

CHAPTER 5

RESULTS AND DISCUSSION – OBJECTIVE TWO: FIRM SPECIFIC FACTORS, SUSTAINABLE GROWTH RATE AND SHARE PRICE PERFORMANCE

5.1 Introduction

In Chapter 4 this study confirmed that target firms' capital structure and dividend policy exist for all types of leverage for each sector. This study then continues the empirical study of objective two that investigates the mediating effect of sustainable growth rate (SGR) on the relationship between firm specific factors (capital structure, dividend policy, profitability, company efficiency and firm size) and share price performance (SPP) of Malaysian Public-listed Shariah-compliant firms.

Section 5.2 shows the results of the descriptive statistics of the analysis. Section 5.3 reports the results of the correlation analysis. Section 5.4 discusses the results of the mediation effects using the Structural Equation Model (SEM) in STATA software. The results of the robustness tests discussed in Section 5.5 cover two parts, i.e. Industry and Matrix financing behaviour on under-levered, over-levered, under-paying, and over-paying of dividend. Finally, Section 5.6 presents the conclusion of the findings.

5.2 Descriptive Statistics

The sample consists of 181 Malaysian public-listed Shariah-compliant firms with 1810 being the total number of observations (Refer Table 3.1 in Chapter 3). After removing the outliers,¹² the details of the number of final observations for each model

¹² This study removed the outliers using Cook's distance test (Cook, 1977) after running OLS regression for each model analysis.

of the analysis are summarized in Table 5.1.

Table 5.1: No. Of Final Observations using Cook's Distance Test for the mediating effect of SGR on the relationship between firm specific factors and SPP for each model

Model of analysis			
1	2	3	4
1723	1734	1735	1732

The details results on descriptive statistics is presented in Table A-20 (a - c) [Appendix 3]. Table 5.2 shows the mean values of the firm specific factors, SGR and SPP for each model of analysis. The mean value for Lev 1 (TDTE) is around 37%, while Lev 2 (TDTA) is 17%. The result for Lev 2 (TDTA) records that the average leverage for all firms is 17%, which is lower than 33% on the financial screening benchmarks. When looking at the specific average on leverage, the mean value of Lev 3 (TCDTA) and Lev 4 (IDTA) are 16% and 7%, respectively. This result confirms that most of the firms have leverage of less than 33% on financial screening benchmarks. The approximate mean value of dividend policy is between 30 and 32%, profitability is 8%, while efficiency is between 2.3 and 2.4 times. For firm size, the approximate mean value is 20.3. The average SGR is between 4.6 and 4.8%, and SPP is 8.6-87%.

Table 5.2: Mean values for the firm specific factors, SGR and SPP

Variable	Model 1	Model 2	Model 3	Model 4	Approximate Mean Values
Lev 1 (TDTE)	0.3727	-	-	-	37%
Lev 2 (TDTA)	-	0.1710	-	-	17%
Lev 3 (TCDTA)	-	-	0.1616	-	16%
Lev 4 (IDTA)	-	-	-	0.0068	7%
Dividend policy	0.3166	0.3028	0.3027	0.3015	30-32%
Profitability	0.0808	0.0838	0.0838	0.0828	8%
Company's Efficiency	2.2922	2.3538	2.3554	2.3633	2.3-2.4 times
Firm's size	20.3126	20.3159	20.3169	20.3125	20.3
Sustainable growth rate	0.0481	0.0485	0.0485	0.0466	4.6-4.8%
Share price performance	0.0863	0.0862	0.0868	0.0873	8.6-8.7%

5.3 Correlation Analysis

The correlation matrix between the variables of each model is presented in Table A-21 (a - d) [Appendix 3]. From the matrix, this study emphasizes the overall correlation signs between the the firm specific factors, SGR and SPP. The correlation signs are summarized in Table 5.3 and Table 5.4.

Table 5.3: Correlation sign of independent variables with SPP

Variable	Model 1	Model 2	Model 3	Model 4
Lev 1 (TDTE)	-			
Lev 2 (TDTA)		-		
Lev 3 (TCDTA)			-	
Lev 4 (IDTA)				+
Dividend policy	ns	ns	ns	ns
Profitability	+	+	+	+
Company's Efficiency	ns	ns	ns	ns
Firm's size	ns	ns	ns	ns
Sustainable growth rate	+	+	+	+

Note: ns = not significant

Based on the summary in Table 5.3 above, leverage 1 (TDTE), leverage 2 (TDTA), and leverage 3 (TCDTA) are stated as being negatively significantly correlated to SPP. In contrast, leverage 4 (IDTA) was found to have a positive correlation with SPP. This situation indicates that higher debt decreases the SPP, but, contradicts the Islamic debt where higher Islamic debt leads to an increase SPP. The results are in line with Yang et al. (2010), Abdullah et al. (2015), Ahmad et al. (2013), and Chen and Chen (2011) who found a negative relationship between leverage and stock returns. Profitability and SGR are consistently reported to be positively correlated to SPP for all models. Profitability has a significant positive influence on stock returns (Haugen and Baker, 1996; Yang et al., 2010; Ahmad et al., 2013; Chandra et al., 2019; Ahmad et al., 2013).

Table 5.4: Correlation sign of independent variables with SGR

Variable	Model 1	Model 2	Model 3	Model 4
Lev 1 (TDTE)	-			
Lev 2 (TDTA)		ns		
Lev 3 (TCDTA)			ns	
Lev 4 (IDTA)				+
Dividend policy	-	ns	ns	ns
Profitability	+	+	+	+
Company's Efficiency	-	-	-	-
Firm's size	+	+	+	+

Note: ns = not significant

Referring to the summary in Table 5.4 above, leverage 1 (TDTE) is reported to be negatively correlated to SGR, which indicates that firms that consume higher debt tend to have lower SGR and vice versa. In contrast, Leverage 4 (IDTA) is observed to be positively correlated to the SGR, which denotes that raised more Islamic debt can increase the SGR. Capital structure was found to influence the SGR of a firm (Escalante et al., 2009; Fonseka et al., 2012; Higgins, 1977). A firm with higher leverage leads to a higher SGR (Fonseka et al., 2012). Adding to that, profitability and firm's size are positively correlated with the SGR for all models. Dividend policy and company's efficiency appear to have a negative correlation with SGR. Table 5.5 shows the multicollinearity test for each model.

Table 5.5: Testing for the Multicollinearity (Variance Inflation Factor)

Hypotheses	Model			
	1	2	3	4
Step 1: Hypothesis 2.1	1.09	1.09	1.08	1.03
Step 2: Hypothesis 2.2	1.09	1.09	1.08	1.03
Step 3: Hypothesis 2.3	1.00	1.00	1.00	1.00
Step 4: Hypothesis 2.4	1.21	1.18	1.18	1.13

The results of the multicollinearity test above show that the values of the variance inflation factor (VIF) are between 1.00 and 1.69 for all regression models. This indicates

that there is no multicollinearity problem, in that the values for VIF for all the regression models recorded values of less than 10.

5.4 SEM for Mediation Analysis

This section discusses the the mediating effect of SGR on the relationship between firm specific factors (capital structure, dividend policy, profitability, company efficiency and firm size) and SPP. In relation to this, Channon & McGee (2015) stated that the SGR is the rate of increase in return on equity in line with a firm's target debt to equity, target dividend payout, profit margins, and total assets to sales ratios. The discussion covers the results of the Structural Equation Model (SEM) using STATA software.

Based on Chapter 4 Results of target capital structure, this study used four models to find the appropriate model that provides important factors to give a better explanation of their influence on sustainable and SPP. Based on the explanatory power of the models, this study finds that most of the steps have the highest adjusted r-squared in Model 1¹³. This suggests that the variables in model 1 are important factors in order to give a better explanation of their influence on the SGR and SPP. Table 5.6 shows the adjusted r-squared for each level of of regression employed in the study.

Table 5.6: Explanatory Power of the Models

Adjusted r-squared	Model 1	Model 2	Model 3	Model 4
Step 1	0.0175	0.0167	0.0172	0.0169
Step 2	0.2912	0.2414	0.2399	0.2331
Step 3	0.0383	0.0310	0.0312	0.0348
Step 4	0.0382	0.0358	0.0362	0.0368

¹³ Table A-22 (a-d) [refer Appendix 3] present step 1 to step 4 the regression results of Pooled OLS regression for all models in order to identify explanatory power of the models.

5.4.1 Analysing the Mediating Effects using SEM

Structural equation modelling (SEM) was used to estimate the direct and indirect effects using STATA (Hussain et al., 2017; and Gu, Cao & Wang, 2019). This study performed SEM using Stata software because it is a suitable method to answer the research questions and achieve the specific objectives of this research.

The significant influence between the firm specific factors, SGR, and SPP is presented in Table.

Table 5.7: Statistically Significant Value Estimates of Firm Specific Factors, SGR and SPP

Model	Coef. (β)	Std. error	C.R.
Panel A			
Lev 1 (TDTE) \rightarrow SGR	-0.0352	0.0114	-3.08***
Dividend policy \rightarrow SGR	-0.0147	0.0056	-2.61***
Profitability \rightarrow SGR	0.2079	0.0317	6.57***
Company's efficiency \rightarrow SGR	-0.0025	0.0015	-1.59
Firm's size \rightarrow SGR	0.0074	0.0019	3.97***
Panel B			
Lev 1 (TDTE) \rightarrow SPP	-0.0142	0.0221	-0.64
Dividend policy \rightarrow SPP	0.0135	0.0095	1.42
Profitability \rightarrow SPP	0.1073	0.0678	1.58
Company's efficiency \rightarrow SPP	0.0022	0.0034	0.63
Firm's size \rightarrow SPP	-0.0049	0.0070	-0.70
SGR \rightarrow SPP	0.8069	0.1490	5.42***
R-squared (R ²): SGR		0.2933	
R-squared (R ²): SPP		0.0416	
Overall		0.2956	

Notes: ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. The table shows that SEM was performed using Stata software to measure the Beta (β) coefficient, standard error and statistically significant values using resampling from the bootstrapping procedures for 5000 samples for all samples.

Based on Table 5.7 above, the coefficient of firm specific factors (R²) for the analysis is lower than 80%. Although the r-squared is low, it can still indicate a real relationship between the dependent and the independent variables. The results indicate that the independent variable does not explain much of the variation of the dependent

variable. For example, the coefficient of Profitability is $\beta=0.2079$, which means that, on average, a one unit increase in profitability is associated with a 20.79 percent increase in the SGR. The following analysis is discussed in four stages, as follows:

- (i) Relation between the firm specific factors and SPP.
- (ii) Relation between the firm specific factors and SGR.
- (iii) Relation between SGR and SPP.
- (iv) SGR as an indirect/mediator between the firm specific factors and SPP.

5.4.1.1 Step 1: The Direct Relationship between the Firm Specific Factors and SPP

Table 5.8 shows the relationships between the SGR and SPP.

Table 5.8: The Direct Relationship between the Firm Specific Factors and SPP

Hypothesis	Description	Result
H2.1a	Leverage 1 (TDTE) to share price performance	Not significant (-)
H2.1b	Dividend policy to share price performance	Not significant (+)
H2.1c	Profitability to share price performance	Not significant (+)
H2.1d	Company's efficiency to share price performance	Not significant (+)
H2.1e	Firm's size to share price performance	Not significant (-)

The results above indicate that none of the direct relationships for any of the firm specific factors have a significant relationship with SPP. This finding is consistent and supports earlier findings for each exogenous variable, i.e. capital structure (Chandra et al., 2019); dividend policy (Ali, Sharif & Jan, 2019; Hashemijoo et al., 2012); profitability (Ali, Sharif & Jan, 2017); Company's efficiency (Dzikevicius & Saranda, 2011; Lyroudi (2018); and firm size (Ahmad et al., 2013). Capital structure has no effect on stock returns (Chandra et al., 2019). Ali, Sharif & Jan (2017) found that the dividend per Share and Retention Ratio has an insignificant relationship with Share

Market Prices but that the dividend Payout Ratio has a significant positive relationship with Share Prices.

Hashemijoo et al. (2012) stated that there is no significant relationship between stock price volatility and dividend policy in Malaysian consumer product firms. In relation to profitability, profit after tax has an insignificant relation to Stock Prices, and earnings per Share has a positive significant relation to Stock Prices (Ali, Sharif, & Jan, 2017). They suggest that firms should regularly pay dividend as it will cause an upward movement in the stock market prices. For company's efficiency, Dzikevicius & Saranda (2011) found no significant relation between asset turnover and stock returns, which is consistent with the recent findings of Lyroudi (2018) who stated that there was no evidence of a statistically significant strong linear relationship between the asset turnover ratio and stock returns. Firm size on the other hand, is not related to SPP. Ahmad et al. (2013) found that firm size is not significant, which means it has no effect on stock returns, which goes against the theoretical expectation that firm size affects stock returns. In this case, this result indicates that SPP would not necessarily increase irrespective of higher or lower leverage, dividend policy, profitability, company's efficiency, or firm's size.

5.4.1.2 Step 2: The Direct Relationship between the Firm Specific Factors and SGR

Hypothesis 2.2 (a-e) examines the relationship between the firm specific factors and SGR. The predicted sign and significance for the firm specific factors are shown in Table 5.9.

Table 5.9: The Direct Relationship between the Firm Specific Factors and SGR

Hypothesis	Description	Result
H2.2a	Leverage 1 (TDTE) to sustainable growth rate	Significant (-)
H2.2b	Dividend policy to sustainable growth rate	Significant (-)
H2.2c	Profitability to sustainable growth rate	Significant (+)
H2.2d	Company's efficiency to sustainable growth rate	Not significant (-)
H2.2e	Firm size to sustainable growth rate	Significant (+)

Based on the above results, it appears that leverage and dividend policy are negatively related to the SGR, while, profitability and firm size positively significantly influences the SGR. Referring to leverage, the negative relationship with SGR indicates that higher leverage will decrease SGR. These findings are in line with Fonseka et al. (2012), who found that large firms with high leverage give a lower SGR using the Higgins model. For dividend, high growth firms need to reduce the payout ratio and retain more earnings as precautionary reserves, but low growth firms are likely to be more mature and build up their reserves for flexibility (Lee et al., 2015).

For company's efficiency, there is an insignificant relationship between a company's efficiency and SGR for Malaysian Public-listed Shariah-compliant firms. These findings consistent with Alayemi and Akintoye (2015), found that there is no significant relationship between the rate of sustainable growth and the total turnover of assets. With respect to firm size, it has a significant positive influence on SGR. This result contradicts Tarek Ibrahim Eldomiaty et al. (2017) who pointed out that large size firms (based on assets) are characterized by a decreasing sustainable growth of sales, while small size firms are associated with an increasing growth of sales.

Taken together, the results show that a lower leverage, a lower dividend payout, a higher profit margin, and a higher firm size will increase the SGR. Although this finding looks similar to Arellano and Higgins (2007), leverage (debt to equity ratio) has a different significant sign. They found that a higher profit margin, a lower dividend

payout ratio, a higher debt to equity ratio, or a lower asset to sales ratio will increase the sustainable sales growth rate.

5.4.1.3 Step 3: The Direct Relationship between the SGR and SPP

Hypothesis 3 predicts a positive relationship between the SGR of the firm and SPP. Table 5.10 shows the results of the direct relationship between SGR and SPP.

Table 5.10: The Direct Relationship between SGR and SPP

Hypothesis	Description	Result
H3	Sustainable growth rate to share price performance	Significant (+)

Based on the above table, the findings show a positive significant relationship between SGR and SPP ($z=5.42$, $p<0.01$). The result indicated that a higher SGR tends to have a higher SPP. This result is similar to the static estimation model in which a high SGR is always associated with higher SPP. This positive relationship is in line with Madoroba and Kruger (2015) who found that the SGR has a positive significance related to SPP.

5.4.1.4 Step 4: SGR as Mediator between the Firm Specific Factors and SPP

The mediation model hypothesizes that the firm specific factors influences the mediator (SGR), which, in turn, influences the dependent variable (SPP). Table 5.11 shows the results of the mediation effect or indirect effect on the SGR between the firm specific factors and the SPP. This result is based on bootstrapping and Sobel test estimation.

Table 5.11: SGR play as Mediator between the Firm Specific Factors and SPP

Hypothesis	Mediating effects analysis	Bootstrapping			Sobel Test		Result
		Coef.	Std. error	Critical ratio	Std. error	Critical ratio	
H2.4a	Lev 1 (TDTE) → Sustainable growth rate (SGR) → Share price performance (SPP)	-0.0284	0.0097	-2.93***	0.0106	-2.6823***	Significant (-)
H2.4b	Dividend policy (DPR) → Sustainable growth rate (SGR) → Share price performance (SPP)	-0.0118	0.0048	-2.45**	0.0051	-2.3302**	Significant (-)
H2.4c	Profitability (NPM) → Sustainable growth rate (SGR) → Share price performance (SPP)	0.1678	0.0380	4.41***	0.0402	4.1758***	Significant (+)
H2.4d	Company's efficiency (ATS) → Sustainable growth rate (SGR) → Share price performance (SPP)	-0.0020	0.0013	-1.55	0.0013	-1.5929	Not significant (-)
H2.4e	Firm size → Sustainable growth rate (SGR) → Share price performance (SPP)	0.0060	0.0017	3.43***	0.0019	3.1619***	Significant (+)

Notes: ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. The SEM was performed using Stata software to measure the Beta (β) coefficient, standard error and statistically significant values using resampling from the bootstrapping procedures for 5000 samples for all samples.

Based on the summary shown in Table 5.11 above, this finding clearly confirms and is consistent for both t-statistics tests, i.e. bootstrapping test and Sobel test, that there is a significant mediating effect in the analysis. Based on path c, none of the variables are significant. The effect, including the mediator for paths “a” and “b”, is significant and has a strong mediation in some specific factors, i.e. leverage, dividend policy, profitability, and firm size, but not company’s efficiency. According to Ramli (2014), if the mediation t-statistics are found to be significant, then the study should identify the magnitude of the effect given by the ratio of the indirect or mediating effect to the total effect by computing the Variance Accounted For (VAF) value.¹⁴

¹⁴ If the VAF is 40%, the results indicated that only half of the total effect of the specific attribute on share price performance is explained by the mediating effect. The formula to compute VAF is as follows.

VAF = $(a \times b) / (a \times b + c)$, where a, b, and c are the path coefficients (Ramli, 2014).

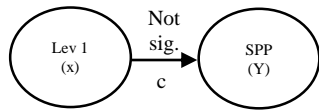


Figure 5.1: Simple cause effect model

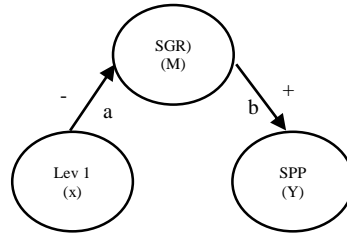


Figure 5.2: Complex cause effect model

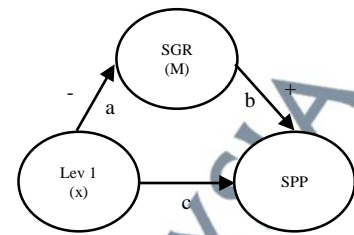


Figure 5.3: Mediation Model

Based on the results in Table 5.12, the mediation effect result shows that leverage, dividend policy, profitability, and firm size are considered as an “indirect-only mediator”. The results of the mediation effect are based on the typology of mediation.¹⁵ The indirect-only mediator variable means that the indirect effect ($a \times b$) is significant, but that the direct effect (c) is not significant.

For example, in Figure 5.1 the simple cause effect model shows no significant influence between leverage and SPP. Then, we reject Hypothesis 2.1a because the results show no significant relationship between leverage and SPP. This indicates that higher or lower leverage will not have any influence on the SPP. Theoretically, this finding contradicts previous researchers who found a significant influence on the share price (Chen & Chen, 2011; Ahmad et al., 2013; Abdullah et al., 2015; Yang et al., 2010; Khan et al., 2013). Although leverage appears does not influence the SPP, it has a positive influence on the SGR. When the two hypotheses, H2.2a (path a) and H3 (path b), are combined in one model ($a \times b$) they have an indirect effect under the complex cause effect model (Figure 5.2). Hence, the combination of Hypotheses H2.1a and H3 is needed to develop a complete mediation model (Figure 5.3).

The complete mediation model establishes hypotheses H2.4, which proposed that the relationship between leverage and SPP is mediated by the SGR. Therefore,

¹⁵ Refer to Table 3.7: A typology of mediations in Chapter 3: Research Methodology for details.

interestingly, when estimating the relationship between the direct effects (*c*) for leverage it shows an insignificant relationship ($a = -0.0142, z = -0.64, p > 0.10$), but path *a* shows a negatively significant relationship ($a = -0.0352, z = -3.08, p < 0.01$), path *b* shows positively significant ($a = 0.8069, z = 5.42, p < 0.01$), and path *c* shows a significant relationship ($a = -0.0284, z = -2.93, p < 0.01$). Therefore, it is of benefit for us to know that a higher or lower leverage does not directly influence the increase or decrease in SPP, but that a higher or lower leverage may influence the increase or decrease in the SGR. Then, an increase or decrease in the SGR may lead to an increase or decrease in the SPP. In the signalling theory, the increasing or decreasing leverage can give bad or good news about a firm to the investor, which can influence higher or lower SPP. However, this finding shows that the SGR is an important factor in terms of higher or lower SPP.

Similar to dividend, the direct effects (*c*) show an insignificant relationship ($a = 0.0135, z = 1.42, p > 0.10$), path *a* shows a positively significant relationship ($a = -0.0147, z = -2.61, p < 0.01$), path *b* shows positively significant ($a = 0.8069, z = 5.42, p < 0.01$), and path *c* shows a significant relationship ($a = -0.0118, z = -2.45, p < 0.05$). This finding indicates that reducing the payment of dividend can increase the SGR and SPP. This result complies with the trade-off theory. For trade-off theory (Miller, 1977), the theory is an optimal debt-equity combination that maximizes the value of the enterprise and is generated when the benefits and costs are balanced (Gómez, Mena Rivas, & Lizaraburu Bolaños, 2014). Moreover, growth causes firms to shift their financing from new equity to debt in order to reduce agency problems.

As for profitability, the direct effects (*c*) shows an insignificant relationship ($a = 0.1073, z = 1.58, p > 0.10$), path *a* shows a positively significant relationship ($a = 0.2079, z = 6.57, p < 0.01$), path *b* shows positively significant ($a = 0.8069, z = 5.42, p < 0.01$), and

path *c* shows a significant relationship ($a= 0.1678$, $z= 4.41$, $p<0.01$). This finding shows that increases in profitability can increase the SGR and also SPP. In relation to this issue, Lockwood and Prombutr (2010) pointed out that sustainable growth rises for value firms, perceived risks fall, required returns fall, and valuations increase relative to growth firms. Then, the direct effect (*c*) for firm size shows an insignificant relationship ($a= -0.0049$, $z= -0.70$, $p>0.10$), path *a* shows a positive significant relationship ($a= 0.0074$, $z= 3.97$, $p<0.01$), path *b* shows positively significant ($a= 0.8069$, $z= 5.42$, $p<0.01$), and path *c* shows a significant relationship ($a= 0.0060$, $z= 3.43$, $p<0.01$). This result indicates that bigger sized firms would give a higher SGR of firm and better SPP. Together, these results show that a lower leverage and dividend payout, higher profitability, and larger firms tend to increase the SGR, and, hence, an increase in the SGR would increase the firm's SPP.

Table 5.12: Summary of the Results of Mediation Effect with the Typology of Mediation

Paths	Description	Result	Decision	VAF
a	H2.2a: Lev 1 (TDTE) → SGR	Significant (-)	Indirect-only mediation	0.67
b	H3: SGR → SPP	Significant (+)		
c	H2.1a: Lev 1 (TDTE) → SPP	Not significant (-)		
c'	H2.4a: Lev 1 (TDTE) → SGR → SPP	Significant (-)		
a	H2.2b: Dividend policy → SGR	Significant (-)	Indirect-only mediation	-7.44
b	H3: SGR → SPP	Significant (+)		
c	H2.1b: Dividend policy → SPP	Not significant (+)		
c'	H2.4b: Dividend policy → SGR → SPP	Significant (-)		
a	H2.2c: Profitability → SGR	Significant (+)	Indirect-only mediation	0.61
b	H3: SGR → SPP	Significant (+)		
c	H2.1c: Profitability → SPP	Not significant (+)		
c'	H2.4c: Profitability → SGR → SPP	Significant (+)		
a	H2.2d: Company's efficiency → SGR	Not significant (-)	No-effect non-mediation	
b	H3: SGR → SPP	Significant (+)		
c	H2.1d: Company's efficiency → SPP	Not significant (+)		
c'	H2.4d: Company's efficiency → SGR → SPP	Not significant (-)		
a	H2.2e : Firm size → SGR	Significant (+)	Indirect-only mediation	5.45
b	H3: SGR → SPP	Significant (+)		
c	H2.1e : Firm size → SPP	Not significant (-)		
c'	H2.4e : Firm size → SGR → SPP	Significant (+)		

Figure 5.4 shows the framework for the mediation results for the relationship between the firm specific factors, SGR, and SPP. In order to make the results clear, bold lines indicates a significant relationship between each variable.

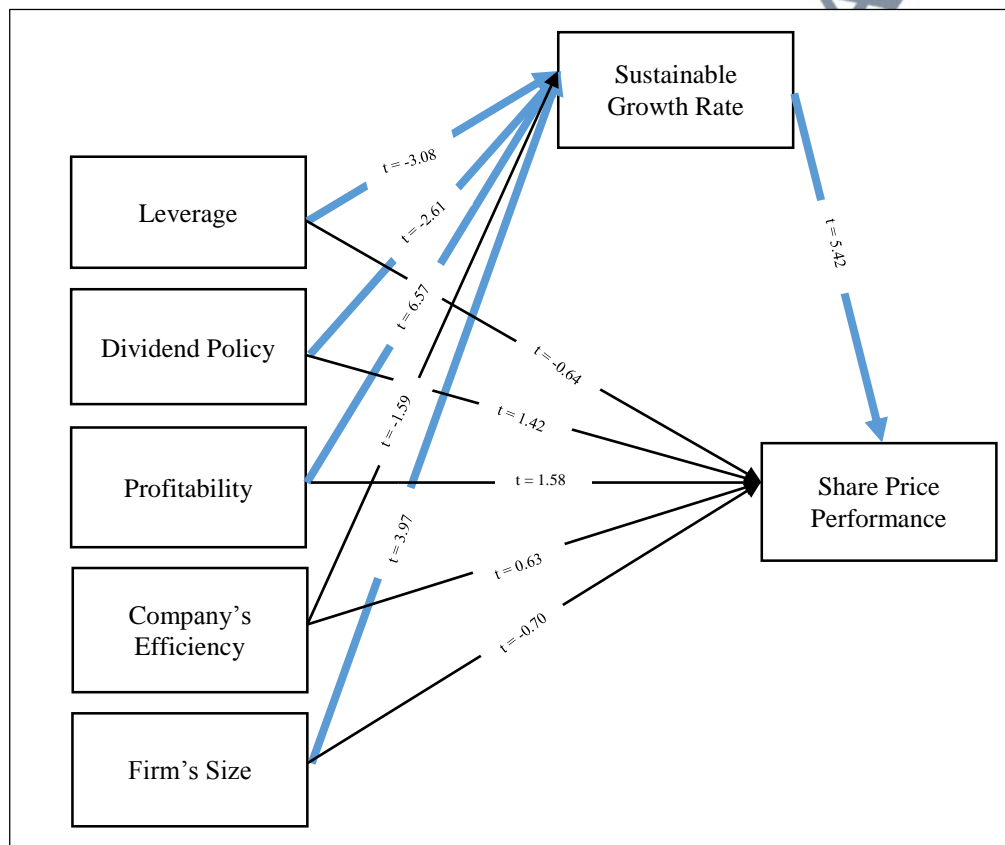


Figure 5.4: Mediation Analysis of the Relationship between Firm Specific Factors, SGR, and SPP

5.5 Robustness Tests

This section discusses the robustness test regarding the impact between firm specific factors, SGR, and SPP of Malaysian Public-listed Shariah-compliant firms.

The following is the analysis of the robustness test based on four parts of the analysis, i.e. Industry; Matrix situation on under-levered, over-levered, under-paying, and over-

paying of dividends; Financial screening benchmarks; and Positive and negative Return on equity.

5.5.1 Industry

The following analysis discusses in detail the correlation analysis, and empirical results for all industries – consumer products, industrial products, construction, trading and services, properties, and plantation.

A simple comparison across the industries suggests that, on average, construction firms have higher leverage while consumer products have lower leverage (refer Table 5.13). The results show that consumer products have the highest level of dividend during the period of study (37.7%) while properties recorded the lowest dividend policy (25.84%). Plantation firms appear to have the highest average profitability of 14.29% compared to industrial products, which have the lowest average profitability of 4.92% among industries. The average company efficiency for properties recorded the highest value of 4.8231 and the lowest is consumer products at 1.3127.

Continuing with the observation, looking at the average firm's size, the statistics show that trading and services were the highest with 20.9727 while industrial products had the lowest value of 20.0754. For the SGR, construction recorded the highest average SGR of 5.91% and lowest average is trading and services, which is 3.78%. Similarly, trading and services appear to have the lowest average SPP at 6.09%, while properties recorded the highest average SPP at 13% compared to other industries.

Table 5.13: Mean Values by Each Industry

Variable	Industry					
	Consumer Products (N: 332)	Industrial Products (N: 553)	Construction (N: 179)	Trading and services (N: 326)	Properties (N: 167)	Plantation (N: 166)
Lev 1 (TDTE)	0.3046 (6)	0.3404 (5)	0.4779 (1)	0.4482 (2)	0.3662 (3)	0.3610 (4)
Dividend policy	0.3770 (1)	0.2978 (3)	0.2685 (5)	0.3655 (2)	0.2584 (6)	0.2723 (4)
Profitability	0.0733 (5)	0.0492 (6)	0.0783 (4)	0.0980 (3)	0.1075 (2)	0.1429 (1)
Company's Efficiency	1.3127 (6)	1.5864 (5)	2.1261 (4)	2.5604 (3)	4.8231 (1)	3.7085 (2)
Firm's size	19.5852 (3)	20.0754 (6)	20.4305 (5)	20.9727 (1)	20.4878 (4)	20.9581 (2)
Sustainable growth rate	0.0466 (3)	0.0474 (2)	0.0591 (1)	0.0378 (5)	0.0420 (4)	0.0474 (2)
Share price performance	0.0996 (3)	0.0724 (4)	0.0704 (5)	0.0609 (6)	0.1300 (1)	0.1294 (2)

5.5.1.1 Correlation Analysis

The correlation matrix between the variables for each model is presented in Table A-23 (a-f) [Appendix 3]. From the matrix, this study emphasizes the overall correlation signs between the firm specific factors, SGR, and SPP for each industry.¹⁶ The correlation signs are summarized in Table 5.14 and Table 5.15.

Table 5.14: Correlation sign of Independent Variables with SGR for Each Industry

Variable	Consumer Products (N: 332)	Industrial Products (N: 553)	Construction (N: 179)	Trading and services (N: 326)	Properties (N: 167)	Plantation (N: 166)
Lev 1 (TDTE)	ns	-	ns	ns	ns	ns
Dividend policy	ns	ns	ns	ns	ns	ns
Profitability	+	+	+	+	ns	+
Company's efficiency	-	ns	ns	-	ns	ns
Firm size	ns	ns	ns	ns	ns	-
Sustainable growth rate	+	+	ns	+	+	+

Note: ns = not significant

¹⁶ Few studies are to be found that provide detailed information about the sustainable growth rate and share price performance for each of the industries. This is in line with Park & Jang (2010) who point out that understanding the growth patterns of the industry is essential for establishing sustainable growth strategies. Therefore, the study continues observation under objective two in order to examine the impact between the firm specific factors, sustainable growth rate, and share price performance for each industry.

Referring to the summary in Table 5.14 above, profitability is reported to be positively correlated to SPP for all the firms in the industries except Properties, which indicates that firms with high profitability tend to increase SPP. This is in line with Yang et al. (2010) who reported that firms with higher profitability earned higher returns and thus a positive relation between profitability and returns is expected. Similarly, SGR is observed to be positively correlated with SPP, which has a higher SGR and tends to increase SPP. Profitability has a significant positive influence on stock returns (Haugen and Baker, 1996; Yang et al., 2010; Ahmad et al., 2013; Chandra et al., 2019; Ahmad et al., 2013).

Adding to that, leverage is negatively correlated with SPP in Industrial products while company's efficiency is negatively correlated with SPP in Consumer products and Trading and services. For firm size, only Plantation reported that firm size is negatively correlated with a SGR. Table 5.15 shows the correlation results of the independent variables with a SGR.

Table 5.15: Correlation sign of Independent Variables with SPP for Each Industry

Variable	Consumer Product	Industrial Product	Construction	Trading and services	Properties	Plantation
Lev 1 (TDTE)	ns	-	-	ns	+	ns
Dividend policy	ns	ns	ns	ns	ns	ns
Profitability	+	+	+	+	+	+
Company's efficiency	-	-	ns	ns	-	-
Firm size	+	+	ns	+	+	ns

Note: ns = not significant

The results above indicate that profitability is positively correlated with SGR for the firms in all industries. This result means that higher profitability will increase the SGR of the firm. As for company's efficiency, there is a negative significant correlation

between company's efficiency and SGR. Hafid (2016) found that there is a positive effect between total asset turnover and SGR. Firm size is positively correlated with SGR, which means that larger firms have a higher SGR while smaller firms tend to have a lower SGR. As for leverage, the correlation results recorded mixed correlation between industries.

The results of the multicollinearity test show that the values of VIF are between 1.00 and 1.83, thereby indicating that there is no multicollinearity in this regression analysis (refer Table A-24 (a-f) in Appendix 3 for details).

5.5.1.2 Mediation Effects Analysis using SEM

Table 5.16 shows the results of the significant influence between the firm specific factors, SGR, and SPP for each industry.

Based on the results, the coefficient of firm specific factors (R²) for the analysis is lower than 80%. Although the r-squared is low, it can still indicate a real relationship between the dependent and independent variables. The findings recorded that Properties has the highest coefficient of firm specific factors with the overall r-squared= 0.6360 @ 63.60%, followed by Industrial products, Consumer products, Trading and services, Construction, and Plantation. The results indicate that the independent variable does not explain much of the variation of the dependent variable. For example, the coefficient of Profitability in Properties is $\beta=0.2978$, which means that, on average, a one unit increase in profitability is associated with a 29.78 percent increase in the SGR. The following analysis will be discussed in four stages, as follows:

- (i) Relation between the firm specific factors and SPP for each industry.
- (ii) Relation between the firm specific factors and SGR for each industry.
- (iii) Relation between SGR and SPP for each industry.

- (iv) SGR play as an indirect/mediator between the firm specific factors and SPP for each industry.

Table 5.16: Statistically Significant Value Estimates of the Firm Specific Factors, SGR and SPP for Each Industry

Model 1	Consumer Product			Industrial Product			Construction		
Panel A (a)	Coef.	Std. error	C.R.	Coef.	Std. error	C.R.	Coef.	Std. error	C.R.
Lev 1 (TDTE) → SGR	-0.0135	0.0160	-0.85	-0.0497	0.0231	-2.15**	-0.0583	0.0313	-1.86*
Dividend policy → SGR	-0.0268	0.0228	-1.17	-0.0070	0.0060	-1.16	-0.0526	0.0234	-2.24**
Profitability → SGR	0.3142	0.0628	5.00***	0.2134	0.0966	2.21**	0.4756	0.1739	2.73***
Assets efficiency → SGR	-0.0040	0.0042	-0.95	-0.0057	0.0032	-1.80*	0.0015	0.0077	0.20
Firm size → SGR	0.0093	0.0047	2.00**	0.0015	0.0047	0.33	-0.0007	0.0073	-0.09
Panel B (c)									
Lev 1 (TDTE) → SPP	-0.0881	0.0833	-1.06	0.0014	0.0591	0.02	-0.0552	0.0548	-1.01
Dividend policy → SPP	0.0049	0.0456	0.11	0.0081	0.0142	0.57	0.0620	0.1083	0.57
Profitability → SPP	-0.1390	0.2881	-0.48	-0.0226	0.1190	-0.19	0.6955	0.3319	2.10**
Assets efficiency → SPP	-0.0222	0.0274	-0.81	-0.0009	0.0084	-0.10	-0.0030	0.0150	-0.20
Firm size → SPP	-0.0023	0.0251	-0.09	-0.0073	0.0168	-0.43	0.0125	0.0298	0.42
SGR → SPP (b)	1.2336	0.3904	3.16***	1.0578	0.3180	3.33***	0.1145	0.2970	0.39
R-squared (R2): SGR		0.3387			0.4187			0.2770	
R-squared (R2): SPP		0.0528			0.0463			0.0507	
Overall		0.3449			0.4191			0.3036	
Model	Trading and services			Properties			Plantation		
Panel A (a)	Coef.	Std. error	C.R.	Coef.	Std. error	C.R.	Coef.	Std. error	C.R.
Lev 1 (TDTE) → SGR	-0.0121	0.0166	-0.73	0.0311	0.0140	2.21**	-0.0051	0.0165	-0.31
Dividend policy → SGR	-0.0218	0.0156	-1.40	-0.0080	0.0057	-1.41	-0.0211	0.0149	-1.41
Profitability → SGR	0.2512	0.0838	3.00***	0.2978	0.0409	7.28***	0.0977	0.0524	1.86*
Assets efficiency → SGR	-0.0069	0.0045	-1.54	0.0008	0.0015	0.55	-0.0019	0.0030	-0.63
Firm size → SGR	0.0100	0.0025	3.94***	0.0096	0.0035	2.74***	0.0019	0.0049	0.40
Panel B (c)									
Lev 1 (TDTE) → SPP	-0.0117	0.0348	-0.34	0.1713	0.1681	1.02	0.0199	0.0738	0.27
Dividend policy → SPP	0.0010	0.0262	0.04	0.0554	0.0980	0.57	0.0198	0.0340	0.58
Profitability → SPP	0.2669	0.1889	1.41	-0.0233	0.3238	-0.07	0.0859	0.1463	0.59
Assets efficiency → SPP	-0.0181	0.0094	-1.92*	0.0089	0.0086	1.04	0.0033	0.0076	0.43
Firm size → SPP	-0.0181	0.0114	0.75	-0.0732	0.0408	-1.79*	-0.0432	0.0295	-1.47
SGR → SPP (b)	0.5503	0.3377	1.63	1.6345	0.7324	2.23**	1.1461	0.6074	1.89*
R-squared (R2): SGR		0.2920			0.6276			0.2416	
R-squared (R2): SPP		0.0693			0.0603			0.0746	
Overall		0.3096			0.6360			0.2599	

Notes: ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. The table shows the SEM was performed using Stata software measures the Beta (β) coefficient, standard error and statistically significant values using resampling from the bootstrapping procedures for 5000 samples for all samples.

5.5.1.2.1 Step 1: The Direct Relationship between the Firm Specific Factors and SPP by Each Sector

Table 5.17 shows the relationships between the firm specific factors and SPP for each industry under Step 1.

Table 5.17: The Direct Relationship between the Firm Specific Factors and SPP for Each Industry

Hypothesis	Description	Industry					
		Consumer Product	Industrial Product	Construction	Trading and services	Properties	Plantation
H2.1a	Leverage 1 (TDTE) to share price performance	Not significant (-)	Not significant (+)	Not significant (-)	Not significant (-)	Not significant (+)	Not significant (+)
H2.1b	Dividend policy to share price performance	Not significant (+)	Not significant (+)	Not significant (+)	Not significant (+)	Not significant (+)	Not significant (+)
H2.1c	Profitability to share price performance	Not significant (-)	Not significant (-)	Significant (+)	Not significant (+)	Not significant (-)	Not significant (+)
H2.1d	Company's efficiency to share price performance	Not significant (-)	Not significant (-)	Not significant (-)	Significant (-)	Not significant (+)	Not significant (+)
H2.1e	Firm's size to share price performance	Not significant (-)	Not significant (-)	Not significant (+)	Not significant (+)	Significant (-)	Not significant (-)

The results above indicate that leverage, dividend policy, profitability, company's efficiency, and firm's size are not significantly related to SPP for all industries, but that only certain variables have a significant influence on the SPP in certain industries. The findings show that profitability has a positive influence on SPP in Construction, while company's efficiency influence the SPP in Trading and services. Moreover, firm size has a significant influence on the SPP in Properties. This finding indicates that higher or lower SPP would not necessarily be influenced by leverage, dividend policy, profitability, company's efficiency, or firm's size. These findings are consistent and support the earlier findings for each exogenous variable, i.e.

capital structure has no effect on stock returns (Chandra et al., 2019); dividend policy has no effect on stock returns (Ali, Sharif & Jan, 2019; Hashemijoo et al., 2012); profitability has no effect on stock returns (Ali, Sharif & Jan, 2017); Company's efficiency has no effect on stock returns (Dzikevicius & Saranda, 2011; Lyroudi (2018); and firm size has no effect on stock returns (Ahmad et al., 2013).

5.5.1.2.2 Step 2: The Direct Relationship between the the firm specific factors and SGR by Each Sector

Hypothesis 2 examines the relationship between the firm specific factors and SGR. The results of the direct relationship between the firm specific factors and SGR for each industry are shown in Table 5.18 below.

Table 5.18: The Direct Relationship between the Firm Specific Factors and SGR for Each Industry

Hypothesis	Description	Industry					
		Consumer Product	Industrial Product	Construction	Trading and services	Properties	Plantation
H2.2a	Leverage 1 (TDTE) to sustainable growth rate	Not significant (-)	Significant (-)	Significant (-)	Not significant (-)	Significant (+)	Not significant (-)
H2.2b	Dividend policy to sustainable growth rate	Not significant (-)	Not significant (-)	Significant (-)	Not significant (-)	Not significant (-)	Not significant (-)
H2.2c	Profitability to sustainable growth rate	Significant (+)	Significant (+)	Significant (+)	Significant (+)	Significant (+)	Significant (+)
H2.2d	Company's efficiency to sustainable growth rate	Not significant (-)	Significant (-)	Not significant (+)	Not significant (-)	Not significant (+)	Not significant (-)
H2.2e	Firm size to sustainable growth rate	Significant (+)	Not significant (+)	Not significant (-)	Significant (+)	Significant (+)	Not significant (+)

Referring to the summary in Table 5.18 above, profitability has a positive significant influence on the SGR for the firms in all the industries. Firm size is reported to be positively related to the SGR in Consumer products, Trading and services, and Properties. This finding is consistent with Higgins (1977) who mentioned that more profitable firms have a higher SGR due to effective investment in fixed assets, efficient working capital management, and higher taxes. Leverage is found to be negatively related to a SGR in Industrial products and Construction but the same factor is positively related to a SGR in Properties. The prosperity of companies is much related to how managers manage their capital structure. The use of debt is limited as companies will face the prospect of bankruptcy. Under the pecking order theory, a company requires funding, financial resources by retained earnings at the beginning, but, if it still has financial problems, it is necessary for the company to raise funds on debt followed by equity. Based on the trade-off theory, growth causes firms to shift financing from new equity to debt to reduce agency problems. This is also related to whether the manager borrows money under long-term debt, short-term or equity in addition to improving company's growth. Moreover, the use of debt can have an impact on the company earnings.

As for company's efficiency, it is negatively related to the SGR in Industrial products and dividend policy is negatively related to a SGR in Construction. Theoretically, to increase the SGR, a company will reduce the payment of dividend to its shareholders when real growth is higher than the SGR. Then, the reduction in dividend payment can affect stock prices. Aligned with the signalling hypothesis, the effect of dividend policy will make changes to the stock prices, and the stock prices will go up or down. A negative relationship between the payout and growth ratios means that high growth firms need to reduce the payout ratio and retain more earnings to build

up precautionary reserves, but low growth firms are likely to be more mature and build up their reserves for flexibility (Lee et al., 2015). Moreover, company's efficiency has a positive significant relationship with a SGR. Higher asset efficiency tends to lead to a higher SGR. There is a significant negative relationship between leverage and SGR. According to Fonseka et al. (2012), a growth rate that is too high causes financial stress, and, therefore, the company will face higher costs, which may lead to bankruptcy, financial losses, and a declining market share.

5.5.1.2.3 Step 3: The Direct Relationship between SGR and SPP by Each Sector

Table 5.19 shows the results of the direct relationship between SGR and SPP for each industry. Hypothesis 3 predicts a positive relationship between the SGR of the firm and SPP.

Table 5.19: The Direct Relationship between the SGR and SPP for Each Industry

Hypothesis	Description	Industry		
		Consumer Product	Industrial Product	Construction
H3	Sustainable growth rate to share price performance	Significant (+)	Significant (+)	Not significant (+)
		Industry		
		Trading and services	Properties	Plantation
		Not significant (+)	Significant (+)	Significant (+)

Regarding the summary table above, there is positive relationship between the SGR of the firm and SPP for all industries ($p < 0.01$) but insignificant results for Trading and services. The results indicate that a higher SGR tends to lead to higher SPP. This finding is consistent with the previous analysis by Fama and French (1995) with rational pricing.

5.5.1.2.4 Step 4: SGR as Mediator between the firm specific factors and SPP

The significant influence between the firm specific factors, SGR and SPP for each industry based on bootstrapping and the Sobel test in the mediation model is presented in Table 5.20. The mediation model hypothesizes that the firm specific factors influences the mediator (SGR), which, in turn, influences the dependent variable (SPP).

Based on the results, the study then continues its observation on the indirect or mediation effect analysis for each industry. The results show that both t-statistics tests, i.e. bootstrapping test and Sobel test, have consistent results in that there is a significant mediating effect on the analysis. The analysis of this result is similar to the previous section for an overall sample, but, in this section, the analysis focuses on each industry. Based on path *c*, most of the variables are not significant excluding profitability in Construction, company's efficiency in Trading and services, and firm in Properties, which have a significant influence on the SPP.

The effect, including the mediator for paths "*a*" and "*b*", is significant and has a strong mediation for some specific factors, i.e. profitability in consumer products, Industrial products, and Properties; leverage in Industrial products; company's efficiency in Industrial products; and Firm size in Consumer products and Properties. Table 5.21 (a-d) shows the summary results of the mediation effect with the typology of mediation only for Consumer products, Industrial products, Construction, and Properties. The results of Trading and services and Plantation shows that there is no-effect non-mediation for all variable.

Table 5.20: SGR as Mediator between the Firm Specific Factors and SPP by Each Sector

Industry	Consumer Product					Industrial Product				
	Bootstrapping			Sobel Test		Bootstrapping			Sobel Test	
	Coef.	Std. error	C.R.	Std. error	C.R.	Coef.	Std. error	C.R.	Std. error	C.R.
Lev 1 (TDTE) → SGR → SPP	-0.0167	0.0201	-0.83	0.0204	-0.82	-0.0525	0.0251	-2.09**	0.0291	-1.81**
Dividend policy → SGR → SPP	-0.0330	0.0282	-1.17	0.0300	-1.10	-0.0074	0.0064	-1.14	0.0067	-1.10
Profitability → SGR → SPP	0.3876	0.1472	2.63**	0.1451	2.67**	0.2257	0.1133	1.99**	0.1227	1.84*
Company's efficiency → SGR → SPP	-0.0049	0.0056	-0.88	0.0054	-0.91	-0.0061	0.0035	-1.71*	0.0038	-1.57
Firm size → SGR → SPP	0.0115	0.0066	1.75*	0.0068	1.68*	0.0016	0.0050	0.33	0.0050	0.32
Industry	Construction					Trading and services				
	Bootstrapping			Sobel Test		Bootstrapping			Sobel Test	
	Coef.	Std. error	C.R.	Std. error	C.R.	Coef.	Std. error	C.R.	Std. error	C.R.
Lev 1 (TDTE) → SGR → SPP	-0.0066	0.0175	-0.38	0.0177	-0.38	-0.0066	0.0108	-0.61	0.0100	-0.67
Dividend policy → SGR → SPP	-0.0060	0.0154	-0.39	0.0159	-0.38	-0.0120	0.0105	-1.15	0.0113	-1.06
Profitability → SGR → SPP	0.0545	0.1415	0.38	0.1426	0.38	0.1383	0.0896	1.54	0.0966	1.43
Company's efficiency → SGR → SPP	0.0002	0.0011	0.16	0.0010	0.17	-0.0038	0.0032	-1.19	0.0034	-1.12
Firm size → SGR → SPP	-0.0001	0.0009	-0.09	0.0009	-0.09	0.0055	0.0036	1.51	0.0036	1.51
Industry	Properties					Plantation				
	Bootstrapping			Sobel Test		Bootstrapping			Sobel Test	
	Coef.	Std. error	C.R.	Std. error	C.R.	Coef.	Std. error	C.R.	Std. error	C.R.
Lev 1 (TDTE) → SGR → SPP	0.0508	0.0315	1.61	0.0323	1.57	-0.0059	0.0192	-0.31	0.0192	-0.31
Dividend policy → SGR → SPP	-0.0431	0.0115	-1.14	0.0110	-1.19	-0.0242	0.0221	-1.09	0.0214	-1.13
Profitability → SGR → SPP	0.4867	0.2312	2.10*	0.2281	2.13**	0.1120	0.0845	1.32	0.0844	1.33
Company's efficiency → SGR → SPP	0.0013	0.0025	0.52	0.0025	0.52	-0.0022	0.0036	-0.61	0.0036	-0.60
Firm size → SGR → SPP	0.0157	0.0089	1.78*	0.0091	1.73*	0.0022	0.0057	0.39	0.0057	0.38

Table 5.21 (a): Summary Results of Mediation Effect with the Typology of Mediation for Consumer Products

Paths	Description	Result	Decision
a	H2.2a: Lev 1 (TDTE) → SGR	Not significant (-)	No-effect non-mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1a: Lev 1 (TDTE) → SPP	Not significant (-)	
c'	H2.4a: Lev 1 (TDTE) → SGR → SPP	Not significant (-)	
a	H2.2b: Dividend policy → SGR	Not significant (-)	No-effect non-mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1b: Dividend policy → SPP	Not significant (-)	
c'	H2.4b: Dividend policy → SGR → SPP	Not significant (-)	
a	H2.2c: Profitability → SGR	Significant (+)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1c: Profitability → SPP	Not significant (-)	
c'	H2.4c: Profitability → SGR → SPP	Significant (+)	
a	H2.2d: Company's efficiency → SGR	Not significant (-)	No-effect non-mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1d: Company's efficiency → SPP	Not significant (-)	
c'	H2.4d: Company's efficiency → SGR → SPP	Not significant (-)	
a	H2.2e : Firm size → SGR	Significant (+)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1e : Firm size → SPP	Not significant (-)	
c'	H2.4e : Firm size → SGR → SPP	Significant (+)	

Table 5.21 (b): Summary Results of Mediation Effect with the Typology of Mediation for Industrial Products

Paths	Description	Result	Decision
a	H2.2a: Lev 1 (TDTE) → SGR	Significant (-)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1a: Lev 1 (TDTE) → SPP	Not significant (+)	
c'	H2.4a: Lev 1 (TDTE) → SGR → SPP	Significant (-)	
a	H2.2b: Dividend policy → SGR	Not significant (-)	No-effect non-mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1b: Dividend policy → SPP	Not significant (+)	
c'	H2.4b: Dividend policy → SGR → SPP	Not significant (-)	
a	H2.2c: Profitability → SGR	Significant (+)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1c: Profitability → SPP	Not significant (-)	
c'	H2.4c: Profitability → SGR → SPP	Significant (+)	
a	H2.2d: Company's efficiency → SGR	Significant (-)	No-effect non-mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1d: Company's efficiency → SPP	Not significant (-)	
c'	H2.4d: Company's efficiency → SGR → SPP	Not significant (-)	
a	H2.2e : Firm size → SGR	Not significant (+)	No-effect non-mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1e : Firm size → SPP	Not significant (-)	
c'	H2.4e : Firm size → SGR → SPP	Not significant (+)	

Table 5.21 (c): Summary Results of Mediation Effect with the Typology of Mediation for Construction

Paths	Description	Result	Decision
a	H2.2a: Lev 1 (TDTE) → SGR	Significant (-)	No-effect non-mediation
b	H3: SGR → SPP	Not significant (+)	
c	H2.1a: Lev 1 (TDTE) → SPP	Not significant (-)	
c'	H2.4a: Lev 1 (TDTE) → SGR → SPP	Not significant (-)	
a	H2.2b: Dividend policy → SGR	Significant (-)	No-effect non-mediation
b	H3: SGR → SPP	Not significant (+)	
c	H2.1b: Dividend policy → SPP	Not significant (+)	
c'	H2.4b: Dividend policy → SGR → SPP	Not significant (-)	
a	H2.2c: Profitability → SGR	Significant (+)	Direct-only non-mediation
b	H3: SGR → SPP	Not significant (+)	
c	H2.1c: Profitability → SPP	Significant (+)	
c'	H2.4c: Profitability → SGR → SPP	Not significant (+)	
a	H2.2d: Company's efficiency → SGR	Not significant (+)	No-effect non-mediation
b	H3: SGR → SPP	Not significant (+)	
c	H2.1d: Company's efficiency → SPP	Not significant (-)	
c'	H2.4d: Company's efficiency → SGR → SPP	Not significant (+)	
a	H2.2e : Firm size → SGR	Not significant (-)	No-effect non-mediation
b	H3: SGR → SPP	Not significant (+)	
c	H2.1e : Firm size → SPP	Not significant (+)	
c'	H2.4e : Firm size → SGR → SPP	Not significant (-)	

Table 5.21 (d): Summary Results of Mediation Effect with the Typology of Mediation for Properties

Paths	Description	Result	Decision
a	H2.2a: Lev 1 (TDTE) → SGR	Significant (+)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1a: Lev 1 (TDTE) → SPP	Not significant (+)	
c'	H2.4a: Lev 1 (TDTE) → SGR → SPP	Not significant (+)	
a	H2.2b: Dividend policy → SGR	Not significant (-)	No-effect non-mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1b: Dividend policy → SPP	Not significant (+)	
c'	H2.4b: Dividend policy → SGR → SPP	Not significant (-)	
a	H2.2c: Profitability → SGR	Significant (+)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1c: Profitability → SPP	Not significant (-)	
c'	H2.4c: Profitability → SGR → SPP	Significant (+)	
a	H2.2d: Company's efficiency → SGR	Not significant (+)	No-effect non-mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1d: Company's efficiency → SPP	Not significant (+)	
c'	H2.4d: Company's efficiency → SGR → SPP	Not significant (+)	
a	H2.2e : Firm size → SGR	Significant (+)	Competitive mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1e : Firm size → SPP	Significant (-)	
c'	H2.4e : Firm size → SGR → SPP	Significant (+)	

Based on the results in Table 5.21 (a-d), the mediation effect result shows that profitability is considered as an “indirect-only mediator” in Consumer Products, Industrial Products, and Properties, while Profitability for Construction is considered as “Direct-only non-mediation”. The indirect-only mediator variable means that the indirect effect ($a \times b$) is significant, but the direct effect (c) is not significant. In addition, the Direct-only non-mediation means that the indirect effect (*path: $a \times b$*) is not significant, but that the direct effect (*path c*) is significant.

As for profitability, the results show that in the simple cause effect model (refer to previous example in Figure 5.1 for details) there is no significant relationship between profitability and SPP, and, hence, hypothesis 2 is rejected. This result implies that higher or lower profitability does not necessarily influence SPP either upwards or downwards. This indicates that there might be other important factors that have not been included in this study that influence SPP in Consumer products, such as earnings per Share. Ali, Sharif, & Jan (2017) found a positive significant relation between earnings per share and Stock Prices. Generally, this finding contradicts the previous researchers who found that profitability has a significant influence on the share price (Haugen and Baker, 1996; Yang et al., 2010; Ahmad et al., 2013; Chandra et al., 2019).

When the two hypotheses H2.2a (*path a*) and H3 (*path b*) are combined in one model ($a \times b$) they have an indirect effect under the complex cause effect model (refer example in Figure 5.2). Hence, the combination of Hypotheses H2.1a and H3 is needed to develop a complete mediation model (refer example in Figure 5.3). The complete mediation model establishes hypotheses H2.4, which proposes that the relationship between profitability and SPP is mediated by the SGR.

As for Consumer products, the direct effects (c) for profitability show an insignificant relationship ($a = -0.1390$, $z = -0.48$, $p > 0.10$), but *path a* shows a positive

significant relationship ($a= 0.3142, z= 5.00, p<0.01$), path b shows a positive significant relationship ($a= 1.2336, z= 3.16, p<0.01$), and path c shows a significant relationship ($a= 0.3876, z= 2.63, p<0.01$). Continuing with Industrial products, the direct effects (c) for profitability show an insignificant relationship ($a= -0.0226, z= -0.19, p>0.10$), but path a shows a positive significant relationship ($a= 0.2134, z= 2.21, p<0.01$), path b shows a positive significant relationship ($a= 1.0578, z= 3.33, p<0.01$), and path c shows a significant relationship ($a= 0.2257, z= 1.99, p<0.01$). In Properties, the direct effects (c) for profitability show an insignificant relationship ($a= -0.0233, z= -0.7, p>0.10$), but path a shows a positive significant relationship ($a= 0.2978, z= 7.28, p<0.01$), path b shows a positive significant relationship ($a= 0.7324, z= 2.23, p<0.01$), and path c shows a significant relationship ($a= 0.4867, z= 2.10, p<0.01$). Therefore, this study indicates that profitability either has a direct influence on the SPP or there is another factor that might directly or indirectly influence SPP. This finding shows that profitability has a positive influence on the SGR and that the SGR has a positive influence on the SPP. This result indicates that higher profitability tends to increase the SGR, and, at the same time, an increase in SPP.

When Construction is considered for “Direct-only non-mediation”, the direct effects (c) for profitability show a positive significant relationship ($a= 0.6955, z= 2.10, p<0.05$), and path a shows a positive significant relationship ($a= 0.4756, z= 2.73, p<0.01$), but path b shows an insignificant relationship ($a= 0.1145, z= 0.39, p>0.10$), and path c shows an insignificant relationship ($a= 0.0545, z= 0.38, p>0.10$). Thus, profitability for Construction only has a direct significant influence on the SPP and SGR. This result is in line with Yang et al. (2010) who reported that firms with higher profitability earned higher returns, and, thus, a positive relation between profitability and returns is expected. As for stock returns, profitability has a significant positive

influence on stock returns, which is consistent with the findings of Haugen and Baker (1996). Bivona (2000) stated that the sustainable growth policies of companies represent the combination of three main elements, which are resources, management activities, and operational activities. It was found that a feedback approach could be useful to small businesses by looking into business growth strategies.

As for the case of leverage in Industrial products, the mediation effect result in Industrial products shows that leverage is considered as an “indirect-only mediator”. The estimation on the relationship between the direct effects (*c*) for leverage shows an insignificant relationship ($a = 0.0014$, $z = 0.20$, $p > 0.10$), but path *a* shows a negative significant relationship ($a = -0.0497$, $z = -2.15$, $p < 0.01$), path *b* shows a positive significant relationship ($a = 1.0578$, $z = 3.33$, $p < 0.01$), and path *c* shows a significant relationship ($a = -0.0525$, $z = -2.09$, $p < 0.01$). Thus, this study provides important information in that higher or lower leverage does not directly influence the SPP, but that leverage may influence the SGR, and that an increase or decrease in the SGR might influence higher or lower SPP. Based on the trade-off theory, growth causes firms to shift their financing from new equity to debt in order to reduce agency issues. This is also dependent on whether the managers borrow long-term or short-term debt, or equity in addition to improving the companies’ growth. In conjunction, firms with high stock prices and high stock returns tend to use equity financing rather than debt financing, which is consistent with the market timing theory. However, the results of the positive influence between capital structure and stock return show that the more the firms use debt, the higher the stock returns they provide, which results from the leverage effect and leverage risk compensation (Yang et al., 2010).

According to firm size, the mediation effect result indicates that firm size is considered as an “indirect-only mediator” in Consumer Products and “competitive

mediation” in Properties. Competitive mediation means that the indirect effect (*path: a×b*) and direct effect (*path c*) are both significant, and the signs point in the opposite direction. For Consumer products, the direct effect (*c*) for firm size shows an insignificant relationship ($a = -0.0023$, $z = -0.09$, $p > 0.10$), *path a* shows a positive significant relationship ($a = 0.0093$, $z = 2.00$, $p < 0.05$), *path b* shows a positive significant relationship ($a = 1.2336$, $z = 3.16$, $p < 0.01$), and *path c* shows a significant relationship ($a = 0.0115$, $z = 1.75$, $p < 0.10$). This result indicates that larger firms would have a higher SGR and better SPP. Ahmad et al. (2013) stated that firm size is not significant to the stock return, which means that the variable has no effect on stock returns; this result goes against the theoretical expectation that firm size affects stock returns.

Competitive mediation in Properties appears to cause a negative significant influence between firm size and SPP. This indicates that the larger the firm, the lower the SPP. This result is in line with Yang et al. (2010) who indicated that small firms tended to earn higher average stock returns than large firms (Banz’s, 1981). When the two hypotheses H2.2a (*path a*) and H3 (*path b*) are combined in one model (*a×b*) they have an indirect effect under the complex cause effect model (refer example in Figure 5.2). Hence, the combination of Hypotheses H2.1a and H3 is needed to develop a complete mediation model (refer to example in Figure 5.3). The complete mediation model establishes hypotheses H2.4, which proposed that the relationship between firm size and SPP is mediated by the SGR. The detailed explanation is as follows, the direct effect (*c*) for firm size shows a negative significant relationship ($a = -0.0732$, $z = -1.79$, $p < 0.10$), *path a* shows a positive significant relationship ($a = 0.0096$, $z = 2.74$, $p < 0.01$), *path b* shows a positive significant relationship ($a = 1.6345$, $z = 2.23$, $p < 0.01$), and *path c* shows a significant relationship ($a = 0.0157$, $z = 1.78$, $p < 0.10$) (refer figure 5.5) .

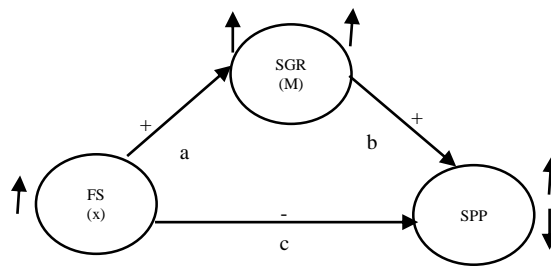


Figure 5.5: Competitive Mediation

In the specific discussions, path c shows that the larger the firm, the less the SPP. However, larger firms tend to increase the SGR, which, in turn, leads to an increase in SPP. In this case, certain factors might be missing that could lead the relationship between firm size and SPP or SGR and SPP. This result is consistent with Fama and French (1992) who stated that small firms may suffer a long earnings depression that bypasses big firms, thereby suggesting that size is associated with a common risk factor that leads to the negative relationship between size and stock return. Moreover, Yusof & Ismail (2016) reported that firms with higher earnings are larger in size, have a greater percentage of shares owned by large shareholders, enjoy higher investment opportunities and low debt, and tend to pay higher dividends to shareholders.

Taken together, this finding shows that SGR plays an important role as the mediator variable for Malaysian Public-listed Shariah-compliant firms. Only three factors are strongly mediated by the SGR in each industry, and each type of mediation, i.e. profitability in Consumer Products, Industrial Products, and Properties (indirect-only mediator), and Construction (Direct-only non-mediation); leverage in Industrial products (indirect-only mediator); and, firm size in Properties (Competitive mediation).

Figure 5.6 shows the framework for the mediation results for the relationship between the firm specific factors, SGR, and SPP. In order make the results clear, bold lines indicates a significant relationship between each variable.

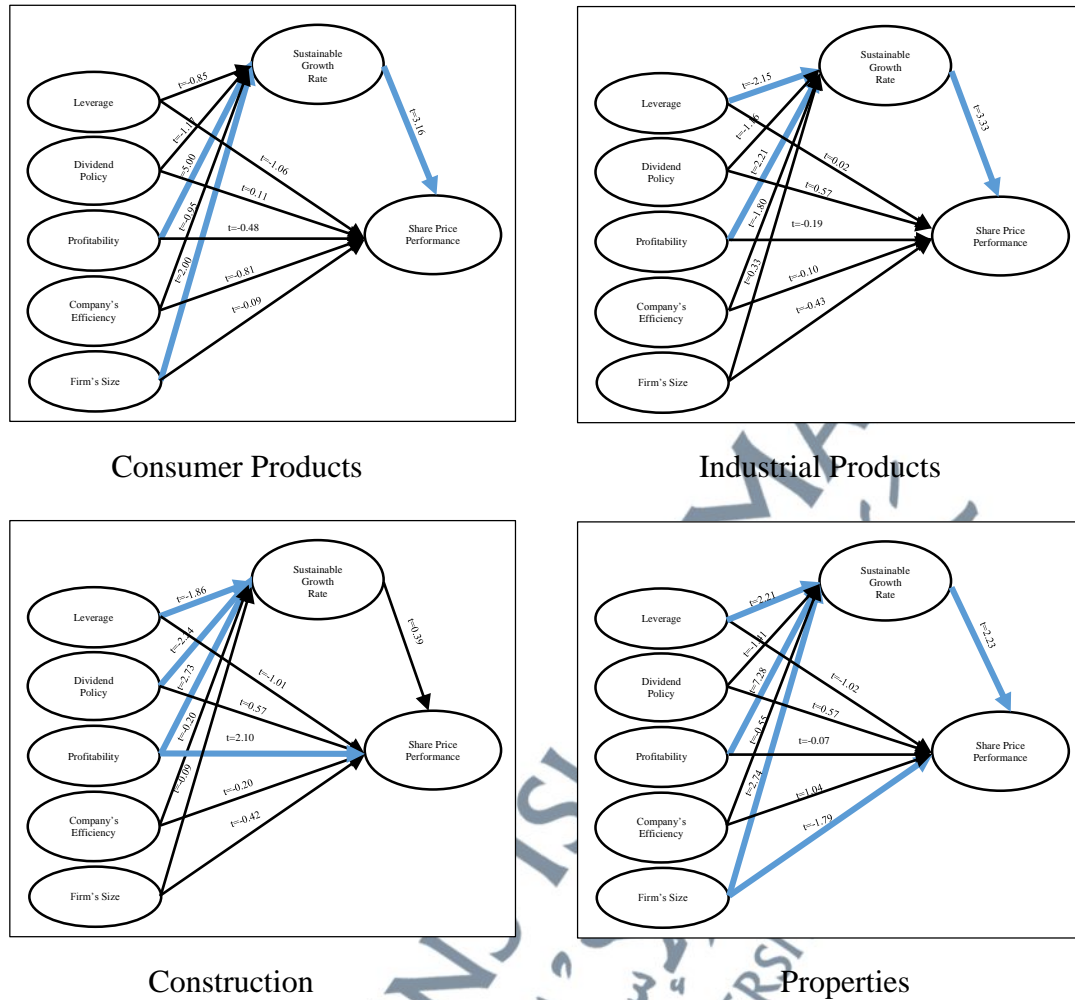


Figure 5.6: Mediation Analysis on the Relationship between the Firm Specific Factors, SGR, and SPP for Each Industry

5.5.2 Matrix Financing Behaviour on Under-levered, Over-levered, Under-paying and Over-paying of dividend.

Based on the analysis in Chapter 4, the results found target capital structure and dividend policy exists for Malaysian Public-listed Shariah-compliant firms. This study reveals that there is a speed of adjustment which is less than one to be under adjusted and less than the required adjustment to be at the target within a year. In addition, overleveraged firms face higher costs of deviation and should adjust faster compared to underleveraged firms. It has been suggested that firms must follow their target capital structures and dividend policy when their leverage and dividend ratios deviate from

their targets. Therefore, this study examines the impact of under-levered and over-levered, together with under-paying and over-paying of dividend policy by testing using the matrix financing behaviour on deviation from target to the SGR and SPP. The matrix financing behaviour are introduced and discussed based on four categories, which are the firms in situations that have (i) Over-levered (OL) and Under-paying of dividend (OP), (ii) Under-levered (UL) and Over-paying of dividend (OP), (iii) Over-levered (OL) and Under-paying of dividend (UP), and (iv) Under-levered (UL) and Under-paying of dividend (UP).

Table 5.4 shows the mean values based on the matrix situation on financing behaviour. The matrix situation on financing behaviour is based on under-levered, over-levered, under-paying, and over-paying of dividend.¹⁷ The matrix situation on financing behaviour in this study is divided into four categories, namely, the firms that have: (i) over-levered and over-paying of dividends, (ii) under-levered and over-paying of dividend, (iii) over-levered and under-paying of dividend, and (iv) under-levered and under-paying of dividend.

Referring to the result in Table 5.22, Matrix 1 appears to have the highest leverage at 51.35%, while Matrix 4 has the lowest leverage at 22.42%. The statistics show that the average ratio of dividend policy is between 24.17% and 41.53% with Matrix 2 being the highest and Matrix 3 the lowest. Profitability is between 4.62% and 13.97%, and Matrix 2 again is the highest and Matrix 3 the lowest. Company's efficiency, on the other hand, records between 1.7672 and 2.9708 with Matrix 4 being the highest and

¹⁷ Based on Razali Haron (2014), a firm behaves rationally in year t if it reduces its gap towards the target from year $t-1$ either by increasing debt when $Y_{it}^* - Y_{it-1} > 0$ (under-levered), or, alternatively, by reducing debt if $Y_{it}^* - Y_{it-1} < 0$ (over-levered). Y_{it}^* is the target leverage at year t (derived from the fitted value of the Fixed Effect regression line – Table A-5 in Appendix 2) and Y_{it-1} is the observed leverage at $t-1$. Thus, the same approach is used to compute for under-paying and over-paying of dividend, which is increasing dividend when $Y_{it}^* - Y_{it-1} > 0$ (under-paying), or by reducing dividend if $Y_{it}^* - Y_{it-1} < 0$ (over-levered). The fitted value for the target dividend policy of the Fixed Effect regression line is in Table A-17 in Appendix 2.

Matrix 1 the lowest. Matrix 2 appears to have the highest average for firm's size, SGR, and SPP at 21.4459, 5.75%, and 12.33%, respectively. In contrast, Matrix 3 recorded the lowest average firm's size while Matrix 1 had the lowest for the SGR, and Matrix 4 the lowest for SPP (which are 19.6342, 3.5% and 7.33%, respectively).

Table 5.22: Mean values based on Matrix Situation on Financing Behaviour

Variable	Matrix Situation on Financing Behaviour			
	Matrix 1 (N: 292)	Matrix 2 (N: 420)	Matrix 3 (N: 571)	Matrix 4 (N: 440)
Lev 1 (TDTE)	0.5135	0.2702	0.4904	0.2242
Dividend policy	0.3682	0.4153	0.2417	0.2851
Profitability	0.0581	0.1397	0.0462	0.0844
Company's Efficiency	1.7672	2.2596	2.0617	2.9708
Firm's size	19.7873	21.4459	19.6342	20.4599
Sustainable growth rate	0.0350	0.0575	0.0442	0.0527
Share price performance	0.0749	0.1233	0.0750	0.0733

5.5.2.1 Correlation Analysis

The correlation matrix between the variables of each model is presented in Table A-25 (a-d) [Appendix 3]. From the matrix, this study emphasizes the overall correlation signs between the firm specific factors, SGR, and SPP for each matrix. The correlation signs are summarized in Table 5.23 and Table 5.24.

Table 5.23: Correlation Sign of Independent Variables with SPP

Variable	Matrix 1 (N: 292)	Matrix 2 (N: 420)	Matrix 3 (N: 571)	Matrix 4 (N: 440)
Lev 1 (TDTE)	ns	ns	ns	ns
Dividend policy	ns	ns	ns	ns
Profitability	+	+	+	+
Company's efficiency	ns	ns	ns	ns
Firm size	ns	-	+	ns
Sustainable growth rate	+	+	+	+

Note: ns = not significant; Matrix 1= over-levered and over-paying, Matrix 2= under-levered and over-paying, Matrix 3= over-levered and under-paying, and Matrix 4= under-levered and under-paying.

Based on the results above, Profitability and SGR are consistently reported to be positively correlated with SPP for all the matrix. This result is consistent with previous studies in which profitability has a significant positive influence on stock returns (Haugen and Baker, 1996; Yang et al., 2010; Ahmad et al., 2013; Chandra et al., 2019; Ahmad et al. 2013). Firm size recorded mixed correlation, which is negatively correlated to SPP in Matrix 2 and is positively correlated in Matrix 3. This situation indicates that the larger the firm, the lower the SPP for under-levered and over-paying firms, while larger firms tend to increase the SPP for over-levered and under-paying.

Table 5.24: Correlation Sign of Independent Variables with SGR

Variable	Matrix 1	Matrix 2	Matrix 3	Matrix 4
Lev 1 (TDTE)	ns	-	-	-
Dividend policy	ns	-	ns	-
Profitability	+	+	+	+
Company's efficiency	ns	ns	-	-
Firm size	+	-	+	ns

Note: ns = not significant; Matrix 1= over-levered and over-paying, Matrix 2= under-levered and over-paying, Matrix 3= over-levered and under-paying, and Matrix 4= under-levered and under-paying

Based on the summary result in Table 5.24 above, profitability is positively correlated with the SGR for all the matrices. Leverage 1 (TDTE) is reported to be negatively correlated to SGR for Matrices 2, 3, and 4, which indicates that firms that consume higher debt tend to have lower SGR and vice versa. Capital structure was found to influence the SGR of a firm (Escalante et al., 2009; Fonseka et al., 2012; Higgins, 1977). Firms with higher leverage are given a higher SGR (Fonseka et al., 2012).

Adding to that, Dividend policy and company's efficiency appear to have a negative correlation with SGR where dividend policy is negatively correlated for Matrices 2 and 4, and company's efficiency is negatively correlated for Matrices 3 and

4. The results of the multicollinearity test are between 1.00 and 2.09 thereby indicating that there is no multicollinearity in this regression analysis (refer Table A-26 in Appendix 3 for details).

5.5.2.2 Mediation Effects Analysis using SEM

Table 5.25 shows the results of the significant influence between the firm specific factors, SGR, and SPP for each matrix.

Based on Table 5.25, the coefficient of the firm specific factors (R²) for the analysis is lower than 80%. Although r-squared is low, it can still indicate a real relationship between the dependent and independent variables. The findings recorded that Matrix 1 has the highest coefficient of the firm specific factors with overall r-squared= 0.5372 @ 53.72%, followed by Matrices 3, 2, and 4. The following analysis will be discussed in four stages, as follows:

- (i) Relation between the firm specific factors and SPP for each matrix.
- (ii) Relation between the firm specific factors and SGR for each matrix.
- (iii) Relation between SGR and SPP for each matrix.
- (iv) SGR as an indirect/mediator between the firm specific factors and SPP for each matrix.

Table 5.25: Statistically Significant Value Estimates of the Firm Specific Factors and SPP

Model	Matrix 1			Matrix 2		
Panel A (a)	Coef.	Std. error	C.R.	Coef.	Std. error	C.R.
Lev 1 (TDTE) → SGR	-0.0170	0.0125	-1.36	0.0185	0.0132	1.40
Dividend policy → SGR	-0.0065	0.0067	-0.96	-0.0187	0.0122	-1.53
Profitability → SGR	0.5035	0.1368	3.68***	0.3269	0.0457	7.15***
Assets efficiency → SGR	-0.0152	0.0046	-3.30***	-0.0165	0.0022	-7.42***
Firm size → SGR	0.0235	0.0053	4.41***	-0.0032	0.0020	-1.60
Panel B (c)						
Lev 1 (TDTE) → SPP	-0.0105	0.0645	-0.16	0.0601	0.0767	0.78
Dividend policy → SPP	-0.0010	0.0250	-0.04	0.0421	0.0326	1.29
Profitability → SPP	0.1597	0.4658	0.34	0.1637	0.2860	0.57
Assets efficiency → SPP	-0.0020	0.0206	-0.10	-0.0122	0.0165	-0.74
Firm size → SPP	-0.0167	0.0206	-0.44	-0.0228	0.0141	-1.61
SGR → SPP (b)	0.7343	0.4443	1.65*	1.2087	0.4567	2.65***
R-squared (R2): SGR		0.5346			0.4227	
R-squared (R2): SPP		0.0385			0.0604	
Overall		0.5372			0.4196	
Model	Matrix 3			Matrix 4		
Panel A (a)	Coef.	Std. error	C.R.	Coef.	Std. error	C.R.
Lev 1 (TDTE) → SGR	-0.0602	0.0167	-3.61***	-0.0903	0.0211	-4.28***
Dividend policy → SGR	-0.0165	0.0087	-1.91*	-0.0344	0.0141	-2.44**
Profitability → SGR	0.2056	0.0685	3.00***	0.1793	0.0426	4.21***
Assets efficiency → SGR	0.0307	0.0061	5.04***	-0.0009	0.0016	-0.55
Firm size → SGR	0.0352	0.0063	5.64***	0.0269	0.0065	4.12***
Panel B (c)						
Lev 1 (TDTE) → SPP	-0.0348	0.0527	-0.66	0.0267	0.0720	0.37
Dividend policy → SPP	0.0211	0.0233	0.90	0.0139	0.0265	0.52
Profitability → SPP	0.0243	0.1042	0.23	0.2213	0.1011	2.19**
Assets efficiency → SPP	0.0239	0.0298	0.80	0.0055	0.0051	1.07
Firm size → SPP	0.0381	0.0278	1.37	-0.0435	0.0254	-1.72*
SGR → SPP (b)	0.6878	0.2476	2.78***	0.7106	0.3134	2.27**
R-squared (R2): SGR		0.4396			0.2820	
R-squared (R2): SPP		0.0474			0.0477	
Overall		0.4430			0.2950	

5.5.2.2.1 Step 1: The Direct Relationship between the firm specific factors and SPP by Each Sector

Table 5.26 shows the relationships between the SGR and SPP. The results indicate that only profitability and firm's size are significantly related to SPP for matrix 4, but that the rest of the variables for all the matrices show no significant influence on the SPP. The findings show that profitability has a positive influence on the SPP in Matrix 1, and that firm size negatively influences the SPP in Matrix 1. Most of the previous studies found no significant between the exogenous variable and SPP, i.e. capital structure has no effect on stock returns (Chandra et al., 2019); dividend policy has no effect on stock returns (Ali, Sharif & Jan, 2019; Hashemijoo et al., 2012); profitability has no effect on stock returns (Ali, Sharif & Jan, 2017); Company's efficiency has no effect on stock returns (Dzikevicius & Saranda, 2011; Lyroudi (2018); and firm size has no effect on stock returns (Ahmad et al., 2013).

Table 5.26: The Direct Relationship between the Firm Specific Factors and SPP

Hypothesis	Description	Matrix			
		Matrix 1	Matrix 2	Matrix 3	Matrix 4
H1a	Leverage 1 (TDTE) to share price performance	Not significant (-)	Not significant (+)	Not significant (-)	Not significant (+)
H1b	Dividend policy to share price performance	Not significant (-)	Not significant (+)	Not significant (+)	Not significant (+)
H1c	Profitability to share price performance	Not significant (+)	Not significant (+)	Not significant (+)	Significant (+)
H1d	Company's efficiency to share price performance	Not significant (-)	Not significant (-)	Not significant (+)	Not significant (+)
H1e	Firm's size to share price performance	Not significant (-)	Not significant (-)	Not significant (+)	Significant (-)

5.5.2.2.2 Step 2: The Direct Relationship between the firm specific factors and SGR by Each Sector

Table 5.27 examines the relationship between the firm specific factors and SGR for all the matrices.

Table 5.27: The Direct Relationship between the Firm Specific Factors and SGR

Hypothesis	Description	Matrix			
		Matrix 1	Matrix 2	Matrix 3	Matrix 4
H2a	Leverage 1 (TDTE) to sustainable growth rate	Not significant (-)	Not significant (+)	Significant (-)	Significant (-)
H2b	Dividend policy to sustainable growth rate	Not significant (-)	Not significant (-)	Significant (-)	Significant (-)
H2c	Profitability to sustainable growth rate	Significant (+)	Significant (+)	Significant (+)	Significant (+)
H2d	Company's efficiency to sustainable growth rate	Significant (-)	Significant (-)	Significant (+)	Not significant (-)
H2e	Firm size to sustainable growth rate	Significant (+)	Not significant (-)	Significant (+)	Significant (+)

Based on the results above, profitability is positively significantly related to the SGR in all the matrices. As for leverage and dividend policy, it negatively influences the SGR in Matrices 3 and 4. Firm size is reported to be positively related to a SGR in Matrices 1, 3, and 4. Moreover, company's efficiency recorded a mixed significant influence on the SGR in Matrices 1, 2, and 3. Company's efficiency in Matrices 1 and 2 is negatively related to the SGR and a positive influence in Matrix 3. This finding is consistent with Higgins (1977) who mentioned that more profitable firms have a higher SGR due to effective investment in fixed assets, efficient working capital management, and higher taxes. The negative influence of leverage indicates that the use of debt is limited as companies will face the prospect of bankruptcy. This is consistent with the pecking order theory, which means that if the company requires funding, the financial

resources are provided by retained earnings at the beginning, but if it still has financial problems, it is necessary for the company to raise its funds on debt followed by equity. In terms of the negative result on dividend policy, it is found that high growth firms need to reduce the payout ratio and retain more earnings to build up precautionary reserves, but low growth firms are likely to be more mature and build up their reserves for flexibility (Lee et al., 2015).

5.5.2.2.3 Step 3: The Direct Relationship between SGR and SPP by Each Sector

Table 5.28 shows the results of the direct relationship between the SGR and SPP for each matrix. Hypothesis 3 predicts a positive relationship between the SGR of the firm and SPP.

Table 5.28: The Direct Relationship between SGR and SPP

Hypothesis	Description	Matrix			
		Matrix 1	Matrix 2	Matrix 3	Matrix 4
H3	Sustainable growth rate to share price performance	Significant (+)	Significant (+)	Significant (+)	Significant (+)

Based on the above summary, the findings show a positive significant relationship between the SGR and SPP for all matrices. The result indicates that a higher SGR tends to have a higher SPP. This result is similar to the static estimation model in which a high SGR is always associated with higher SPP. This finding is consistent with the previous analysis by Fama and French (1995) on rational pricing, and in line with Madoroba and Kruger (2015) who found that the SGR has a positive significance related to SPP.

5.5.2.2.4 Step 4: SGR as Mediator between the the firm specific factors and SPP

This study then proceeds to identify whether the firm specific factors influences the mediator (SGR) which, in turn, influences the dependent variable (SPP). Table 5.29 illustrates the results of the mediation effect or indirect effect of all the variables for all the matrices.

Table 5.29: SGR as Mediator between the Firm Specific Factors and SPP by Each Matrix

Matrix Mediating effects analysis (c')	Matrix 1					Matrix 2				
	Bootstrapping			Sobel Test		Bootstrapping			Sobel Test	
	Coef.	Std. error	C.R.	Std. error	C.R.	Coef.	Std. error	C.R.	Std. error	C.R.
Lev 1 (TDTE) → SGR → SPP	-0.0125	0.0137	-0.91	0.0119	-1.05	0.0224	0.0181	1.24	0.5521	0.04
Dividend policy → SGR → SPP	-0.0048	0.0051	-0.93	0.0057	-0.84	-0.0226	0.0174	-1.30	0.0169	-1.34
Profitability → SGR → SPP	0.3697	0.1969	1.88*	0.2452	1.51	0.3952	0.1656	2.39**	0.1554	2.54**
Assets efficiency → SGR → SPP	-0.0112	0.0060	-1.87*	0.0076	-1.48	-0.0200	0.0084	-2.39**	0.0078	- 2.56**
Firm size → SGR → SPP	0.0172	0.0114	1.52	0.0112	1.55	-0.0039	0.0029	-1.35	0.0027	-1.45
Matrix Mediating effects analysis (c')	Matrix 3					Matrix 4				
	Bootstrapping			Sobel Test		Bootstrapping			Sobel Test	
	Coef.	Std. error	C.R.	Std. error	C.R.	Coef.	Std. error	C.R.	Std. error	C.R.
Lev 1 (TDTE) → SGR → SPP	-0.0414	0.0172	-2.41**	0.0188	-2.20**	-0.0641	0.0304	-2.11**	0.0320	- 2.00**
Dividend policy → SGR → SPP	-0.0114	0.0066	-1.73*	0.0072	-1.57	-0.0245	0.0146	-1.68*	0.0147	-1.66*
Profitability → SGR → SPP	0.1414	0.0638	2.22**	0.0694	2.04**	0.1274	0.0605	2.11**	0.0638	2.00**
Assets efficiency → SGR → SPP	0.0211	0.0081	2.62***	0.0087	2.43**	-0.0006	0.0012	-0.54	0.0012	-0.55
Firm size → SGR → SPP	0.0242	0.0092	2.62***	0.0097	2.50**	0.0191	0.0092	2.07**	0.0096	1.99**

Based on the summary in Table 5.29 above, the finding is consistent for both t-statistics tests, i.e. bootstrapping test and Sobel test, and clearly confirms that there is a significant mediating effect in the analysis of certain variables. Table 5.30 (a-d) shows the summary results of the mediation effect with the typology of mediation for Matrices 1, 2, 3, and 4.

Table 5.30 (a): Summary of the Results of the Mediation Effect with the Typology of Mediation for Matrix 1

Paths	Description	Result	Decision
		Matrix 1	
a	H2.2a: Lev 1 (TDTE) → SGR	Not significant (-)	No-effect non-mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1a: Lev 1 (TDTE) → SPP	Not significant (-)	
c'	H2.4a: Lev 1 (TDTE) → SGR → SPP	Not significant (-)	
a	H2.2b: Dividend policy → SGR	Not significant (-)	No-effect non-mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1b: Dividend policy → SPP	Not significant (-)	
c'	H2.4b: Dividend policy → SGR → SPP	Not significant (-)	
a	H2.2c: Profitability → SGR	Significant (+)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1c: Profitability → SPP	Not significant (+)	
c'	H2.4c: Profitability → SGR → SPP	Significant (+)	
a	H2.2d: Company's efficiency → SGR	Significant (-)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1d: Company's efficiency → SPP	Not significant (-)	
c'	H2.4d: Company's efficiency → SGR → SPP	Significant (-)	
a	H2.2e : Firm size → SGR	Significant (+)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1e : Firm size → SPP	Not significant (-)	
c'	H2.4e : Firm size → SGR → SPP	Not significant (-)	

Table 5.30 (b): Summary of the Results of the Mediation Effect with the Typology of Mediation for Matrix 2

Paths	Description	Result	Decision
		Matrix 2	
a	H2.2a: Lev 1 (TDTE) → SGR	Not significant (+)	No-effect non-mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1a: Lev 1 (TDTE) → SPP	Not significant (+)	
c'	H2.4a: Lev 1 (TDTE) → SGR → SPP	Not significant (+)	
a	H2.2b: Dividend policy → SGR	Not significant (-)	No-effect non-mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1b: Dividend policy → SPP	Not significant (+)	
c'	H2.4b: Dividend policy → SGR → SPP	Not significant (-)	
a	H2.2c: Profitability → SGR	Significant (+)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1c: Profitability → SPP	Not significant (+)	
c'	H2.4c: Profitability → SGR → SPP	Significant (+)	
a	H2.2d: Company's efficiency → SGR	Significant (-)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1d: Company's efficiency → SPP	Not significant (-)	
c'	H2.4d: Company's efficiency → SGR → SPP	Significant (-)	
a	H2.2e : Firm size → SGR	Not significant (-)	No-effect non-mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1e : Firm size → SPP	Not significant (-)	
c'	H2.4e : Firm size → SGR → SPP	Not significant (-)	

Table 5.30 (c): Summary of the Results of the Mediation Effect with the Typology of Mediation for Matrix 3

Paths	Description	Result	Decision
		Matrix 3	
a	H2.2a: Lev 1 (TDTE) → SGR	Significant (-)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1a: Lev 1 (TDTE) → SPP	Not significant (-)	
c'	H2.4a: Lev 1 (TDTE) → SGR → SPP	Significant (-)	
a	H2.2b: Dividend policy → SGR	Significant (-)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1b: Dividend policy → SPP	Not significant (+)	
c'	H2.4b: Dividend policy → SGR → SPP	Significant (-)	
a	H2.2c: Profitability → SGR	Significant (+)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1c: Profitability → SPP	Not significant (+)	
c'	H2.4c: Profitability → SGR → SPP	Significant (+)	
a	H2.2d: Company's efficiency → SGR	Significant (+)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1d: Company's efficiency → SPP	Not significant (+)	
c'	H2.4d: Company's efficiency → SGR → SPP	Significant (+)	
a	H2.2e : Firm size → SGR	Significant (+)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1e : Firm size → SPP	Not significant (+)	
c'	H2.4e : Firm size → SGR → SPP	Significant (+)	

Table 5.30 (d): Summary of the Results of the Mediation Effect with the Typology of Mediation for Matrix 4

Paths	Description	Result	Decision
		Matrix 4	
a	H2.2a: Lev 1 (TDTE) → SGR	Significant (-)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1a: Lev 1 (TDTE) → SPP	Not significant (+)	
c'	H2.4a: Lev 1 (TDTE) → SGR → SPP	Significant (-)	
a	H2.2b: Dividend policy → SGR	Significant (-)	Indirect-only mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1b: Dividend policy → SPP	Not significant (+)	
c'	H2.4b: Dividend policy → SGR → SPP	Significant (-)	
a	H2.2c: Profitability → SGR	Significant (+)	Complementary mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1c: Profitability → SPP	Significant (+)	
c'	H2.4c: Profitability → SGR → SPP	Significant (+)	
a	H2.2d: Company's efficiency → SGR	Not significant (-)	No-effect non-mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1d: Company's efficiency → SPP	Not significant (+)	
c'	H2.4d: Company's efficiency → SGR → SPP	Not significant (-)	
a	H2.2e : Firm size → SGR	Significant (+)	Competitive mediation
b	H3: SGR → SPP	Significant (+)	
c	H2.1e : Firm size → SPP	Significant (-)	
c'	H2.4e : Firm size → SGR → SPP	Significant (+)	

Based on the results in Table 5.30 (a-d), the mediation effect result shows that profitability is considered as an “indirect-only mediator” in Matrices 1, 2, and 3, while, Matrix 4 is considered as “Complementary mediation”. The indirect-only mediator variable means that the indirect effect ($a \times b$) is significant, but the direct effect (c) is not significant. Complementary means that the indirect effect (*path: $a \times b$*) and direct effect (*path c*) are both significant and the signs point in the same direction.

As for profitability, the results in hypothesis H2.1a show no significant relationship between profitability and SPP. Hence, there might be other important factors that have not been included in this study that influence SPP in Matrices 1, 2, and 3, such as earnings per Share. This result is consistent with Ali, Sharif, & Jan (2017) who stated that there is a positive significant relation between earnings per share and Stock Prices. As for Matrices 1, 2, and 3, the direct effects (c) for profitability show an insignificant relationship, but path a shows a positive significant relationship, path b shows a positive significant relationship, and path c shows a significant relationship. Therefore, this study indicates that either profitability has a direct influence on the SPP or there are other factors that might directly or indirectly influence SPP. This finding shows that profitability positively influences the SGR and that the SGR positively influences the SPP. This result indicates that higher profitability tends to increase the SGR, and, at the same time, increase the SPP.

In Matrix 4 on “Complementary mediation” (refer figure 5.7), the direct effects (c) for profitability show a positive significant relationship, and, path a shows a positive significant relationship, path b also shows a positive significant relationship, and path c shows a positive significant relationship. Therefore, profitability for Matrix 4 indicates that the higher the profit, the higher the SPP. In addition, a higher profit tends to increase the SGR, which, in turn, leads to an increase in SPP. This result is in line with Yang et

al. (2010) who reported that firms with higher profitability earned higher returns and thus a positive relation between profitability and returns is expected. As for stock returns, profitability has a significant positive influence on stock returns, which is consistent with the findings of Haugen and Baker (1996).

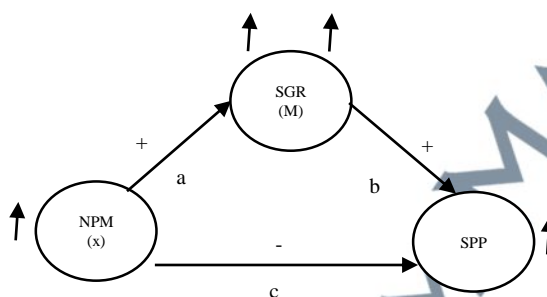


Figure 5.7: Complementary Mediation

When looking at a company's efficiency, the mediation effect results for Matrices 1, 2, 3, and 4 show that it is considered as an "indirect-only mediator". For matrices 1 and 2, the estimation of the relationship between the direct effects (c) for company's efficiency shows an insignificant relationship, but, path a shows a negatively significant relationship, path b shows a positive significant relationship, and path c shows a significant relationship. Then, in Matrix 3, the estimation of the relationship between the direct effects (c) for company's efficiency shows an insignificant relationship, but path a shows a positive significant relationship, path b shows a positive significant relationship, and path c shows a significant relationship. Thus, this study gives important information in that a company's efficiency does not have a direct impact on the SPP, but that company's efficiency may influence the SGR, which, in turn, leads to an increase in SPP. Ibrahim Hafid (2016) found a positive effect on profit margin and total asset turnover towards the SGR. Improving margins or asset turns to an increase in the firm's SGR (Platt, Platt, and Chen (1995)).

Regarding the firm size, the mediation effect result shows that firm size is considered to be an “indirect-only mediator” in Matrices 1 and 3, and “competitive mediation” in Matrix 4. For Matrix 1, the direct effect (c) for firm size shows an insignificant relationship, path a shows a positive significant relationship, path b shows a positive significant relationship, and path c shows an insignificant relationship. Then, for Matrix 3, the direct effect (c) for firm size shows an insignificant relationship, path a shows a positive significant relationship, path b shows a positive significant relationship, and path c shows a significant relationship. This result indicates that the bigger firms would have a higher SGR and better SPP. Firm size is not significant to the stock return, which means that the variable has no effect on stock returns, which goes against the theoretical expectation that firm size affects stock returns (Ahmad et al., 2013).

Competitive mediation in Matrix 4 appears to cause a negative significant influence between firm size and SPP. This indicates that the larger the firm, the lower the SPP. The detailed explanation is as follows, the direct effect (c) for firm size shows a negative significant relationship, path a shows a positive significant relationship, path b shows a positive significant relationship, and path c shows a significant relationship (refer to Figure 5.5 for details). Specifically, path c shows that the larger the firm, the less the SPP. However, larger firms tend to increase the SGR, which, in turn, leads to an increase in SPP. In this case, certain factors might be missing that could lead to the relationship between firm size and SPP or SGR and SPP. This result is consistent with Fama and French (1992) who stated that small firms may suffer a long earnings depression that bypasses big firms, suggesting that size is associated with a common risk factor that leads to the negative relationship between size and stock return.

In the case of leverage in Matrices 3 and 4, the mediation effect results show that it is considered as an “indirect-only mediator”. The estimation of the relationship between the direct effects (c) for leverage shows an insignificant relationship, but, path a shows a negatively significant relationship, path b shows a positive significant relationship, and path c shows a significant relationship. Thus, this study provides important information that higher or lower leverage does not directly influence the SPP. However, leverage may influence the SGR, and an increase or decrease in the SGR might influence the higher or lower SPP. The results of the positive influence between capital structure and stock return show that the more the firms use debt, the higher the stock returns they provide, which results from the leverage effect and leverage risk compensation (Yang et al., 2010).

Referring to the dividend policy in Matrices 3 and 4, the mediation effect results show that it is considered as an “indirect-only mediator”. The direct effects (c) show an insignificant relationship, path a shows a negative significant relationship, path b shows a positive significant relationship, and path c shows a significant relationship. This finding indicates that reducing the payment of dividend can increase the SGR and SPP. Moreover, growth causes firms to shift their financing from new equity to debt in order to reduce the agency problems.

In summary, this finding shows that SGR is one of the important factors that influence SPP and also acts as a mediator variable for Malaysian Public-listed Shariah-compliant firms. In this study, under the matrix situation on under-levered, over-levered, under-paying, and over-paying, all the factors are strongly mediated by the SGR in each matrix and each type of mediation, i.e. profitability in Matrices 1, 2, and 3 (indirect-only mediator), and Matrix 4 (Complementary mediation); company’s efficiency in Matrices 1, 2, and 3 (indirect-only mediator); leverage in Matrices 3 and 4

(indirect-only mediator); dividend policy in Matrices 3 and 4 (indirect-only mediator); and, firm size in Matrices 1 and 3 (indirect-only mediator), and Matrix 4 (Competitive mediation).

Figure 5.8 shows the framework for the mediation results for the relationship between the the firm specific factors, SGR, and SPP. In order make the results clear, bold lines indicates a significant relationship between each variable.

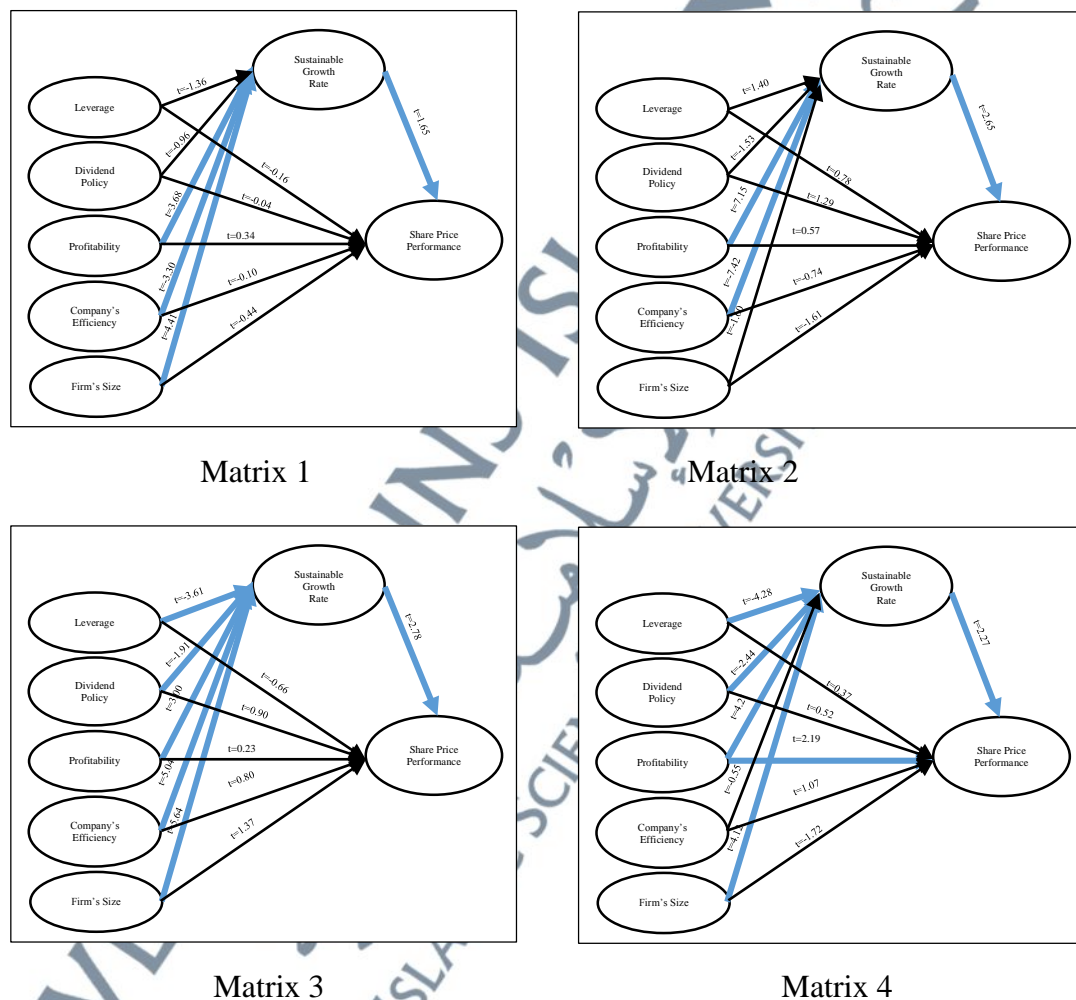


Figure 5.8: Mediation Analysis on the Relationship between the Firm Specific Factors, SGR and SPP for Each Matrix Situation on Under-Levered, Over-Levered, Under-Paying, and Over-Paying Of Dividend.

5.6 Conclusion

The existing literature provides inadequate information about the relationship between the the firm specific factors and SPP as it assumes, implicitly, that this relationship is direct. An alternative perspective, that has received less attention in the literature, is that this relationship can be mediated by the SGR. Moreover, there is a lack of studies that specifically studied SGR as a mediator in the relationship between the the firm specific factors and SPP. Therefore, this research determines the mediating effect of the SGR on the relationship between the firm specific factors and SPP.

This study was conducted using Structural Equation Model (SEM) that were run in STATA software to comply with objective two. Surprisingly, the findings show that none of the variables have a significant influence on SPP. However, under Step 2, the results show that leverage, dividend policy, and profitability are negatively and positively related to a SGR. Under Step 3, the SGR has a positive influence on the SPP. For Step 4 under the indirect effect, capital structure and dividend policy are negatively related to SPP while profitability and firm's size are positively significant relation to the SPP after including SGR as a mediating variable in the regression analysis.

A mediation model hypothesizes that the firm specific factors influences the mediator (SGR), which, in turn, influences the dependent variable (SPP). The mediation effect result shows that leverage, dividend policy, profitability, and firm size are considered as "indirect-only mediators". The indirect-only mediator variable means that the indirect effect ($a \times b$) is significant, but that the direct effect (c) is not significant. The accepted or rejected hypotheses are summarized in Table 5.31.

Table 5.31: Summarisation Results of the Firm Specific Factors, SGR, and SPP for Overall Sample

Step	Step 1	Step2	Step 3	Step4
Variable	SPP	SGR	SPP	SPP
Lev 1 (TDTE)	ns	- 0.035***	-	- 0.028***
<i>Hypotheses</i>	<i>H2.1a</i> (×)	<i>H2.2a</i> (/)		<i>H2.4a</i> (/)
Dividend policy	ns	- 0.015***	-	- 0.012**
<i>Hypotheses</i>	<i>H2.1b</i> (×)	<i>H2.2b</i> (/)		<i>H2.4b</i> (/)
Profitability	ns	0.208***	-	0.168***
<i>Hypotheses</i>	<i>H2.1c</i> (×)	<i>H2.2c</i> (/)		<i>H2.4c</i> (/)
Company's Efficiency	ns	ns	-	ns
<i>Hypotheses</i>	<i>H2.1d</i> (×)	<i>H2.2d</i> (×)		<i>H2.4d</i> (×)
Firm's size	ns	0.007***	-	0.006***
<i>Hypotheses</i>	<i>H2.1e</i> (×)	<i>H2.2e</i> (/)		<i>H2.4e</i> (/)
Sustainable growth rate	-	-	0.807***	-
<i>Hypotheses</i>			<i>H3</i> (/)	

Note: ***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively. (/) is a significant result and (×) is not a significant result. ns is not significant.