source: own

2.4 The study models

In this study, the following models were used to express the relationship between independent variables and dependent variables. The First Model:

$$PE_{it} = \alpha + \beta_1 SGR \quad (7)$$

The Second Model (Higgins basic model):

$$PE_{it} = \alpha + \beta_1 ROE + \beta_2 R + ei \quad (8)$$

The Third Model (PRAT model):

$$PE_{it} = \alpha + \beta_1 P + \beta_2 R + \beta_3 A + \beta_4 T + ei \quad (9)$$

2.5 Statistical Methods

In addition to testing the association between study variables, the main test that will be used in this study is multiple linear regression using stepwise regression in order to reach the best model to predict the market value throughout the mechanism of excluding non-influential factors in the market value. Researchers frequently use stepwise regression to select the "best" set of explanatory variables for a regression model (Gujarati and Porter 2009). Stepwise regression can be done in two ways: forward stepwise and backward stepwise. A forward-selection rule begins with no explanatory variables and then adds variables one at a time, based on which variable is the most statistically significant, until no statistically significant variables remain. A backward-elimination rule begins with all possible explanatory variables and then, one by one, discards the least statistically significant variables.

When each variable remaining in the equation is statistically significant, the discarding process comes to an end. Backward elimination is difficult when there are a large number of candidate variables, and it is impossible when the number of candidate variables exceeds the number of observations (Smith, 2018). The second and third models, as shown in the study models, will be subjected to stepwise regression.

3. EMPIRICAL RESULTS

3.1 Results of the descriptive statistics

Table 2 shows the descriptive statistics for the study variables, including the maximum and minimum values for the variables, as well as the mean and standard deviation. The table shows that the mean for market value is (19.2323) and the standard deviation is (75.06498), indicating that some banks' market values moved away from the sector's average during the study period. The findings show that some banks worked to create wealth for their owners, with the maximum value for the market value equaling (788.00). The results show that the maximum value for Saudi banks' sustainable growth is 0.22, the minimum value is zero, and the average value is 0.0760. Furthermore, the maximum values for profit margin, retention rate, assets turnover, and financial leverage are 0.68, 1.06, and 10.81, respectively.

Table 2. Descriptive Statistics

| Variables | Minimum | Maximum | Mean | St. Deviation |
|-----------|---------|---------|---------|---------------|
| PE | 3.55 | 788.00 | 19.2323 | 75.06498 |
| SGR | .00 | .22 | .0760 | .04158 |
| ROE | .00 | .22 | .1194 | .04547 |
| P | .02 | .68 | .4642 | .14644 |
| R | .00 | 1.00 | .6340 | .25441 |
| A | .02 | .06 | .0377 | .00705 |
| T | 1.71 | 10.81 | 6.8433 | 1.42086 |

Source: Author's calculations

3.2 Results of correlation analysis

The results of testing the correlation between the study variables based on the Pearson correlation coefficient for each model are shown in Tables 3, 4, and 5. The correlation analysis results show that there is a statistically significant correlation between each of SGR, ROE, P, R, A, T, and market value. Correlation coefficients ranged between 0.957 and 0.283. These findings show that the strongest relationship is between ROE and market value, and there is no relationship between retention rate (R) and market value.

Table 3. Correlation analysis of the first model

| <i>Variables</i> | <i>PE</i> | <i>SGR</i> |
|------------------|-----------|------------|
| PE | 1 | .461* |
| SGR | .461* | 1 |

Note: * Statically significant at 1%.

Table 4. Correlation analysis of the second model (Higgins basic model)

| <i>Variables</i> | <i>PE</i> | <i>ROE</i> | <i>RR</i> |
|------------------|-----------|------------|-----------|
| PE | 1 | .957* | .005 |
| ROE | .957* | 1 | .016 |
| R | .005 | .016 | 1 |

Note: * Statically significant at 1%.

Table 5. Correlation analysis of the third model (PRAT model)

| <i>Variables</i> | <i>PE</i> | <i>P</i> | <i>R</i> | <i>A</i> | <i>T</i> |
|------------------|-----------|----------|----------|----------|----------|
| PE | 1 | .824* | .005 | .443* | .283* |
| P | .824* | 1 | .025 | .394* | .228** |
| R | .005 | .025 | 1 | .068 | .181 |
| A | .443* | .394* | .068 | 1 | .078 |
| T | .283* | .228** | .181 | .078 | 1 |

Note: * Statically significant at 1%. ** Statically significant at 5%.

3.3. Results of Regression Analysis

When the study's hypotheses were tested using multiple linear regression, the following results were obtained, as shown in Tables 6, 7, and 8. Table 6 shows that the sustainable growth rate has a positive significant effect on market value, with an explanatory power (R-squared) of 21.3 percent, implying that the sustainable growth rate explains 21.3 percent of the changes in market value. As a result, the first hypothesis, that there is no statistically significant effect of sustainable growth rate on market value, can be rejected.

Table 7 also shows that the ROE has a positive significant effect on market value, with an explanatory power of 91.6 percent, and that the retention rate (R) has no effect on market value. As a result, the second hypothesis, indicating that the Higgins basic model (return on equity and retention rate) has no statistically significant effect on market value, can be rejected. This result is consistent with the (Wu,2014) study on the effect of ROE on market value.

Table 8 shows that profit margin (P), assets turnover (A), and financial leverage (T) all have a significant effect on market value, but retention rate (R) has no effect. As a result, the third hypothesis, which indicates that the PRAT model (profit margin, assets turnover, financial leverage, and retention rate) has no statistically significant effect on market value, can be rejected.

Tables 7 and 8 also show the variance inflationary factor (VIF), which is a measure of the linear Collinearity among variables, Collinearity Statistics, with coefficient values ranging from 1.039 to 1.244 in table 7 and 1.039 to 1.244 in table 8. According to Krehbiel et al. (2004), if the coefficient of VIF is equal to or greater than ten, there is a problem with strong collinearity among independent variables. However, if the VIF coefficient is equal to (1 - 5), this indicates that there is no collinearity between independent variables.

Table 6. Multiple linear regression of the first model

| <i>Variables</i> | <i>B</i> | <i>T</i> | <i>Sig.</i> | <i>R-squared</i> | <i>F-value</i> |
|------------------|----------|----------|-------------|------------------|----------------|
| Constant | 11.199 | 1.694 | .093 | | |
| SGR | 5.975 | 5.375 | .000 | 0.213 | 28.895* |

Note: * Statically significant at 1%.

Table 7. Multiple linear regression of the second model (Higgins basic model)

| <i>Variables</i> | <i>B</i> | <i>T</i> | <i>Sig.</i> | <i>Collinearity Statistics VIF</i> | <i>R-squared</i> | <i>F-value</i> |
|------------------|----------|----------|-------------|------------------------------------|------------------|----------------|
| Constant | 4.249 | 1.924 | .057 | | | |
| ROE | 25.825 | 33.959 | .000 | 1.000 | 0.916 | 576.608* |
| R | -.325- | -.362- | .718 | 1.000 | | |

Note: * Statically significant at 1%.

Table 8. Multiple linear regression of the third model (PRAT model)

| <i>Variables</i> | <i>B</i> | <i>T</i> | <i>Sig.</i> | <i>Collinearity Statistics VIF</i> | <i>R-squared</i> | <i>F-value</i> |
|------------------|----------|----------|-------------|------------------------------------|------------------|----------------|
| Constant | -2.442- | -.518- | .606 | | | |
| P | 34.848 | 12.535 | .000 | 1.244 | | |
| R | -1.382- | -.803- | .424 | 1.039 | 0.706 | 62.574* |
| A | 100.281 | 2.492 | .014 | 1.189 | | |
| T | 76.072 | 1.979 | .050 | 1.091 | | |

Note: * Statically significant at 1%.

When forward stepwise regression was applied to the eighth model (Higgins basic model) and ninth model (PRAT model), as shown in Tables 9 and 10, it was discovered that the best variables explaining market value in the Higgins basic model are the profit margin and asset turnover, after excluding the retention rate and financial leverage, and that the best variables explaining market value in the PRAT model are the profit margin and asset turnover, after excluding the retention rate and financial leverage.

The best regression models for predicting market value using the Higgins basic model and the PRAT model, respectively, are:

$$PE_{it} = 4.086 + 25.820 ROE \dots\dots\dots \text{Higgins basic model} \quad (10)$$

$$PE_{it} = .763 + 36.058 P + 97.103 A \dots\dots \text{PRAT model} \quad (11)$$

Table 9. Stepwise multiple linear regression for Higgins basic model

| Variables | B | T | Sig. | R-squared | F-value |
|--------------------|--------|--------|------|-----------|-----------|
| Constant | 4.086 | 1.898 | .060 | | |
| ROE | 25.820 | 34.096 | .000 | 0.916 | 1162.522* |
| Excluded variables | B | T | Sig. | | |
| R | -.010- | -.362- | .718 | | |

Note: * Statically significant at 1%.

Table 10. Stepwise multiple linear regression for PRAT model

| Variables | B | T | Sig. | R-squared | F-value |
|--------------------|--------|--------|------|-----------|----------|
| Constant | .763 | .176 | .861 | | |
| P | 36.058 | 13.164 | .000 | 0.695 | 120.674* |
| A | 97.103 | 2.395 | .018 | | |
| Excluded variables | B | T | Sig. | | |
| R | -.024- | -.444- | .658 | | |
| T | .102 | 1.867 | .065 | | |

Note: * Statically significant at 1%.

4. DISCUSSION

The purpose of this study was to investigate the impact of sustainable growth and its determinants on the price earning ratio as a measure of market value. We discovered a strong correlation between ROE and market value based on the findings. This result is consistent with the findings of (Wu,2014) but contradicts the findings of Premkanth (2013) and (Dutta et al., 2018). This result confirms that the market value reflects investors' interest in reading and reflecting the profits made by Saudi banks in the market value. The findings revealed that sustainable growth has an effect on market value. This indicates that the increase in the return obtained from bank sales and reinvested has had a positive significant effect on market value as measured by the profitability multiplier. This result is consistent with the findings of Olson & Pagano (2005), Altahtamouni (2018), Do and Pham (2020), and Listian and Supramono (2020), but contradicts the findings of Pandey (2005), Wu (2014) and Hartono and Utami (2016). Furthermore, this indicates that bank sales are increasing and that the return on investment and sales has resulted in a return greater than the investment cost. This has also reduced the risk of nonpayment for those banks, which is reflected in their deposits and any other debts owed to them. This result confirms what was stated by Corrado and Jordan (2005), who emphasized that growth shares have a high ratio of share price to return on one share. They also stated that the increase in the market value of those banks' shares indicates that investors anticipate high growth rates in the future, as the future growth rate represents the sustainable growth rate.

The retention rate and market value have no relationship. This indicates that the retention rate is not regarded as a factor influencing the market value for investors in the Saudi banking sector, implying that

the market value is unrelated to the banks' future plans and aspirations. This result is consistent with what was stated in the study of (Miller and Modigliani, 1961), which rejects the existence of a link between stock price and dividend policy and stock price, and it is inconsistent with what was stated in the study of (Premkanth, 2013). The findings revealed that profit margin has a positive effect on market value, with the greater the net profit margin, the better the company's ability to control costs, and the higher the net profit margin, the better it can maximize net profit from sales, which is reflected on market value, a finding that contradicts previous findings Aisyah and Rodoni (2016). It was also discovered that the asset turnover rate has a positive impact on market value, which explains the company's efficiency in using its assets to generate sales, which is positively reflected in the market value. In terms of financial leverage, it has a positive impact on market value, which is consistent with theory (Miller and Modigliani, 1961).

According to the Gordan model, the components of the Higgins basic model for measuring sustainable growth affect market value, and the components of the PRAT model affect market value, and the best influencing elements using the stepwise regression are the return on equity, profit margin, and asset turnover with a high explanatory power, which reinforces that sustainable growth and its components, according to the Gordan model, affect market value.

CONCLUSION

This study tested the impact of sustainable growth and its components on market value using the basic Higgins model and the PRAT model on Saudi banks.

According to the researcher's knowledge, this study is the first of its kind to investigate the factors influencing market value as measured by the price earning ratio using the sustainable growth rate and its components through application in the Saudi environment, particularly on Saudi banks, which are extremely important in the Saudi financial market. Data for the study were gathered between 2010 and 2019. The study discovered an effect on the market value measured by the price earning ratio on the return on equity, profit margin, asset turnover, and financial leverage by using the multiple linear regression test with stepwise regression to find the best model for predicting the market value and applying forward stepwise regression. It was discovered that the best variables explaining market value in the Higgins basic model after excluding the retention rate is ROE, and that the best variables explaining market value in the PRAT model after excluding the retention rate and financial leverage are the profit margin and asset turnover. Future research should include other financial and non-financial companies to investigate the effect of the Higgins model components on various market value measures.

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