

CHAPTER 4

RESULTS AND DISCUSSION – OBJECTIVE ONE: TARGET CAPITAL STRUCTURE AND TARGET DIVIDEND POLICY

4.1 Introduction

This chapter reports the findings of objective one that investigate the existence of the target capital structure (TCS) and target dividend policy (TDP) of Malaysian public-listed Shariah-compliant firms. Section 4.2 shows the results of the descriptive statistics. Section 4.3 reports the results of the target capital structure. Section 4.4 discusses the results of the target dividend policy. Section 4.5 presents a conclusion of the findings.

4.2 Descriptive Statistics

The panel data set in this study comprises six sectors from non-financial firms – Consumer Products, Industrial Products, Construction, Trading and Services, Properties and Plantation –for the period 2007-2016. The structure of panel data for each sector is shown in Table 4.1 below.

Table 4.1: The Structure of the Panel Data

No.	Industry	No. of Records on Each Firm	No. of Observations (10 years: 2007-2016)
1	Consumer Products	34	340
2	Industrial Products	58	580
3	Construction	19	190
4	Trading & Services	35	350
5	Properties	17	170
6	Plantation	18	180
	Total	181	1810

An outlier is an observation with a large residual, which can be measured using Cook's distance test (Cook, 1977).² If $D > 1$, this indicates a big outlier problem and should be removed from the data set based on OLS regression analysis. After removing the outliers, the final observations that measure the existence of target capital structure become 1791, 1702, 1732, and 1763 for Lev 1(TDTE), Lev 2(TDTA), Lev 3(TCDTA), and Lev 4(IDTA), respectively. The final observations for the measure for the existence of target dividend policy are 1749. The details of the number of final observations for each sector after removing outliers are summarized in Table 4.2.

Table 4.2: No. Of Final Observations using Cook's Distance Test for the Target Capital Structure and Target Dividend Policy

Category	Capital structure				Dividend policy
	Lev 1 (TDTE)	Lev 2 (TDTA)	Lev 3 (TCDTA)	Lev 4 (IDTA)	
Consumer Products	333	323	331	334	325
Industrial Products	574	548	566	572	569
Construction	188	180	187	180	183
Trading & Services	347	323	317	335	336
Properties	170	158	162	168	161
Plantation	179	170	169	174	175
Overall	1791	1702	1732	1763	1749

Notes: Lev 1 is the total debt to total equity (TDTE), Lev2 is the total debt to total assets (TDTA), Lev3 is the total conventional debt to total assets (TCDTA), Lev 4 is the total Islamic debt to total assets (IDTA).

This study uses four measurements of leverage where leverage 1 is defined as total debt to total equity (TDTE), leverage 2 is the total debt to total assets (TDTA), leverage 3 is the total conventional debt to total assets (TCDTA), and leverage 4 is the total Islamic debt to total assets (IDTA). The reasons for the calculation of leverage 3 and leverage 4 is because of the 33 percent of financial ratio benchmarks defined by

² High Influence if $D > 4/N$ (N is sample size)

Table 4.3: Summary of Mean Values Results for the Existence of Target Capital Structure for the Overall Sample

Variable	Lev 1 (TDTE)		Lev 2 (TDTA)		Lev 3 (TCDTA)		Lev 4 (IDTA)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Leverage	0.3787	0.4871	0.1671	0.1281	0.1585	0.1227	0.0038	0.0165
Rank	(1)		(2)		(3)		(4)	
NDTS	0.0251	0.0182	0.0251	0.0180	0.0255	0.0191	0.0253	0.0188
Rank	(3)		(3)		(1)		(2)	
Tangibility	0.5003	0.1964	0.4967	0.1944	0.4976	0.1936	0.4999	0.1964
Rank	(1)		(4)		(3)		(2)	
Profitability	0.0669	0.0657	0.0685	0.0635	0.0675	0.0641	0.0668	0.0683
Rank	(4)		(1)		(2)		(3)	
Business Risk	0.1413	6.3859	0.0736	2.7977	0.0178	4.6582	0.0364	5.4031
Rank	(1)		(2)		(4)		(3)	
Growth Opportunities	1.0534	1.0550	1.0855	1.5276	1.0523	1.2194	1.0923	1.4716
Rank	(3)		(2)		(4)		(1)	
Firm Size	20.3163	1.3108	20.3128	1.3024	20.2941	1.2963	20.2945	1.3027
Rank	(1)		(2)		(4)		(3)	
Liquidity	0.7085	0.6896	0.7023	0.6559	0.7043	0.6553	0.6995	0.7038
Rank	(1)		(3)		(2)		(4)	
Share Price Performance	0.1399	0.6032	0.1186	0.4877	0.1280	0.5578	0.1297	0.5421
Rank	(1)		(4)		(3)		(2)	

Securities Commission Malaysia, which consists of debt to total assets where debt is regarded as conventional debt only. Therefore, the calculation of leverage 2 in this study comprises both Islamic debt and conventional debt. Leverage 3 consists of conventional debt while leverage 4 covers Islamic debt.

Table 4.3 presents the descriptive statistics for the overall sample by each type of leverage.

The average leverage for Lev 1 (TDTE), Lev 2 (TDTA), Lev 3 (TCDTA), and Lev 4 (IDTA) are 37.87%, 16.71%, 15.85%, and 0.38%, respectively; Lev 1 (TDTE) is the highest among all the types of leverage. The standard deviation of leverage is 48.71% for Lev 1 (TDTE), 12.82% for Lev 2 (TDTA), 15.85% for Lev 3 (TCDTA), and 1.65% for Lev 4 (IDTA). This indicates that Lev 4 (IDTA) is the least volatile compared to the other types of leverage.

Lev 3 (TCDTA) has a higher average of NDTs, which is 2.55% with 1.91% standard deviation, while the lower mean is Lev 1 (TDTE) and Lev 2 (TDTA), which are 2.51% with 1.82% standard deviation. This finding indicates that Lev 3 (TCDTA) is more volatile than other types of leverage.

The average of tangibility, business risk, firm size liquidity, and SPP for LEV 1 (TDTE) is 50.03%, 14.13%, 20.3163, 70.85%, and 13.99%, respectively, which is higher than the other types of leverage. The lowest tangibility for Lev 2 (TDTA) is 49.67%, while business risk and firm size for Lev 3 (TCDTA) are 1.78% and 20.2941, respectively, and the lowest SPP for Lev 2 (TDTA) is 11.86%. Moreover, the highest average of profitability is 6.85% for Lev 2 (TDTA), while, the lowest is 6.69% for Lev 1 (TDTE).

The growth opportunities for Lev 4 (IDTA) is 1.0923, which is higher than the other types of leverage with a standard deviation of 1.4716, while the lowest is Lev 3

(TCDTA) at 1.0523 with a standard deviation of 1.2194. The standard deviation for Lev 2 (TDTA) is 1.5276, which is higher compared to the other types. This indicates that the growth opportunities for Lev 2 (TDTA) are more volatile and that Lev 1 (TDTE) is less volatile with a value of 1.0550.

4.3 Measuring the Existence of the Target Capital Structure (TCS)

The first objective of this study is to measure the existence of the target capital structure and target dividend policy of Malaysian public-listed Shariah-compliant firms. This section presents the findings for the existence of target capital structure of Malaysian public-listed Shariah-compliant firms. First, the discussion focuses on the correlation analysis for each of the variables. Second, this section discusses the diagnostic checks of capital structure using the static estimation model, i.e. pooled effect, random effect, and fixed effect.

Third, the discussion focuses on the existence of target capital structure using the dynamic estimation model, i.e. the partial adjustment model, which is estimated using the two methods of Generalized Method of Moments (GMM), i.e. GMM-First Difference (1-step) and GMM-First Difference (2-step) by Arellano and Bond (1991). This study uses GMM-First Difference (2-step) because of its more efficient estimator after the diagnostic tests. In the following discussion, GMM (1) and GMM (2) refer to the GMM-First Difference (1-step) and GMM-First Difference (2-step), respectively. The results will show each firm by all types of leverage, i.e. Lev 1(TDTE), Lev 2(TDTA), Lev 3(TCDTA) and Lev 4(IDTA), for the overall sample adjusted to the target capital structure with different speeds of adjustment.

Fourth, in order to further describe the existence of target capital structure, the diagnostic check for each industry is performed in the static estimation model and dynamic estimation model.

4.3.1 Correlation Analysis

From the correlation matrix, this study emphasizes the overall correlation signs between the independent variables and the various types of leverage. The correlation signs are summarized in Table 4.4 (refer Table A-3 (a-d) in Appendix 2 for details).

Table 4.4: Correlation Sign of Independent Variables with Leverage

Variables	Lev 1 (TDTE)	Lev 2 (TDTA)	Lev 3 (TCDTA)	Lev 4 (IDTA)
NDTS	-	ns	ns	-
Tangibility	+	+	+	ns
Profitability	-	-	-	ns
Business Risk	ns	ns	ns	ns
Growth Opportunities	+	-	-	ns
Firm Size	+	+	+	+
Liquidity	-	-	-	-
Share Price Performance	ns	-	-	ns

Note: ns = not significant; Lev 1 is the total debt to total equity (TDTE), Lev2 is the total debt to total assets (TDTA), Lev3 is the total conventional debt to total assets (TCDTA), Lev 4 is the total Islamic debt to total assets (IDTA).

Based on the summary in Table 4.4 above, firm size is significantly correlated to leverage for all types of leverage, which indicates that firms with larger size tend to consume higher leverage. This situation is supported by the existence of the agency theory of capital structure. In contrast, liquidity is negatively correlated to leverage, which supports the pecking order theory.

In addition, tangibility is positively correlated to leverage, and profitability is negatively correlated to leverage for all types of leverage except IDTA. This result supports the trade-off theory for tangibility and the pecking order theory for

profitability. For growth opportunities, the results record mixed correlation between the types of leverage for which a positive correlation supports the pecking order theory and a negative correlation supports the agency theory.

4.3.2 The Static Estimation Model

This section presents the findings for the static estimation models to examine the factors affecting the capital structure for Shariah-compliant firms.

As a statistical procedure, it is important to examine the multicollinearity problem before running a regression analysis. The results of the multicollinearity test are presented in Table 4.5. The results show that the values of variance inflation factor (VIF) for all regression models have no multicollinearity problem. Gujarati (2003) suggests that variables with high collinearity is when its VIF is more than 10. The values for VIF for all the regression models are between 1.18 and 1.19, therefore, there is no multicollinearity in this regression analysis.

Table 4.5: Multicollinearity

	Lev 1 (TDTE)	Lev 2 (TDTA)	Lev 3 (TCDTA)	Lev 4 (IDTA)
Variance Inflation Factor (VIF)	1.18	1.19	1.19	1.18

Note: Lev 1 is the total debt to total equity (TDTE), Lev2 is the total debt to total assets (TDTA), Lev3 is the total conventional debt to total assets (TCDTA), Lev 4 is the total Islamic debt to total assets (IDTA).

The adjusted r-squared measures the goodness of fit for all the regression model analyses. The results show that the adjusted r-squared for Lev 2 (TDTA) is the highest compared to the other leverages, where at least 43.42 percent variation in Lev 2 (TDTA) is explained by the independent variables. In contrast, the adjusted r-squared for Lev 4 (IDTA) is the lowest compared to the other leverages, which implies that only 4.05

percent is explained by the independent variables. This results indicate that the firm specific factors of capital structure are correlated with the IDTA but the firm specific factors changes is not much explained in the IDTA. Even though the adjusted r-squared for all the regression analyses are highest and lowest, the following analysis is considered for all types of leverage. All types of leverage are used because this result needs to be investigated for further analysis in Chapter 5. Table 4.6 shows the adjusted r-squared for each type of regression employed in the study.

Table 4.6: Explanatory Power of Regression Models of TCS

	Lev 1 (TDTE)	Lev 2 (TDTA)	Lev 3 (TCDTA)	Lev 4 (IDTA)
Adjusted r-squared	0.2446	0.4342	0.4285	0.0405

Note: Lev 1 is the total debt to total equity (TDTE), Lev2 is the total debt to total assets (TDTA), Lev3 is a total conventional debt to total assets (TCDTA), Lev 4 is the total Islamic debt to total assets (IDTA).

4.3.2.1 Testing for the Pooled OLS, Random Effect, and Fixed Effect Model

Table 4.7 shows the results from the testing for the statistical test of panel data analysis based on the F test, Breusch-Pagan LM Tests, and Hausman test. Based on the results, firstly, this study refers to the F test result. The F test result shows that the fixed effect model is a more appropriate model than the Pooled OLS for all types of leverage since the null hypothesis is rejected, which is p-value is less than 10 percent. Secondly, the Breusch-Pagan LM test recorded that the Random effect is a more appropriate model than the Pooled OLS due to the p-value being less than 10 percent and the null hypothesis being rejected. Since the results of the F test and Breusch-Pagan LM test are accepted, the Hausman test is conducted to choose either the fixed effect or random effect. The Hausman test result shows that the fixed effect is accepted because the p-value is less than 10 percent. This study, therefore, concludes that the fixed effect model is the preferred model under the static estimation model for all types of leverage.

Table 4.7: Testing for the Statistical Test of Panel Data Analysis of TCS

Statistical test	Lev 1 (TDTE)	Lev 2 (TDTA)	Lev 3 (TCDTA)	Lev 4 (IDTA)
F test (Pooled OLS versus Fixed Effect)	9.13*** Fixed Effect	18.06*** Fixed Effect	13.97*** Fixed Effect	3.99*** Fixed Effect
Breusch-Pagan LM Test (Pooled OLS versus Random Effect)	1416.44*** Random Effect	2745.55*** Random Effect	2281.62*** Random Effect	330.39*** Random Effect
Hausman Test (Random Effect versus Fixed Effect)	46.69*** Fixed Effect	15.91* Fixed Effect	36.39*** Fixed Effect	47.35*** Fixed Effect

Notes: Lev 1 is the total debt to total equity (TDTE), Lev2 is the total debt to total assets (TDTA), Lev3 is a total conventional debt to total assets (TCDTA), Lev 4 is the total Islamic debt to total assets (IDTA). ***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table A-4 (a-d) [refer Appendix 2] report the regression results of Pooled OLS, Random Effect, and Fixed Effect for all types of leverage.

Table 4.8: Summary of the Appropriate Model Analysis for Overall Sample of TCS

	Lev 1 (TDTE)	Lev 2 (TDTA)	Lev 3 (TCDTA)	Lev 4 (IDTA)
Static model	Fixed Effect	Fixed Effect	Fixed Effect	Fixed Effect
Adjusted r-squared	0.1038	0.2935	0.2843	0.0156

Note: Lev 1 is the total debt to total equity (TDTE), Lev2 is the total debt to total assets (TDTA), Lev3 is the total conventional debt to total assets (TCDTA), Lev 4 is the total Islamic debt to total assets (IDTA).

Table 4.8 above summarizes the results of the appropriate model analysis together with the adjusted r-squared for overall sample analysis. Based on the results, the fixed effect model is an appropriate model for all types of industry. The following analysis performs diagnostic checks for the fixed effect model.

4.3.2.2 Diagnostic Checks

This study performs diagnostic checks – heteroscedasticity and Serial Correlation – after selecting an appropriate model of analysis. In this study, the fixed effect model is the preferred model under the static estimation model for all types of leverage. Table 4.9 reports the results of the diagnostic checks for all types of leverage.

Table 4.9: Testing for the Diagnostic Checks

	Lev 1 (TDTE)	Lev 2 (TDTA)	Lev 3 (TCDTA)	Lev 4 (IDTA)
Heteroscedasticity (Modified Wald test)	3.9e+06***	45011.23***	83996.82***	1.1e+08***
Serial Correlation (Wooldridge Test)	65.739***	305.473***	82.549***	81.684***

Notes: Lev 1 is the total debt to total equity (TDTE), Lev2 is the total debt to total assets (TDTA), Lev3 is a total conventional debt to total assets (TCDTA), Lev 4 is the total Islamic debt to total assets (IDTA). ***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively.

Heteroscedasticity arises in numerous applications, in both cross-section and time series data. In this study, heteroscedasticity tests are conducted using the Modified Wald Test.³ If the results show that the p-value is less than 5 percent (reject the null hypothesis), it indicates that heteroscedasticity is present (heteroscedasticity problem). The reason for detecting the presence of heteroscedasticity is to test the equality of the regression error variances. The results of the tests are shown in Table 4.10, which indicates that the heteroscedasticity test for all types of leverage rejects the null hypothesis at the 1% significant level. This result provides strong evidence of the presence of heteroscedasticity in all types of leverage regression models.

The presence of serial correlation in the residuals of the estimated equations will lead to incorrect estimates of the standard errors. This study detects serial correlation

³ STATA commad: xttest3

using the Wooldridge test for autocorrelation in the panel data analysis.⁴ The results of the serial correlation test for all types of leverage are presented in Table 4.10. The results indicate that the Wooldridge tests reject the null hypothesis, which implies that there is a first-order autocorrelation problem.

In this study, the diagnostic checks indicate that there are heteroscedasticity and autocorrelation problems. Thus, to rectify the problems this study use the Fixed Effect model with heteroscedasticity and serial correlation robust standard error.⁵

4.3.2.3 Empirical Result

Table 4.10 summarizes the results from the fixed effect robustness standard error model for all types of capital structure (refer Table A-5 in Appendix 2 for details of the results⁶). Table 4.11 presents the summary of the theories supporting the findings.

Table 4.10: Firm Specific Factors of Capital Structure

Variable	Lev 1 (TDTE)	Lev 2 (TDTA)	Lev 3 (TCDTA)	Lev 4 (IDTA)
Constant	-4.834***	-0.821***	-0.661***	0.104***
NDTS	-0.998	-0.517	-0.076	0.027
Tangibility	-0.092	-0.077*	-0.098**	-0.009
Profitability	-0.831***	-0.237***	-0.263***	0.018**
Business Risk	0.0004	0.0004	0.0003	-0.0000
Growth Opportunities	0.051*	-0.008***	-0.009***	0.000
Firm Size	0.264***	0.055***	0.047***	-0.005***
Liquidity	-0.095*	-0.087***	-0.090***	-0.003**
Share Price Performance	-0.014	-0.003	-0.001	0.001

Notes: Lev 1 is the total debt to total equity (TDTE), Lev2 is the total debt to total assets (TDTA), Lev3 is the total conventional debt to total assets (TCDTA), Lev 4 is the total Islamic debt to total assets (IDTA).

***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively.

⁴ STATA command: xtserial

⁵ STATA command: xtreg, fe cluster (code) or xtreg, fe vce (robust)

⁶ Table A-5 [refer Appendix 2] present the results of the fixed effect model for all types of leverage together with the robust standard error after addressing both the heteroscedasticity and autocorrelation problems in the residuals.

Table 4.11: Theories Supporting Findings

Variable	Sign/ Theory	Lev 1 (TDTE)	Lev 2 (TDTA)	Lev 3 (TCDTA)	Lev 4 (IDTA)
Tangibility	Sign Theory	ns	- Trade-of	- Trade-of	ns
Profitability	Sign Theory	- Pecking Order	- Pecking Order	- Pecking Order	+ Static Trade-Off
Growth Opportunities	Sign Theory	+ Pecking Order	- Agency Theory	- Agency Theory	ns
Firm Size	Sign Theory	+ Trade-off Agency Theory	+ Trade-off Agency Theory	+ Trade-off Agency Theory	- Trade-off Agency Theory
Liquidity	Sign Theory	- Pecking Order	- Pecking Order	- Pecking Order	- Pecking Order

Notes: Lev 1 is the total debt to total equity (TDTE), Lev2 is the total debt to total assets (TDTA), Lev3 is the total conventional debt to total assets (TCDTA), Lev 4 is the total Islamic debt to total assets (IDTA).

ns = not significant

Based on the above result, liquidity is found to consistently influence all types of leverage. Liquidity is negatively related to leverage (significantly at 1%, 5%, and 10% levels, respectively). This negative influence supports the pecking order theory that the liquidity of a firm should be negatively associated with leverage. This negative influence indicates that higher liquid assets will enable the firm to have more debt in order for the firm to run its business. This result is consistent with Kumar et al. (2017) who also found that liquidity is negatively related to capital structure. Liquidity is captured by the current assets and indicated that higher liquidity ensures positive working capital, therefore funds can be saved for long-term investments.

As for tangibility, although it is found to be insignificant for Lev 1 (TDTE) and Lev 2 (IDTA) the impact of Lev 2 (TDTA) and Lev 3 (TCDTA) is significant. The tangibility results are negatively related to Lev 2 (TDTA) and Lev 3 (TCDTA) at the 5% and 10% level of significance. Higher leverage is influenced by the lower tangibility

while lower leverage is influenced by higher tangibility. Firms with safe tangibility assets tend to borrow more because they retain more value in the liquidation process than risky intangible assets (Sheikh & Qureshi, 2017). This result is consistent with Li & Stathis (2017), and Sheikh & Qureshi (2017), which is supported by the trade-off theory.

Profitability, growth opportunities, and firm size, are found to have a mixed influence on leverage by each type of leverage. Profitability is found to be negatively related to Lev 1 (TDTE), Lev 2 (TDTA), and Lev 3 (TCDTA), but positively related to Lev 4 (IDTA). These results are the same as a previous study on Malaysian Shariah-compliant securities (Haron and Ibrahim, 2012). Firms with more profitability use internal sources in their financing decisions (J. Chen et al., 2014; Alipour et al., 2015; Sofat & Singh, 2017). Profitability is negatively significant with leverage, which means that firms with more profitability use internal sources in their financing decisions (Alipour et al., 2015). The higher profitability of firms implies higher debt capacity and less risk to debt holders. Firms prefer internal financing and follow a strict dividend policy (Sofat & Singh, 2017). Thus, the results therefore strongly support the pecking order theory. In contrast, higher Islamic debt (Lev 4 (IDTA)) is influenced by higher profitability. This is an interesting finding in which profitability is positively related to IDTA. The results are consistent with Fauzi et al. (2015) who stated that Islamic debt provides a higher contribution to the improvement of firms' financial performance compared to non-Islamic debt.

Similarly, firm's size is positively related to Lev 1 (TDTE), Lev 2 (TDTA), and Lev 3 (TCDTA), but negatively related to Lev 4 (IDTA). For the positive results, this result indicates that bigger firms tend to generate more income and profit, but, at the same time, they also need more debt to support their investment activities. J. Chen et al.

(2014) stated that large firms are associated with high leverage due to their better debt financing capability. This result is consistent with the trade-off theory. According to the negative results, the finding shows that larger firms tend to have lower debt. Larger size enjoys greater opportunities for diversification, which, in turn, provides lower volatility of their cash flows and lowers their inherent risk as well as their costs of financial distress (Morri & Parri, 2017).

As for growth opportunities, the results are positively related to Lev 1 (TDTE) but negatively related to Lev 2 (TDTA) and Lev 3 (TCDTA). In relation to the positive results, higher growth firms need to raise more leverage and vice versa. This is because the more opportunities a firm has, it signals good news for the capital market and attracts more debt and supports the signalling theory (Ukaegbu, 2014). In contrast to the positively significant, the negative relation implies that higher leverage is influenced by lower growth. This result supports the agency theory in capital structure (Haron and Ibrahim, 2012).

4.3.3 The Dynamic Estimation Model

This section presents the empirical results for investigating the existence of target capital structure using the dynamic estimation model, GMM, by Arellano & Bond (1991) for the period from 2007 to 2016. The results are divided into four subsections, i.e. GMM estimation, the appropriate estimation, empirical result, and the speed of adjustment.⁷

⁷ Stata command: xtabond

4.3.3.1 GMM Estimation

The results for the GMM estimations, i.e. GMM-First Difference (1-step) and GMM-First Difference (2-step) for each type of leverage are presented in Table A-6 (a-d) [refer Appendix 2 for details].

There are four important points to be considered in GMM. Firstly, before beginning with the diagnostic tests, the number of instruments should be less than the number of companies or number of observations. Secondly, it is important to test the diagnostic test by referring to autocorrelation and the Sargan or Hansen test. Under autocorrelation, the null hypothesis of no autocorrelation in AR (2) must fail to be rejected, which is the p-value must be more than 5%. By way of further explanation, the presence of first order correlation (since the p-value is less than 5%), is correct and consistent with the GMM theory. Moreover, the null hypothesis of the second order serial correlation failed to reject (p-value is more than 5%), which is in line with the GMM theory.

Thirdly, this study then proceeds with the results of the Sargan test or Hansen test in order to test overidentification restriction. Under the Sargan or Hansen test, the overidentification restriction must be more than 5%. This indicates that the overidentifying restrictions are valid. Fourth, the dynamic effect, which is the lag dependent should be significant and less than 1. Finally, after going through the results of each diagnostic test, the most preferred estimator is then determined.

4.3.3.2 The Appropriate Estimation

Table 4.12 summarizes the results of the Diagnostic Tests for each type of leverage together with the results of the preferred estimator that satisfied the diagnostic tests.

Table 4.12: Summary results of Diagnostic Tests

Dynamic model	Diagnostic test	Lev 1 (TDTE)	Lev 2 (TDTA)	Lev 3 (TCDTA)	Lev 4 (IDTA)
GMM(1)	AR1 test	-7.34***	-8.02***	-8.59***	-9.40***
	AR2 test	0.46	-0.71	0.14	-2.49**
	Sargan test	367.02***	270.00***	272.82***	292.76***
	Hansen test	-	-	-	-
	R-squared	0.5157	0.7244	0.7646	0.0137
	Preferred estimator	No	No	No	No
GMM(2)	AR1 test	-2.47**	-6.10***	-4.87***	-3.04***
	AR2 test	0.34	-0.63	0.10	-1.16
	Sargan test	367.02***	270.00***	272.82***	292.76***
	Hansen test	161.77	155.11	156.13	168.66
	R-squared	0.5209	0.7281	0.7693	0.0137
	Preferred estimator	Yes	Yes	Yes	Yes

Notes: Lev 1 is the total debt to total equity (TDTE), Lev2 is the total debt to total assets (TDTA), Lev3 is the total conventional debt to total assets (TCDTA), Lev 4 is the total Islamic debt to total assets (IDTA).

***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively.

Based on the above results, since the p-value of the Sargan results under the one-step system is less than 0.05, the instruments used are invalid. Therefore, the study continues to use the dynamic GMM estimator for the second step. Based on the results, the Hansen test for the two-step estimator is more than 5 percent and failed to reject the H null, which means that the over identifying restrictions are valid. Additionally, for the Arellano-Bond test, the null of no first order serial correlation is rejected, but the null hypotheses of second order serial correlation is not rejected. This means there is no second order serial correlation for the disturbances of the first difference equation. Theoretically, these results are correct and in line with the GMM theory

The two-step GMM estimator is to be used in explaining the dynamic capital structure for each type of leverage. Theoretically, the two-step estimator is more efficient than the one-step estimator because it uses optimal weighting matrices. According to Azman-Saini (2010), the two-step estimator is asymptotically more efficient than the one-step because the two-step estimator uses optimal weighting

matrices in which the moment conditions are weighted by a consistent estimate of the covariance matrix.

4.3.3.3 Empirical Result

The summary results of the GMM estimation on firm specific factors of target capital structure are presented in Table 4.13 for analysis.

Table 4.13: Firm Specific Factors of TCS

Variable	Lev 1 (TDTE)	Lev 2 (TDTA)	Lev 3 (TCDTA)	Lev 4 (IDTA)
Lev (-1)	0.556***	0.513***	0.506***	0.517***
NDTS	-5.743***	-0.835***	-0.115***	0.018***
Tangibility	-0.035**	-0.012*	-0.013**	-0.005***
Profitability	-0.635***	-0.345***	-0.252***	-0.019***
Business Risk	-0.001***	-0.000**	-0.000	-0.000***
Growth Opportunities	-0.010***	-0.002***	0.005***	0.001***
Firm Size	0.058***	0.011***	0.008***	-0.005***
Liquidity	-0.107***	-0.059***	-0.058***	-0.001***
Share Price Performance	0.021***	-0.003***	-0.006***	-0.000***

Notes: Lev 1 is the total debt to total equity (TDTE), Lev2 is the total debt to total assets (TDTA), Lev3 is the total conventional debt to total assets (TCDTA), Lev 4 is the total Islamic debt to total assets (IDTA).

***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively.

Based on the above results, most of the variables that influence target leverage are significant at the 1% level of significance. Tangibility, profitability, and liquidity are found to consistently influence the target leverage for each type of leverage while other factors, such as NDTS, business risk, growth opportunity, firm size, and SPP have variations in their influence on the target leverage.

This study proceeds to discuss the importance of supporting theories in the empirical results that examine the influencing factors on target leverage. Table 4.14 presents the summary of the theories supporting the findings.

Table 4.14: Theories Supporting the Findings

Variable	Sign/Theory	Lev 1 (TDTE)	Lev 2 (TDTA)	Lev 3 (TCDTA)	Lev 4 (IDTA)
NDTS	Sign	-	-	-	+
	Theory	Trade-Off	Trade-Off	Trade-Off	Trade-Off
Tangibility	Sign	-	-	-	-
	Theory	Trade-Off	Trade-Off	Trade-Off	Trade-Off
Profitability	Sign	-	-	-	-
	Theory	Pecking Order	Pecking Order	Pecking Order	Pecking Order
Business Risk	Sign	-	-	ns	-
	Theory	Trade-Off	Trade-Off		Trade-Off
Growth Opportunities	Sign	-	-	+	+
	Theory	Trade-Off	Trade-Off	Pecking Order	Pecking Order
Firm Size	Sign	+	+	+	-
	Theory	Trade-off Agency theory	Trade-off Agency theory	Trade-off Agency theory	Trade-off Agency theory
Liquidity	Sign	-	-	-	-
	Theory	Pecking Order	Pecking Order	Pecking Order	Pecking Order
Share Price Performance	Sign	+	-	-	-
	Theory	Market Timing	Market Timing	Market Timing	Market Timing

Notes: Lev 1 is the total debt to total equity (TDTE), Lev2 is the total debt to total assets (TDTA), Lev3 is the total conventional debt to total assets (TCDTA), Lev 4 is the total Islamic debt to total assets (IDTA).

ns = not significant

According to Tables 4.13 and 4.14, the following is the detailed analysis of the lagged leverage and the significant variables of the factors of target leverage derived from the dynamic estimation model, i.e. Non-debt tax shield, Tangibility, Profitability, Business Risk, Growth Opportunities, Firm Size, Liquidity, and SPP.

Going straight to the results of the dynamic regression model (refer Table 4.14), the error terms are assumed to be independent and homoscedastic across companies and over time. Specifically, the estimated coefficient of lagged leverage is significant at the 1% of significance level for all types of leverage (Lev 1 (TDTE), Lev 2 (TDTA), Lev 3 (TCDTA), and Lev 4 (IDTA)). These results justify that the model is the dynamic model. This significant results indicates the existence of target capital structure (target

leverage) for Shariah compliant firms in Malaysia. Moreover, the lagged dependent variable (lagged TDTE, TDTA, TCDTA and IDTA) presents positive significant and most of the speed of adjustment is approximately 2 years, which thus indicates that Shariah-compliant firms close the gap between the current and target capital structure by approximately 30-70% within one year (refer Table 4.23 for details).

Similar to Arioglu & Tuan (2014), the speed of adjustment is approximately 29% of the estimation. The results of adjustment speed are in line with the prediction of the trade-off theory. It has been suggested that firms must follow their target capital structures when their leverage ratios deviate from their targets. According to Byoun (2008), most of the adjustments happened when firms have a high or lower debt below the target with a financial surplus or deficit. The results suggest that firms will move to the target capital structures when they experience financial deficit or surplus. Therefore, this is beneficial for firms to get close to the target capital structure, which means that firms can grow faster at the maximum rate without changes in financial leverage.

For NTDS, there is a significant negative relationship between NDTs and Lev 4 (IDTA) in which the results are significant at the 1% level of significance. The results for Lev 1 (TDTE), Lev 2 (TDTA), and Lev 3 (IDTA) have a positively significant influence on the target leverage. The negative effect is related to the static trade-off, which means that firms with large NTDS more than the cash flow expected will reduce their debt in the capital structure. The greater the number of items in non-debt, including depreciation and amortization providing a tax shield, the less motivation for managers to include debt in the capital structure.

While, positively associated with the debt means that firms can take benefit from the tax shield provided due to a deduction in interest payments (Kumar et al., 2017). In addition, the NDTs and target leverage on Shariah compliant firms suggests that the

NDTS is the substitute for the tax shields on debt financing. The benefit of tax shields on interest payments encourages firms to take on more debt, but it also increases the probability that earnings in some years may not be sufficient to offset all the tax deductions (Haron and Ibrahim, 2012).

By referring to tangibility, all types of leverage have the same results in which tangibility has a negative effect on the leverage. The negative relationship means that the firm's debt must be asset-backed where the debt cannot be more than the tangible assets for a firm that operates based on Islamic principles. These results comply with the trade-off theory. Based on the theories supporting the findings above, tangibility has a significant influence on target leverage, which is consistent for all types of leverage. The negative relationship on tangibility strongly supports the trade-off theory. Firms with safe tangibility assets tend to borrow more because they retain more value in the liquidation process than risky intangible assets (Sheikh & Qureshi, 2017).

For profitability, this study found a negative relationship between profitability and leverage for all types of leverage. These results are the same as a previous study on Malaysian Shariah-compliant securities (Haron and Ibrahim, 2012), and mean that Shariah-compliant firms with high profitability will use less leverage in their financial activities. Negative profit and insufficient internal funds suggest the need for external finance (Sheikh & Qureshi, 2017). According to the theories supporting the findings above, profitability recorded has a significant influence on target leverage, which strongly supports the pecking order theory. This result means that Shariah-compliant firms with high profitability will use less leverage (especially conventional debt) in their financial activities and supported by Haron and Ibrahim (2012).

Based on business risk, this study recorded a negative relationship between business risk and leverage (Lev 1 (TDTE), Lev 2 (TDTA), and Lev 4 (IDTA)). Business

risk increases the financial risk of a company, and, therefore, the capital structure theory (pecking order and trade-off theory) predicts a negative relationship between business risk and leverage. However, business risk appears to have no significant relationship with Lev 3 (TCDTA). This finding is similar to Ezeoha (2011) who found no significant relationship between business risk and debt ratio. As for the case for growth opportunities, a mixed and significant relationship was found between growth opportunities and leverage. A negative significant relationship was found in Lev 1 (TDTE) and Lev 2 (TDTA) while a positive significant relationship was found for Lev 3 (TCDTA) and Lev 4 (IDTA). High growth opportunities have a high total leverage ratio, but use less long-term debt, which is consistent with the pecking order theory (J. Chen et al., 2014). Moreover, for negative relationship indicate that firm with higher growth opportunities will carry less leverage because the management of growth firms has stronger incentives to signal that it does not engage in underinvestment and asset substitution (Haron and Ibrahim, 2012).

Moreover, Lev 1 (TDTE), Lev 2 (TDTA), and Lev 3 (TCDTA) have the same results in which firm's size has a positive significant relation to the leverage. These results indicate that bigger firms tend to generate more income and profit, but, at the same time, they also need more debt to support their investment activities. Large firms are associated with high leverage due to their better debt financing capability, which is consistent with the trade-off theory. In addition, firm's size is negatively significant with Lev 4 (IDTA). Shariah-compliant firms practice hierarchy in firm capital structure decisions (Haron and Ibrahim, 2012). The results therefore strongly support the trade-off theory.

This study recorded that liquidity has a negative significant influence on target leverage, which is consistent for all types of leverage. This negative relationship

supports the pecking order theory that the liquidity of a firm should be negatively associated with leverage. This negative relationship indicates that higher liquid assets will enable a firm to have more debt in order for the firm to run its business. This is because liquid firms prefer internal resources for financial needs (Alipour et al., 2015). Thus, there is no need to borrow from other external sources (Kumar et al., 2017).

SPP is found to have a negative impact on leverage (Lev 2 (TDTA), Lev 3 (TCDTA), and Lev 4 (IDTA)) and positive impact on Lev 1 (TDTE) implying that the firm will issue equity to debt when the firm's share prices increase, which is consistent with the market timing theory. The reason is that the companies tend to prefer equity to debt when share prices are rising (Alipour et al., 2015). The higher the stock returns of firms, the lower the debt ratio they have. This is because firms with high stock prices and high stock returns tend to use equity financing rather than debt financing (Yang, Lee, Gu, & Lee, 2010). Haron and Ibrahim (2012) also indicated that firm are more likely to issue equity when their market values is high and to repurchase equity when their market values are low.

After analysing the existence of all types of target capital structure among firms and the factors affecting target leverage, the following analysis extends the discussion into another key aspect of dynamic capital structure, which is the speed of adjustment.

4.3.3.4 The Speed of Adjustment

Table 4.15 describes the speed of adjustment for each type of leverage. The speed of adjustment can be derived from the computation of $\delta_{it} = 1 - \lambda_0$, where λ_0 refers to the value of the estimated coefficient of the lag leverage in the dynamic estimation model. The results also include a number of years to reach the firm's target leverage, which can be computed by $(1/\delta_{it})$.

Table 4.15: Speed of Adjustment

Type of leverage	Lev(-1) λ_0	Speed of Adjustment (δit)	Speed of Adjustment (Years)
Lev 1 (TDTE) (-1)	0.556***	0.444	2.25
Lev 2 (TDTA) (-1)	0.513***	0.487	2.05
Lev 3 (TCDTA) (-1)	0.506***	0.494	2.02
Lev 4 (IDTA) (-1)	0.517***	0.483	2.07

Notes: ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. The computation of speed of adjustment is derived from one minus the coefficients on TDTE (-1), TDTA (-1), TCDTA (-1) and IDTA (-1).

Regarding the above results, the computation shows the degree or speed of adjustment for firms in the industry by each type of leverage. The findings show that all types of leverage have a speed of adjustment for firms less than 1. This means that none of the firms have a speed of adjustment equal to 1 and not consistent with their target or optimal leverage. The target is not consistent, and, thus, the process of adjusting from time to time is needed to be at the target leverage. In addition, this study finds that a speed of adjustment of less than one is under adjusted and below the required adjustment to be at the target within a year. The speed of adjustment of the firms does not fully adjust from the previous period to the current period due to the existence of adjustment costs. The speed of adjustment can be explained in terms of how firms quickly converge their capital structure to the target capital structure (Haron and Ibrahim, 2012).

Adjustment costs will dependent on transaction cost. On the other hand, firm will revert to their target capital very slower due to higher cost especially for financial constrained firms in order to access external market. Based on the results, NDTs, tangibility, profitability, business risk, growth opportunities, firm size, liquidity and SPP are identified as the major factors of adjustment speed. Moreover, the higher distance firms from the target capital structure will adjusted the faster process.

Based on the speed of adjustment for each type of leverage, Lev 3 (TCDTA) has the highest speed of adjustment (0.494), which indicates that firms in the Lev 3

(TCDTA) close the gap between the current and the target leverage by 49.4% within one year, and that it takes 2.02 years to reach the firm's target leverage. This is followed by Lev 2 (TDTA) close the gap by 48.7% equalling 2.05 years to reach the target, Lev 4 (IDTA) at 48.3% needing 2.07 years to reach the target, and Lev 1 (TDTE), 44.4% and 2.25 years to reach the firm's target leverage. The following analysis estimates the existence of the target leverage using similar estimations, which are the static and dynamic models of each of the industries.

4.3.4 Robustness Test for Industry

The robustness test in this study is used to examine the existence of the target capital structure for each sector. This section is repeated analysis from the previous analysis using an overall sample by continued specific analysis by each sector. This study is estimated by six sectors – consumer products, industrial products, construction, trading and services, properties, and plantation.

The study also reports the summary of the mean value results for the existence of target capital structure by industry in Table A-2 (refer Appendix 2).

Construction firms appear to have the highest level of TDTE, which is 0.5259 (52.59%), while the lowest TDTE is Consumer products at 0.3113 (31.13%). Although Construction firms are recorded as having the highest leverage ratio, their average tangibility (TANG) and liquidity are much lower compared to other sectors (34.54% and 55.30%, respectively). As a comparison, Consumer products recorded higher average profitability and liquidity at 8.90% and 90.06%, respectively, but, compared to the other sectors, also recorded the lowest firm size (FS) at 19.5463.

As for Lev 2(TDTA), the statistics show that Properties has the highest and Consumer Products has the lowest mean TDTA. In contrast, Properties appear to have

the lowest average non-debt tax shield (NDTS), profitability (PROF), and growth opportunity (GO) at 0.40%, 5.22%, and 63.91%, respectively. With similar results to Lev 1(TDTE), Consumer products recorded higher average profitability (PROF) and liquidity at 9.34 percent and 91.36 percent while having the lowest firm size of 19.5702. Consumer products also recorded higher average business risk (BR) and growth opportunity (GO) at 35.19% and 155.33%, respectively.

Continuing with the observations, looking at the Lev 2(TCDTA), Properties recorded the highest average TCDTA of 17.66% and the lowest TCDTA is Industrial products at 12.78%. Similarly, Properties in Lev 2(TCTDTA) also has the lowest average non-debt tax shield (NDTS), profitability (PROF), and growth opportunities (GO) at 4.2%, 5.12%, and 63.91%, respectively. Industrial products, on the other hand, recorded the highest average on non-debt tax shield (NDTS) and SPP at 3.29% and 14.58%, respectively. Industrial products also recorded the lowest average business risk (BR) at -19.12 percent.

The Lev 4(IDTA) shows that the average ratio of IDTA is between 0.09 percent and 17.66 percent with Properties being the highest and Consumer products the lowest. Properties is again the lowest average on non-debt tax shield, profitability, and growth opportunity (0.42%, 5.12%, and 63.91%, respectively), while Consumer products recorded the highest non-debt tax shield, profitability, business risk (BR), and liquidity (3.35%, 9.20%, 60.06%, and 87.86%, respectively). Again, compared to other sectors, Consumer products had the lowest firm size (FS) with 19.5681.

4.3.4.1 The Static Estimation Model

This section estimates the findings of the static estimation models to examine the factors affecting the capital structure for each sector. The values of VIF are between 1.21 and 1.74, which indicates that there is no multicollinearity in this regression analysis (Table A-7 in Appendix 2).

This study recorded that the adjusted r-squared (refer Table A-8 in Appendix 2) for lev 1 (TDTE) recorded that consumer products are higher compared to other sectors. This result shows that at least 50.16 percent of the variation in consumer products is explained by the independent variables. In contrast, the adjusted r-squared for trading and services is the lowest compared to other sectors, thereby implying that only 22.31 percent is explained by the independent variables. For Lev 2 (TDTA), Lev 3 (TCDTA), and Lev 4 (IDTA) plantation is the highest adjusted r-squared (70.10%, 69.18%, and 6.80%, respectively) while properties is the lowest adjusted r-squared compared to the other sectors (31.54%, 26.21%, and -2.45%, respectively). Even though the adjusted r-squared for all the regression analysis is highest and lowest, the following analysis is considered for all the sectors by each type of leverage. All sectors are used by each type of leverage because these results need to be investigated for further analysis in Chapter 5. Table 4.25 shows the adjusted r-squared in each type of regression employed in the study.

4.3.4.1.1 Empirical Result

After going through all the statistical tests to choose the appropriate static model (refer Table A-9 (a-c) in Appendix 2 for details), the FE model is the preferred model for Industrial products and Construction. The RE model is the preferred model for Consumer products and Properties while the mixed static estimation model is the

preferred model for Industrial products and Construction. The diagnostic checks (Table A-10 (a-b) in Appendix 2) indicate heteroscedasticity and autocorrelation problems for all sectors for each type of leverage. Thus, the problems are rectified using the Fixed effect and Random effect model with heteroscedasticity and serial correlation robust standard error.

Table A-11 (refer Appendix 2) summarizes the results from the random and fixed effect robustness standard error model for all sectors for each type of capital structure.

Table 4.16 summarizes the results based on Table A-11 in Appendix 2.

Table 4.16: Summary and Sign Results of Firm Specific Factors of Capital Structure by Each Industry

Variable	Lev 1 (TDTE)	Lev 2 (TDTA)	Lev 3 (TCDTA)	Lev 4 (IDTA)
NDTS	Construction (-)	Consumer Products (-)		Properties (-)
Tangibility	Properties (-) Plantation (-)	Consumer Products (-) Properties (-) Plantation (-)	Consumer Products (-) Trading and services (-) Properties (-)	-
Profitability	Industrial Products (-) Construction (-) Trading and services (-)	Consumer Products (-) Trading and services (-) Plantation (-)	Consumer Products (-) Industrial Products (-) Trading and services (-) Plantation (-)	Industrial Products (+)
Business Risk	Construction (+)	Construction (+) Trading and services (+) Plantation (+)	Trading and services (+) Plantation (+)	-
Growth Opportunities	-	Consumer Products (-)	Consumer Products (-) Industrial Products (-) Construction (-)	-
Firm Size	Consumer Products (+) Construction (+) Trading and services (+) Properties (+)	Construction (+) Trading and services (+) Properties (+) Plantation (+)	Consumer Products (+) Construction (+) Trading and services (+) Properties (+) Plantation (+)	Plantation (-)
Liquidity	Consumer Products (-) Construction (-) Trading and services (-) Properties (-) Plantation (-)	Consumer Products (-) Industrial Products (-) Construction (-) Trading and services (-) Properties (-) Plantation (-)	Consumer Products (-) Industrial Products (-) Construction (-) Trading and services (-) Properties (-) Plantation (-)	Properties (-)

The results above indicate that NDTs has a negative influence on leverage for Lev 1 (TDTE), Lev 2 (TDTA), and Lev 3 (IDTA). For Lev 1 (TDTE), only Construction is found to show a significant influence between NDTs and Lev 1 (TDTE). As for Lev 2 (TDTA), it is negatively related to NDTs in Consumer products and Lev 4 (IDTA) in Properties. This finding clearly shows that only Construction, Consumer products, and Properties are negatively significant between NDTs and leverage. This result indicates that firms under Construction, Consumer products and Properties will substitute the tax shields on debt financing. The benefit of tax shields on interest payments encourages firms to take on more debt, but also increases the probability that earnings in some years may not be sufficient to offset all tax deductions (Haron and Ibrahim, 2012).

For tangibility, it is negatively related to leverage in Properties and Plantation for Lev 1 (TDTE); Consumer Products, and Properties and Plantation for Lev 2 (TDTA); and, Consumer Products, Trading and Services, and Properties for Lev 3 (TCDTA). These results are consistent with the previous results for the overall sample, which indicates that firms with safe tangibility assets tend to borrow more because they retain more value in the liquidation process than risky intangible assets (Sheikh & Qureshi, 2017).

Profitability on the other hand is negative for Lev 1 (TDTE) (Industrial Products, Construction, and Trading and Services), Lev 2 (TDTA) (Consumer Products, Trading and services, and Plantation), and Lev 3 (TCDTA) (Consumer Products, Industrial Products, Trading and Services, and Plantation). However, it is positively related to Lev 4 (IDTA) in Industrial Products. This result shows that high profitability will use less leverage in their financial activities, which is consistent with the Pecking order theory.

Business risk is found to be positively significantly related to firms leverage in Construction, Trading and services, and Plantation under three types of firm leverage

(Lev 1 (TDTE), Lev 2 (TDTA), and Lev 3 (TCDTA)). This finding clearly shows that even though the type of leverage is different, it has a similar impact on the business risk. However, when the study focuses on each industry the results are contradictory to the overall sample. This means that each industry has its own justification and different characteristics in handling its debt financing, which is consistent with the agency theory. One possible reason is the specialty of the financial markets and economic system, which make up the biggest market share (J. Chen et al., 2014).

As for Growth Opportunities, it is negatively related to Lev 2 (TDTA) and Lev 3 (TCDTA) in Consumer Products, Industrial Products, and Construction. Firms with high growth opportunities have a high total leverage ratio, but use less long-term debt (J. Chen et al., 2014). In comparison to larger firms, smaller firms leverage depends more on the level of growth within the industry. As the industry grows, larger firms undertake more leverage. This contradicts the trade-off theory where higher industry growth should decrease leverage (Li & Stathis, 2017).

When looking at firm's size, the findings show that it is positively related to Lev 1 (TDTE), Lev 2 (TDTA), and Lev 3 (TCDTA), but has a negative influence on Lev 4 (IDTA). For the negative results on Lev 4 (IDTA) in Plantation, this finding is consistent with Haron and Ibrahim (2012) in that Shariah-compliant firms practice hierarchy in their firm capital structure decisions. This finding clearly shows that smaller firms tend to increase more Islamic debt to support firm's investment. The results show positive relationships between firm's size and leverage (Lev 1 (TDTE), Lev 2 (TDTA), and Lev 3 (TCDTA)) for all industries. In relation to the positive relationship, large firms are associated with high leverage due to their better debt financing capability, which is consistent with the trade-off theory.

Focusing on liquidity, the results show a negative relationship with all types of leverage for almost all industries, but only Properties is significant in Lev 4 (IDTA). Same with earlier results, liquidity is captured by the current assets and indicated that higher liquidity ensures positive working capital, therefore funds can be saved for long-term investments where there is no need for firm to borrow from other external sources (Kumar et al., 2017).

4.3.4.2 The Dynamic Estimation Model

This section presents the empirical results of the dynamic estimation model in the robustness checks using GMM estimations for all sectors and for each type of leverage.

Similar to Section 4.3.3, the analysis also used the GMM estimator by Arellano & Bond (1991) to investigate the effect of the non-debt tax shield, tangibility, profitability, business risk, firm size, growth opportunities, liquidity, and SPP of capital structure. The discussion focusses on the dynamic estimation model, i.e. the partial adjustment model, which is estimated using the two methods of Generalized Method of Moments (GMM), i.e. GMM-First Difference (1-step) and GMM-First Difference (2-step) by Arellano and Bond (1991).

This section also tests two diagnostic tests, i.e. Heteroscedasticity and Serial correlation, using the same practices as the previous analysis in Section 4.3.3. Since some of the models have at least two models that qualify under the diagnostic test, this study uses r-squared to select the preferred model (refer Table A-12 (a-d) in Appendix 2 for details). The most appropriate model is then determined based on the highest r-squared.

For Lev 1 (TDTA), construction, properties, and plantation, two models qualified under the diagnostic tests. Having compared the r-squared among the models, the model

from GMM (2) is the model chosen for explaining the dynamic capital structure for construction and plantation while GMM (1) is chosen for properties.

Moreover, for the results of the diagnostic tests for Lev 2 (TDTA), the preferred model for Consumer products and Industrial products is GMM (2) as it satisfies the diagnostic tests. Then, GMM (1) is the most preferred model for Construction and Properties. In contrast, the r-squared in GMM (2) for Trading and services and Plantation is higher compared to GMM (1) and GMM (2) is the preferred model in this sector for dynamic estimation analysis.

In addition, the results of the diagnostic test for Lev 3 (TCDTA) showed that GMM (1) for Consumer products and Industrial products are not satisfied with the diagnostic tests as the Sargan test is less than 5 percent. As for Construction, Trading and services, Properties and Plantation, two models qualified under the diagnostic tests. By referring to the r-squared for both models, the r-squared for GMM (1) is the highest model for Construction and Trading and services, and the most preferred model for dynamic estimation analysis. However, the r-squared in GMM (2) for Properties and Plantation is higher compared to GMM (1). This finding shows that GMM (2) is the most appropriate model for Consumer products, Industrial product, Properties, and Plantation while GMM (1) is preferred for Construction and Trading and services.

Based on the results under Lev 4 (IDTA), GMM (1) is the most preferred model for Construction, Trading and Services, and Plantation while GMM (2) is for Consumer products, Industrial products, and Properties. The results show that GMM (1) for Consumer products, Industrial products, and properties does not satisfy the diagnostic tests as the Sargan test is less than 5 percent. As for Construction, Trading and services, and Plantation, two models qualified under the diagnostic tests. Based on the r-squared,

GMM (1) for Construction and Trading and services, and Plantation is higher compared to GMM (2). Thus, GMM (1) is the preferred model for dynamic estimation analysis.

4.3.4.2.1 Empirical Results

Table 4.17 summarizes the existence of target capital structure results based on the GMM estimation by each sector and each type of leverage (refer Table A-13 in Appendix 2 for details).

Table 4.17: Summary and Sign Results of Firm Specific Factors of TCS for Each Industry

Variable	Lev 1 (TDTE)	Lev 2 (TDTA)	Lev 3 (TCDTA)	Lev 4 (IDTA)
NDTS	Consumer Products (-) Industrial Products (-) Trading and services (-)	Industrial Products (-) Construction (-) Trading and services (+)	Industrial Products (-) Properties (+)	Consumer Products (+) Industrial Products (+) Plantation (+)
Tangibility	Industrial Products (+)	Consumer Products (-) Industrial Products (+) Trading and services (-)	Consumer Products (-) Trading and services (-)	Consumer Products (+) Trading and services (-)
Profitability	Consumer Products (-) Industrial Products (-) Construction (-)	Consumer Products (-) Industrial Products (-) Trading and services (-) Plantation (-)	Consumer Products (-) Industrial Products (-) Trading and services (-)	Consumer Products (+) Industrial Products (-) Properties (-)
Business Risk	Consumer Products (+) Plantation (-)	Industrial Products (-)	Industrial Products (-)	Industrial Products (-) Properties (+)
Growth Opportunities	Consumer Products (+) Industrial Products (-) Trading and services (+)	Consumer Products (+) Industrial Products (-) Trading and services (-)	Consumer Products (+) Industrial Products (-) Construction (-) Properties (+)	Trading and services (+) Properties (+)
Firm Size	Consumer Products (-) Industrial Products (+)	Industrial Products (+) Construction (+) Trading and services (+) Plantation (+)	Consumer Products (-) Construction (+) Trading and services (+) Properties (-) Plantation (+)	Industrial Products (-) Plantation (-)

Liquidity	Industrial Products (-) Trading and services (-)	Consumer Products (-) Industrial Products (-) Trading and services (-)	Consumer Products (-) Industrial Products (-) Construction (-) Trading and services (-)	Consumer Products (-) Industrial Products (+)
Share Price Performance	Consumer Products (-) Industrial Products (+)	Consumer Products (-) Trading and services (+)	Consumer Products (-)	Consumer Products (+) Industrial Products (-) Properties (-)

The results above indicate that NDTs is found to have a mixed influence on leverage subject to industry. NDTs is negatively related to Lev 1 (TDTE) in Consumer products, Industrial Products, Trading and Services, and Construction; Lev 2 (TDTA) in Industrial Products and Construction; and, Lev 3 in Industrial products, but the same factor is positively related to Lev 2 (TDTA) in Trading and services; Lev 3 (TCDTA) in Properties; and Lev 4 (IDTA) in Consumer products and Industrial products. In relation to this, Haron and Ibrahim (2012) recorded a negative relation between NDTs and leverage. The authors stated that the NDTs and target leverage on Shariah compliant firms suggests that NDTs is the substitute to the tax shields for debt financing. Although positively associated with the debt, firms can take benefit from the tax shield provided due to a deduction in interest payments (Kumar et al., 2017). This result is consistent with the trade-off theory.

Regarding tangibility, this result shows mixed effects for each type of leverage, which are a positive influence for Lev 1 (TDTE) and Lev 2 (TDTA) in Industrial products, and Lev (IDTA) in Consumer products, but a negative influence of Lev 2 (TDTA) and Lev 2 (TCDTA) in Consumer products, and Lev 3 (TCDTA) and Lev 4 (IDTA) in Trading and services. The positive relationship is consistent with the trade-off theory and firms with more tangible assets will be able to have more debt relative to

firms with fewer tangible assets (Haron and Ibrahim, 2012). The negative results also support the agency theory and trade-off theory. In the trade-off theory, firms with safe tangibility assets tend to borrow more because they retain more value in the liquidation process than risky intangible assets (Sheikh & Qureshi, 2017).

As in the case of profitability, a consistent and significant negative between profitability and all types of leverage is detected for firms in all industries except Lev 4 (IDTA) in Consumer products. This significant negative relationship is found in Consumer Products, Industrial Products, Trading and Services, Construction, and Plantation. Previous research has shown that the profitability is negatively associated with the leverage ratio (Ukaegbu, 2014; Gómez et al., 2014; J. Chen et al., 2014; Alipour et al., 2015; Sofat & Singh, 2017; Sheikh & Qureshi, 2017). Moreover, Alipour et al. (2015) stated that this is evidence for the pecking-order theory in that more profitable corporations tend to use less debt when financing their activities. J. Chen et al. (2014) indicated that the higher profitability of firms implies higher debt capacity and less risk to the debt holder. Firms prefer internal financing and follow a strict dividend policy (Sofat & Singh, 2017).

This study depicts a significant positive and negative relationship between business risk and leverage. There is a significant positive result for Lev 1 (TDTE) in Consumer products and Lev 4 (IDTA) in Industrial products. J. Chen et al. (2014) found that business risk and financial distress have a significant and positive impact on the long-term debt ratio. They comment that one possible reason is the specialty of the Chinese financial markets and economic system, which make up the biggest market share. There is a significant negative result for all types of leverage in Plantation and Industrial products. Business risk increases the financial risk of a company, therefore

the capital structure theory (POT, TOT) predicts a negative relationship between business risk and leverage (Kumar et al., 2017).

Again, another mixed result is found in the relationship between growth opportunities and leverage. This study finds a significant positive relationship for all types of leverage in Consumer products, Trading and services, and properties, but a significant negative relationship for Lev 1 (TDTE), Lev 2 (TDTA), and Lev 3 (TCDTA) in Industrial products and Construction. In their study, Ukaegbu (2014) found a positive association between growth opportunities and leverage in manufacturing firms. This is because the more opportunities a firm has, it signals good news for the capital market and attracts more debt. In comparison to larger firms, smaller firms leverage depends more on the level of growth within the industry. As the industry grows, larger firms undertake more leverage. This contradicts the trade-off theory where higher industry growth should decrease leverage (Li & Stathis, 2017).

As for firm's size, a mixed result is also found for the relationship between firm size and target leverage. This finding is detected with Lev 1 (TDTE) for Industrial products, Lev 2 (TDTA) for Industrial products, Construction, Trading and services, and Plantation, and Lev 3 (TCDTA) for Construction, Trading and services and Plantation, which recorded significant positive. In contrast, a negative relationship appeared for Lev 1 (TDTE) for Consumer products, Lev 3 (TCDTA) for Consumer products and Properties, and Lev 4 (IDTA) for Industrial products, and Plantation. The research by Haron and Ibrahim (2012) found that firm size has a significant negative influence on leverage. The author stated that larger firms tend to generate higher profit and have higher internal funding to support firm's investment. However, a negative relationship showed that Shariah-compliant firms practice hierarchy in firm capital structure decision.

Chen et al. (2014) also found that firm size has a statistically significant positive impact on all leverage, which means that large firms are associated with high leverage due to their better debt financing capability, which is consistent with the trade-off theory. Another previous research found a negative relationship between firm size and all measures of capital structure (STD, LTD and TD), which indicated that smaller companies may not have much choice but to rely on bank loans (Alipour et al., 2015). The results are consistent with POT that information asymmetry is a less severe issue in big firms.

This study finds a significant negative relationship between liquidity and all types of target leverage for Industrial products, Trading and services, Consumer products, and Construction but a significant positive relationship with Lev 4 (IDTA) for Industrial products. Alipour et al. (2015) found that liquidity is positively related to Short-term debt, but negatively related to Long-term debt. This is because liquid firms prefer internal resources for financial needs, which is consistent with the pecking-order theory. This is similar to Ahsan, Wang, & Qureshi (2016), who found a negative association between liquidity and Short-term debt, and Total debt whereas this association becomes positive with Long-term debt.

This study finds significant mixed results for the relationship between SPP and all types of firm target leverage in the industry. SPP is found to be positively related to all types of target leverage except Lev 3 (TCDTA) for Industrial products, and Trading and services, but negatively related to all types of firms target leverage for Consumer products, Industrial products, and Properties. According to Alipour et al. (2015), there is a negative significant relationship between SPP and all measures of capital structure, i.e. short-term debt, long-term debt, and total debt, which is consistent with the market timing theory. The reason is that the companies tend to prefer equity to debt when share

prices are rising. Firms prefer to issue equity to debt when share prices are increasing, high stock prices and high stock returns tend to use equity financing rather than debt financing.

After analysing the existence of all types of target capital structure among firms in the industry and the factors affecting target leverage, this study extends its discussion into another important aspect of dynamic capital structure, which is the speed of adjustment.

4.3.4.2.2 The Speed of Adjustment

Table 4.18 describes the speed of adjustment for each industry by the type of leverage. The speed of adjustment can be derived from the computation of $\delta_{it} = 1 - \lambda_0$, where λ_0 refers to the value of the estimated coefficient of the lag leverage in the dynamic estimation model. The results also include the number of years to reach the firm's target leverage, which can be computed by $(1/\delta_{it})$.

Table 4.18: Speed of Adjustment by Each Industry Of TCS

Type of leverage	Industry	Lev(-1) λ_0	Speed of Adjustment (δ_{it})	Speed of Adjustment (Years)
Lev 1 (TDTE)	Consumer Products	0.629***	0.371	2.70
	Industrial Products	0.356***	0.644	1.55
	Construction	0.766***	0.234	4.27
	Trading and services	0.754***	0.246	4.07
	Properties	0.408**	0.592	1.68
	Plantation	0.698***	0.302	3.31
Lev 2 (TDTA)	Consumer Products	0.465***	0.535	1.87
	Industrial Products	0.621***	0.379	2.64
	Construction	0.682***	0.318	3.14
	Trading and services	0.327***	0.673	1.49
	Properties	0.732**	0.485	2.06
	Plantation	0.537***	0.463	2.16
Lev 3 (TCDTA)	Consumer Products	0.592***	0.408	2.45
	Industrial Products	0.525***	0.475	2.11
	Construction	0.751***	0.249	4.02

	Trading and services	0.310***	0.690	1.45
	Properties	0.838***	0.162	6.17
	Plantation	0.795***	0.205	4.89
	Consumer Products	1.306***	-0.306	-3.27
	Industrial Products	0.457***	0.543	1.84
Lev 4	Construction	0.564***	0.436	2.29
(IDTA)	Trading and services	0.715***	0.285	3.51
	Properties	-0.053***	1.053	0.95
	Plantation	0.572***	0.428	2.34

Regarding the above results, the computation shows the degree or speed of adjustment for firms in the industry by each type of leverage. The findings show that all types of leverage have a speed of adjustment for firms less than 1. This means that none of the firms have a speed of adjustment equal to 1, meaning they are not consistently at their target or optimal leverage. This significant results indicates the existence of target capital structure (target leverage) for all industries.

For Lev 1 (TDTE), Industrial products firms have a higher speed of adjustment (0.644), thereby denoting that firms in the Industrial products close the gap between current and target leverage by 64.4% within one year, and it takes 1.55 years to reach the firm's target leverage. This is followed by Properties which close the gap by 59.2%, which is equal to 1.68 years to reach the target, Consumer products at 37.1% meaning 2.70 years to reach the target, Plantation at 30.2% equalling 3.31 years to reach the target, Trading and services at 24.6% or 4.07 years to reach the target, and Construction, 23.4%, meaning it takes 4.27 years to reach the firm's target leverage.

In relation to this, the highest speed of adjustment under Lev 2 (TDTA) is trading and services, which closes the gap between current and target leverage by 67.3% within one year. Thus, meaning it takes 1.49 years to reach the firm's target leverage. This is followed by Consumer products, 53.5% or 1.85 years to reach the target, plantation at 46.3% equalling 2.16 years to reach the target, Industrial products at 37.9% requiring

2.64 years to reach the target, and Construction at 31.8% meaning it takes 3.14 years to reach the target.

As for Lev 3 (TCDTA), Trading and services has the highest speed of adjustment compared to other industries at 69% or 1.45 years to reach the firm's target leverage. This is followed by Industrial products at 47.5% meaning it takes 2.11 years to reach the target, Consumer products at 40.8% equalling 2.45 years to reach the target, Construction at 24.9% gap, taking 4.02 years to reach the target, Plantation at 20.5% or 4.89 years to reach the target, and Properties at 16.2% meaning it takes 6.17 years to reach the firm's target leverage.

In the case of Lev 4 (IDTA), Consumer products appear to have a higher speed of adjustment and over adjustment with a -30.3% gap, which equals -3.27 years to reach their target. This is followed by Properties at 105.3%, which take 0.95 years to reach the target, Industrial products at 54.3% equalling 1.84 years to reach the target, Construction at 43.6% or 2.29 years to reach the target, Plantation at 42.8% or taking 2.34 years to reach the target, and Trading and services at 28.5% meaning it takes 3.51 years to reach the firm's target leverage.

Based on the deviation from target leverage, Abdeljawad et al. (2013) found that overleveraged firms show faster adjustment compared to underleveraged firms. Meanwhile, firms that are far from the target capital structure have faster adjustment than those close to the target. This view is supported by Razali Haron et al. (2013) who found a negative relationship between the speed of adjustment and distance from target leverage, which suggests fast adjustment for firms that are not far from the target capital structure. The results of the adjustment speed are in line with the prediction of the trade-off theory. It has been suggested that firms must follow their target capital structures when their leverage ratios deviate from their targets.

4.3.5 Summarisation of the Results of TCS

Table 4.19 summarises the results of objective one to measure the existence of existing target capital structure for all types of leverage for Malaysian Public-listed Shariah-compliant firms. In order to investigate the existence of target leverage, the study conducted analysis on the capital structure factors, the existence of target leverage, and the speed of adjustments by using both the static as well as the dynamic models. The study begins analysis in determining the factors that influence the capital structure using static models for all types of leverage. There are four types of leverage as the dependent variables that have been used to assess the capital structure and identify its factors, i.e. Lev 1 (TDTE) calculated using total debt to total equity, Lev 2 (TDTA) by total debt to total assets, Lev 3 (TCDTA) by total conventional debt to total assets, and Lev 4 (IDTA) by total Islamic debt to total assets.

There are several independent variables in this study, i.e. non-debt tax shield, tangibility, profitability, business risk, growth opportunities, firm size, liquidity, and SPP. For static models, three models are tested, and, from the results, it can be concluded that the appropriate model under static model is the Fixed Effect Model. The findings show that profitability, firm size, and liquidity have consistent results for Lev 1 (TDTE), Lev 2 (TDTA), and Lev 3 (TCDTA), but opposite results for Lev 4 (IDTA). The results indicate that higher profitability, higher liquidity, and lower firm size will increase the Islamic debt to total assets. However, this contradicts the total conventional debt to total assets, which is where higher profitability, higher liquidity, and lower firm size tend to decrease total conventional debt to total assets, and, at the same time, increase intangibility and growth opportunities. This indicates that larger firm size tends to have less business risk, less asset composition, and less debt service capacity, and that firms prefer internal resources for financial needs.

Now, the study proceeds to discuss the empirical finding based on the dynamic model estimations. After going through the results of each diagnostic check, GMM-First Difference (2-step) is the most preferred estimator. Theoretically, the two-step estimator is more efficient than the one-step estimator because it uses optimal weighting matrices. This study concludes that all the independent variables, i.e. non-debt tax shield, tangibility, profitability, business risk, growth opportunities, firm size, liquidity, and SPP significantly influence the target capital structure decision. The findings show that trade-off and pecking order theory are the major theories in the analysis of the firm specific factors of capital structure. According to Table 4.51, most of the significant variables in the fixed effect present consistently the significance of the variables used in a dynamic model (GMM).

Referring to the existence of target leverage, interestingly, the study finds that a target of leverage exists for firms for all types of leverage. The study also finds that firms under the overall sample for all types of leverage have a speed of adjustment that is less than one to be under adjusted, and below the required adjustment to be at the target within a year. This study revealed Lev 3 (TCDTA) as having the highest speed of adjustment, followed by Lev 2 (TDTA), Lev 4 (IDTA), and Lev 1 (TDTA). This suggests that firms that were far from the target capital structure had faster adjustment than those close to the target.

The study continues observation using the robustness test for each type of industry by each type of leverage. There are six types of industry in this study – Consumer Products, Industrial Products, Construction, Trading and Services, Properties, and Plantation. The study is conducted similar to the overall sample estimations, which are static model is to identify the diagnostic checks and dynamic model is to investigate the existence of the target capital structure, and the speed of adjustment which is equal to

1, less than 1, or more than 1 to reach the firm's target leverage. The static and dynamic models are analysed in the separated analysis. Referring to the static results, liquidity has a consistent negative significant relationship for all industries, for all types of leverage except the positive significant relationship between Islamic debts and assets. The results are consistent with the pecking order theory, which indicates that higher liquidity makes firms tend to borrow less external financing because they are able to use current assets to finance their firm's activities.

Based on the dynamic results estimation, most of the variables have a significant effect on leverage for Consumer products, Industrial products, and Trading and services. The study finds the consistent influence on profitability for all industries, except Islamic Debt to assets in Consumer products, which contradicted the results. This study also finds that liquidity consistently influences leverage for all industries but that the results contrast with the Islamic debt to assets in Industrial products.

The rest of the factors show mixed results for their influence on leverage (non-debt tax shield, business risk, growth opportunities, firm size and SPP). Looking at the existence of target leverage, the study finds that a target of leverage exists for all types of industry on all types of leverage. The study also finds that firms under all industries in terms of type of leverage have a speed of adjustment that is less than one to be under adjusted and below the required adjustment to be at the target within a year. This suggests that the results of the speed of adjustment is consistent with the prediction of the trade-off theory. It has been suggested that firms must follow their target capital structures when their leverage ratios deviate from their targets.

The following analysis continues to find the existence of a target dividend policy for the overall sample and each of the industries.

Table 4.19: Summarisation Result of TCS for Overall Sample

Hypotheses	Variable	Lev 1 (TDTE)				Lev 2 (TDTA)				Lev 3 (TCDTA)				Lev 4 (IDTA)					
		FE	GMM (2)	Theory	Sig	FE	GMM (2)	Theory	Sig	FE	GMM (2)	Theory	Sig	FE	GM M (2)	Theory	Sig		
	Lagged Leverage		+	(***)		/		+	(***)		/		+	(***)		/		+	(***)
H1.1a	NDTS		-	(***)	TOT	/		-	(***)	TOT	/		-	(***)	TOT	/		+	(***)
H1.1b	Tangibility		-	(**)	TOT	/		-	(*)	TOT	/		-	(**)	TOT	/		-	(***)
H1.1c	Profitability	-	(***)	-	(***)	POT	/	-	(***)	-	(***)	POT	/	+	(**)	-	(***)	-	(***)
H1.1d	Business Risk		-	(***)	TOT	/		-	(**)	TOT	/				×		-	(***)	TOT
H1.1e	Growth Opportunities	+	(*)	-	(***)	TOT	/	-	(***)	-	(***)	TOT	/	+	(***)	+	(***)	POT	/
H1.1f	Firm Size	+	(***)	+	(***)	TOT	/	+	(***)	+	(***)	TOT	/	-	(***)	-	(***)	-	(***)
H1.1g	Liquidity	-	(*)	-	(***)	POT	/	-	(***)	-	(***)	POT	/	+	(**)	-	(***)	-	(***)
H1.1h	Share Price Performance		+	(***)	MTT	/		-	(***)	-	(***)	MTT	/		-	(***)	-	(***)	MTT
Speed of Adjustment (δ it)		0.444				0.487				0.494				0.483					
Speed of Adjustment (Years)		2.25				2.05				2.02				2.07					

Notes: Lev 1 is the total debt to total equity (TDTE), Lev2 is the total debt to total assets (TDTA), Lev3 is the total conventional debt to total assets (TCDTA), Lev 4 is the total Islamic debt to total assets (IDTA). CS is consistently significant.

***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively.

4.4 Measuring the Existence of Target Dividend Policy (TDP)

This section presents the findings for the existence of target dividend policy of Malaysian Public-listed Shariah-compliant firms. First, the discussion focuses on the correlation analysis for each of the variables. Second, this section discusses the diagnostic check of dividend policy using the static estimation model, i.e. Pooled effect, random effect, and fixed effect.

Third, the discussion focuses on the existence of target dividend policy using the dynamic estimation model, i.e. the partial adjustment model, which is estimated using the two methods of Generalized Method of Moments (GMM), i.e. GMM-First Difference (1-step) and GMM-First Difference (2-step) by Arellano and Bond (1991). The study selects GMM-First Difference (2-step), being the more efficient estimator after satisfying the diagnostic tests. In the following discussion, GMM (1) and GMM (2) refer to the GMM-First Difference (1-step) and GMM-First Difference (2-step), respectively.

4.4.1 Correlation Analysis

The correlation matrix for this study emphasizes the overall correlation signs between the independent variables and the dividend policy. The correlation signs are summarized in Table 4.20 (refer to Table A-14 (overall sample) in Appendix 2 for details).

Table 4.20: Correlation Sign of Independent Variables with Dividend Policy

Variable	Overall
Dividend Yield (-1)	+
Earnings Per Share	ns
Market Capitalization	ns
Liquidity	+
Investment opportunities	+
Firm Size	-
Sales growth	ns
Leverage	-
Growth Opportunities	ns

Note: ns = not significant

Based on the summary in Table 4.20 above, lagged dividend yield is stated to be positively significantly correlated with a dividend yield. Moreover, liquidity and investment opportunities were found to be positively correlated to dividend yield. Firm size and leverage recorded a negative significant correlation with dividend yield for the overall sample. This result indicates that a higher level of debt leads to lower dividend payments to shareholders due to higher debt leading to a greater obligation to the creditors in terms of debt repayment and interest charged.

4.4.2 The Static Estimation Model

This section presents the findings for the static estimation models to examine the diagnostic checks. Table 4.21 shows that the value of VIF is 2.74, from which it may be concluded that there is no multicollinearity in this regression analysis.

Table 4.21: Testing for Multicollinearity

Variance Inflation Factor	Result
Overall	2.74

Table A-15 (in Appendix 2) shows the results of the statistical test of the panel data analysis for the overall sample based on the F test, Breusch-Pagan LM Test, and the Hausman test. Table 3.2 under Chapter 3 Research Methodology already discussed

in detail the steps for choosing the appropriate static model in the context of panel data analysis used in this study.

The results of the F test and the Breusch-Pagan LM test for the overall sample is accepted, the Hausman test is conducted to choose either the fixed effect or random effect. The Hausman test result shows that the fixed effect is accepted because the p-value is less than 10 percent. The study finding shows that the FE model is the preferred model in the analysis static estimation model.

This study also performed diagnostic checks, such as heteroscedasticity and Serial Correlation, after selecting an appropriate model of analysis. In this study, the diagnostic checks indicate that there are heteroscedasticity and autocorrelation problems. Thus, to rectify the problems the fixed effect model is used with heteroscedasticity and serial correlation robust standard error.

4.4.2.1 Empirical Results

Table 4.22 presents the summary of the estimation results gathered from the fixed effect robustness standard error model for the overall sample and all industries (refer Table A-17 in Appendix 2 for details of the results). This study proceeds to discuss the importance of supporting theories in the empirical results that identifies the firm specific factors of dividends. The summary of theories supporting the findings for the overall sample and all industries is presented in Table 4.23.

Table 4.22: Firm Specific Factors of Dividend Policy

Variable	Overall
Constant	0.163**
Dividend Yield (-1)	0.487***
Earnings Per Share	0.018***
Market Capitalization	0.003
Liquidity	-0.000
Investment opportunities	0.003
Firm Size	-0.008**
Sales growth	0.003*
Leverage	-0.004
Growth Opportunities	-0.012***

Note: ***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 4.23: Theories Supporting Findings

		Earnings Per Share	Market Capitalization	Liquidity	Investment opportunities	Firm Size	Sales growth	Leverage	Growth Opportunities
Overall	Sign Theory	+	ns	ns	ns	- POT	+	ns	-
		signalling theory							

Note: ns = not significant

The result above indicates that Lagged dividend has a positive influence on the current dividend policy⁸. This finding indicates that dividend that increased in the past will tend to increase in the future dividend payment. C. Arko et al. (2014) stated that the lag of dividend is one of the important factors that affects the dividend policy of firms. This view is supported by Al-Kayed (2017) who wrote that lagged dividend yield is a significant factor of dividend payout; the results are also in line with Al-Ajmi and Abo Hussain (2011), and Alzomaia and Khadhiri (2013).

Earnings per share has a positive influence on dividend policy. Ahmed and Javid (2008), and Yusof & Ismail (2016) also found a positive relationship between earnings

⁸ As stated in chapter 3 (Research Methodology), this study could not use the payout ratio as a measurement of the dependent variable because the sample of analysis contains firms with negative earnings.

per share and dividend policy. The results imply that an increase in company profits leads to the payment of higher dividend to shareholders, which is consistent with the signalling theory. Yusof & Ismail (2016) stated that higher dividends are paid to shareholders when earnings increase, which signals better firm performance. This is supported by the study of Neves (2018) who revealed that a firm's earnings have a positive relationship with payout ratio; the same results were found in Lintner (1956). In summary, earnings per share is an important factor that affects dividend policy because an increase in earnings encourages an increase in dividend.

On the other hand, there is a significant negative relationship between firm's size and dividend policy. This finding is similar to C. Arko et al. (2014), and Thakur & Kannadhasan (2018) who found a negative relationship between firm's size and dividend policy. This result is consistent with the pecking order theory. Larger firms' payout lower amounts of their earnings in dividends, while smaller firms have higher payout ratios (C. Arko et al., 2014). For sales growth, it is positively significant between sales growth and dividend policy. An increase in sales leads to higher profitability and higher dividend payments (Bushra & Mirza, 2015). However, the insignificant relationship is consistent with Yusof & Ismail (2016) who found no significant relationship between sales growth and dividend.

This research also finds a negative relationship between growth opportunities and dividend policy. A company with higher growth opportunities has a lower probability of paying dividends. This is because companies with more profitable investment avenues are more likely to retain their earnings and invest in such ventures, instead of paying dividends. Previous research has indicated that growth opportunities have a negative influence on dividend policy (C. Arko et al., 2014; Abdulkadir et al., 2016).

Thus, with the prevalence of growth opportunities, agency cost is reduced, and,

therefore, the dividend loses its importance in controlling agency cost (C. Arko et al., 2014).

4.4.3 The Dynamic Estimation Model

This section presents the empirical results of the dynamic estimation model. The estimations for dynamic regression in this section are similar to the practices in the previous analysis under capital structure. The results presented in this section are divided into four subsections, i.e. GMM estimation, the appropriate estimation, empirical result, and the speed of adjustment.

This study uses the partial adjustment model of Lintner (1956) to examine the existence of the target dividend payout ratio for Shariah-compliant firms by each industry. By referring to Ahmed and Javid (2008), and Naceur et al. (2006), Lintner used dividend per share and earnings per share to test the model. The model was estimated using the dependent variable as DPS_{it} is the dividend per share of firm i at time t , and EPS_{it} is earnings per share for firm i at time t as explanatory variables.

This section also reported the results of the GMM estimations, i.e. GMM-First Difference (1-step) and GMM-First Difference (2-step) for all industries presented in Table A-18 (a-g) [refer to Appendix 2 for details].

4.4.3.1 The Appropriate Estimation

Table 4.24 presents the summary of the model selected from GMM(1) and GMM(2) of Table A-18 (refer Appendix 2) that have satisfied the two diagnostic tests. Since some of the sectors have at least two models qualified under the diagnostic test, this study used r-squared to select the preferred model. The most appropriate model is then determined based on the highest r-squared.

Table 4.24: Diagnostic Tests by Each Industry

Dynamic model	Diagnostic test	Overall
GMM(1)	AR1 test	0.000
	AR2 test	0.010
	Sargan test	0.000
	Hansen test	-
	Preferred estimator	No
GMM(2)	AR1 test	0.167
	AR2 test	0.397
	Sargan test	0.000
	Hansen test	0.374
	Preferred estimator	Yes

Based on the results above, the preferred model is GMM (2) as this satisfied the diagnostic test. On this issue, the p-value of the Sargan results under the one-step system is less than 0.05, and, thus, the instruments used are invalid. The finding shows that GMM (2) is the preferred model for the GMM estimation analysis on the existence of target capital structure.

4.4.3.2 Empirical Results

The summary results of the GMM estimation for the existence of target capital structure for the overall sample is presented in Tables 4.25 and 4.26 for analysis.

Table 4.25: Target dividend policy and Earnings per Share

Variable	Overall
Dividend Per share (-1)	0.428***
Earnings Per Share	0.145***

Note: ***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 4.26: Theories Supporting Findings

	Overall
Earnings Per Share	+
Sign Theory	signalling theory

Note: ns = not significant

Based on the above result, this research used a partial adjustment model of Lintner (1956) to examine the existence of the target dividend policy for Shariah-compliant firms⁹. The lagged dividend policy is positively significantly related to the current dividend policy. This significant results indicates the existence of target dividend policy for Shariah compliant firms in Malaysia. The estimation of the Lintner model used to test the stability or smoothness in paying a dividend for Malaysian Shariah-compliant firms accepts the hypothesis since the dividend decisions are based on target dividend policy. The sign of lagged dividend is positive, which is in line with the Lintner (1956) model and other researchers (Abdulkadir et al., 2016; Booth & Zhou, 2017).

The dividend changes positively correlate with lagged and contemporaneous earnings changes, but there is weaker support for changes in future earnings. However, one problem with the empirical specification is the difficulty in extracting the change in future permanent earnings from current and lagged earnings (Booth & Zhou, 2017). Thus, the high payout ratio and low adjustment factors indicate that the Malaysian Shariah-compliant firms do not frequently change their dividend, even though the change in earnings and dividend is stable and smoothing.

For earnings per share, there is a positively significant influence between earnings per share and target dividend policy for the overall sample and all industries. This result is consistent with Lintner (1956), Yusof & Ismail (2016), and Neves (2018). The increase in company profits leads to the payment of higher dividend to shareholders, which is consistent with the signalling theory (Yusof & Ismail, 2016). Companies with higher volatility in their earnings are less capable of sustaining a high amount of dividend and thus avoid committing themselves to such amount of dividend (C. Arko

⁹ This study also examines the robustness test for dividend payout ratio (see Appendic 2 of Table A-19(a) to A-19(g)). The results are almost consistent.

et al., 2014). Therefore, earnings per share is an important factor that affects the dividend policy because an increase in earnings encourages an increase in dividend.

4.4.3.3 The Speed of Adjustment

Table 4.27 describes the speed of adjustment for the overall sample and all industries for dividend policy.

Table 4.27: Speed of Adjustment

Industry	Lev(-1) λ_0	Speed of Adjustment (δit)	Speed of Adjustment (Years)
Overall sample	0.428***	0.572	1.75

Notes: ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. The computation of speed of adjustment is derived from one minus the coefficients on DPS (-1).

Based on the results above, the overall results have a speed of adjustment for firms less than 1. This means that none of the firms have a speed of adjustment equal to 1, and, hence, are not consistently at their target dividend policy. A speed of adjustment of less than one is found to be below the required adjustment to be at the target within a year.

Based on the speed of adjustment of the overall sample, the speed of adjustment (0.572) indicates that firms close the gap between the current and the target dividend policy by 42.8% within one year, and it takes 1.75 years to reach the firm's target dividend policy.

4.4.4 Robustness Test for Industry

The robustness test in this study is used to examine the existence of the target dividend policy for each sector. This section is repeated analysis from the previous analysis using an overall sample by continued specific analysis by each sector. This

study is estimated by six sectors – consumer products, industrial products, construction, trading and services, properties, and plantation. Table 4.28 shows the basic summary of the descriptive statistics for examining the existence of the target dividend policy.

Table 4.28: Summary of Mean Value Results for the Existence of Target Dividend Policy

Variable	Highest	Mean	Lowest	Mean
Dividend Per share	Plantation	0.1290	Properties	0.0196
Dividend Yield	Trading and services	0.0377	Plantation	0.0195
Earnings per share	Plantation	0.3210	Properties	0.0757
Market Capitalization	Plantation	7.1739	Consumer Product	5.5220
Liquidity	Consumer Product	0.8848	Construction	0.5321
Investment opportunities	Plantation	0.2800	Properties	0.1157
Size of firm	Trading and services	21.0087	Consumer Product	19.621
Sales growth	Plantation	0.2084	Trading and services	0.0386
Leverage	Construction	0.5347	Consumer Product	0.3398
Market value to book value	Plantation	0.1102	Properties	-0.6502

The highest mean value for the dividend per share among the six sectors is Plantation, which is 0.1290. Compared to other sectors, Plantation also indicates the highest average value in earnings per share, market capitalization, investment opportunities, sales growth, and market value to book value (0.3210, 7.1739, 0.2800, 0.2084, and 0.1102, respectively). Plantation is also found to have the lowest mean value for dividend yield at 0.0195. The statistics show that Properties have the lowest mean value in dividend per share, earnings per share, investment opportunities, and market value to book value, which are 0.0196, 0.0757, 0.1157, and -0.6502, respectively.

4.4.4.1 The Static Estimation Model

This section presents the findings for the static estimation models to examine the factors affecting the dividend policy for each sector. Table 4.29 shows that the values of VIF are between 2.64 and 3.59, from which it may be concluded that there is no multicollinearity in this regression analysis.

Table 4.29: Testing for Multicollinearity for Each Sector

Variance Inflation Factor		Result
Industry	Consumer Products	3.59
	Industrial Products	2.64
	Construction	4.05
	Trading and services	3.34
	Properties	2.48
	Plantation	3.33

Table A-15 (in Appendix 2) shows the results of the statistical test of the panel data analysis for each industry based on the F test, Breusch-Pagan LM Test, and the Hausman test. The preferred model for Properties and Plantation is Pooled OLS because the p-value is more than 10 percent and the null hypothesis is accepted. Since, the results of the F test and the Breusch-Pagan LM test for Consumer products, Industrial products, Construction, and Trading and services are accepted, the Hausman test is conducted to choose either the fixed effect or random effect. The Hausman test result shows that the fixed effect is accepted because the p-value is less than 10 percent. For Properties and Plantation, the preferred model is the fixed effect since the p-value is less than 10 percent. The study finding shows that the FE model is the preferred model in the analysis static estimation model.

This study also performed diagnostic checks, such as heteroscedasticity and Serial Correlation, after selecting an appropriate model of analysis. In this study, the diagnostic checks indicate that there are heteroscedasticity and autocorrelation

problems for all industries (Table A-16 in Appendix 2). Thus, to rectify the problems the fixed effect model is used with heteroscedasticity and serial correlation robust standard error.

4.4.4.1.1 Empirical Results

Table 4.30 presents the summary of the estimation results gathered from the fixed effect robustness standard error model for all industries (refer Table A-17 in Appendix 2 for details of the results). This study proceeds to discuss the importance of supporting theories in the empirical results that identifies the firm specific factors affecting dividend policy. The summary of theories supporting the findings for the overall sample and all industries is presented in Table 4.31.

Table 4.30: Firm Specific Factors of Dividend Policy for Each Industry

Variable	Industry					
	Consumer Products	Industrial Products	Construction	Trading and services	Properties	Plantation
Constant	0.272***	0.105	0.168	-0.036	0.146	0.196
Dividend Yield (-1)	0.587***	0.421***	0.463***	0.510***	0.505***	0.443***
Earnings Per Share	0.011	0.048***	0.017	0.010	-0.028	0.007
Market Capitalization	0.004	-0.001	0.005	0.001	-0.002	0.005**
Liquidity	-0.017*	-0.002	-0.012	0.002	0.005	-0.001
Investment opportunities	0.038	0.013	-0.039	-0.011*	0.003	0.033
Firm Size	-0.014**	-0.004	-0.006	0.002	-0.006	-0.012*
Sales growth	-0.002	0.004	0.008	0.004	0.005	0.001
Leverage	-0.046	-0.027	-0.085**	0.001	0.009	0.038*
Growth Opportunities	-0.006	-0.022***	-0.024***	-0.006	-0.001	-0.004

Note: ***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 4.31: Theories Supporting Findings for Each Industry

			Earnings Per Share	Market Capital ization	Liqui dity	Invest ment opport unities	Firm Size	Sales growt h	Levera ge	Growth Opportu nities
	Consumer Product	Sign Theory	ns	ns	- signal ling theor y	ns	- POT	ns	ns	ns
	Industrial Product	Sign Theory	+	ns	ns	ns	ns	ns	ns	-
Industry	Construction	Sign Theory	ns	ns	ns	ns	ns	ns	- Agency theory	-
	Trading and services	Sign Theory	ns	ns	ns	- POT	ns	ns	ns	ns
	Properties	Sign Theory	ns	ns	ns	ns	ns	ns	ns	ns
	Plantation	Sign Theory	ns	+	ns	ns	- POT	ns	+	ns

Note: ns = not significant

The result above indicates that Lagged dividend has a positive influence on the current dividend policy for all industries¹⁰. Earnings per share has a positive influence on dividend policy for Industrial products. The results imply that an increase in company profits leads to the payment of higher dividend to shareholders, which is consistent with the signalling theory. This is supported by the study of Neves (2018) who revealed that a firm's earnings have a positive relationship with payout ratio; the same results were found in Lintner (1956). policy because an increase in earnings encourages an increase in dividend.

For market capitalization, only Plantation has a positive relationship between market capitalization and dividend policy. This is similar to Manneh and Naser (2015) who found that market capitalization has a positive and significant effect on the

¹⁰ As stated in chapter 3 (Research Methodology), this study could not use the payout ratio as a measurement of the dependent variable because the sample of analysis contains firms with negative earnings.

dividend payment ratio. In contrast, a negative and significant correlation between dividend yield and market capitalization suggests the ability of lower market capitalization firms to pay more dividends. Again, the results reveal that only Consumer products have a negative significant correlation with dividend policy. However, most research found no significance between liquidity and dividend policy (Al-Najjar, 2009; Al-Kayed, 2017; Harish Kumar Singla, 2018). The average financial liquidity of dividend payers was higher than the average liquidity in the sector. It is worth noting that the dividend payers were more liquid than the companies repurchasing shares, companies were conducting payout policy in both forms of cash transfer, as well as the non-payers (Pieloch-Babiarz, 2017).

For investment opportunities, this study depicts a significant negative relationship between investment opportunities and dividend policy on Trading and services firms. This finding suggests that firms with higher investment opportunities pay lower dividends to their shareholder. This is consistent with the pecking order theory. In contrast, companies with positive expected growth opportunities are eager to payout dividends. On the other hand, there is a significant negative relationship between firm's size and dividend policy for Consumer products, and Plantation. This result is consistent with the pecking order theory. Larger firms' payout lower amounts of their earnings in dividends, while smaller firms have higher payout ratios (C. Arko et al., 2014).

In relation to leverage, this study finds significant mixed results between leverage and dividend policy with Construction firms recording a significant negative relationship in contrast to the positive relationship for Plantation firms. The debt significantly affects dividend policy, which means that higher of debt lead to lower dividend payments to shareholders. They indicated that companies with huge debt have a greater obligation to the creditors in terms of debt repayment and interest charged.

This finding is consistent with previous studies that showed a mixed relationship between leverage and dividend (Faccio et al., 2001; Gugler and Yurtoglu, 2003). However, an insignificant relationship was documented by Thakur & Kannadhasan, (2018). Previous research has indicated that growth opportunities have a negative influence on dividend policy (C. Arko et al., 2014; Abdulkadir et al., 2016).

This research also finds a negative relationship between growth opportunities and dividend policy for the Industrial products, and Construction. A company with higher growth opportunities has a lower probability of paying dividends. Thus, with the prevalence of growth opportunities, agency cost is reduced, and, therefore, the dividend loses its importance in controlling agency cost (C. Arko et al., 2014).

4.4.4.2 The Dynamic Estimation Model

This section presents the empirical results of the dynamic estimation model. The estimations for dynamic regression in this section are similar to the practices in the previous analysis under overall sample. This section reported the results of the GMM estimations, i.e. GMM-First Difference (1-step) and GMM-First Difference (2-step) for all industries presented in Table A-18 (a-g) [refer to Appendix 2 for details].

4.4.4.2.1 The Appropriate Estimation

Table 4.32 presents the summary of the model selected from GMM(1) and GMM(2) of Table A-18 (refer Appendix 2) that have satisfied the two diagnostic tests. Since some of the sectors have at least two models qualified under the diagnostic test, this study used r-squared to select the preferred model. The most appropriate model is then determined based on the highest r-squared.

Table 4.32: Diagnostic Tests by Each Industry

Dynamic model	Diagnostic test	Industry					
		Consumer Products	Industrial Products	Construction	Trading and services	Properties	Plantation
GMM(1)	AR1 test	0.000	0.000	0.038	0.000	0.000	0.002
	AR2 test	0.630	0.003	0.635	0.127	0.863	0.010
	Sargan test	0.000	0.000	0.801	0.000	0.025	0.002
	Hansen test	-	-	-	-	-	-
	Preferred estimator	No	No	Yes	No	No	No
GMM(2)	AR1 test	0.326	0.124	0.084	0.072	0.032	0.200
	AR2 test	0.164	0.376	0.299	0.043	0.921	0.241
	Sargan test	0.000	0.000	0.801	0.000	0.025	0.002
	Hansen test	0.390	0.409	0.399	0.853	0.444	0.270
	Preferred estimator	Yes	Yes	Yes	Yes	Yes	Yes

Based on the results above, the preferred model for all industries is GMM (2) as this satisfied the diagnostic test. On this issue, the p-value of the Sargan results under the one-step system is less than 0.05, and, thus, the instruments used are invalid. For Construction, two models qualified under the diagnostic tests. Having compared the r-squared among the models, GMM (2) is the chosen model for explaining the dynamic capital structure for Construction. The finding shows that GMM (2) is the preferred model for all industries for the GMM estimation analysis on the existence of target dividend policy.

4.4.4.2.2 Empirical Results

The summary results of the GMM estimation for the existence of target dividend policy for all industries are presented in Tables 4.33 and 4.34 for analysis.

Table 4.33: Target Dividend Policy and Earnings per Share by Each Industry

Variable	Industry					
	Consumer Products	Industrial Products	Construction	Trading and services	Properties	Plantation
Dividend Per share (-1)	0.085***	0.384***	0.429***	0.743***	0.711***	0.440***
Earnings Per Share	0.829***	0.100***	0.018***	0.063***	0.040**	0.103**

Note: ***, ** and * denote significance at the 1%, 5%, and 10% levels, respectively.

Table 4.34: Theories Supporting Findings by Each Industry

	Sign	Industry					
		Consumer Product	Industrial Product	Construction	Trading and services	Properties	Plantation
Earnings Per Share	+	+	+	+	+	+	+
	Theory	signalling theory					

Note: ns = not significant

Based on the above result, this research used a partial adjustment model of Lintner (1956) to examine the existence of the target dividend policy for Shariah-compliant firms for all industries¹¹. The lagged dividend policy is positively significantly related to the current dividend policy for all industries. This significant results indicates the existence of target dividend policy all industries. The sign of lagged dividend is positive, which is in line with the overall sample. The result also consistent with Lintner (1956) model and other researchers (Abdulkadir et al., 2016; Booth & Zhou, 2017).

For earnings per share, there is a positively significant influence between earnings per share and target dividend policy for all industries. This result is consistent with Lintner (1956), Yusof & Ismail (2016), and Neves (2018). The increase in company profits leads to the payment of higher dividend to shareholders, which is consistent with the signalling theory (Yusof & Ismail, 2016). Companies with higher volatility in their

¹¹ This study also examines the robustness test for dividend payout ratio (see Appendic 2 of Table A-19(a) to A-19(g)). The results are almost consistent.

earnings are less capable of sustaining a high amount of dividend and thus avoid committing themselves to such amount of dividend (C. Arko et al., 2014). Therefore, earnings per share is an important factor that affects the dividend policy for all industries because an increase in earnings encourages an increase in dividend.

4.4.4.2.3 The Speed of Adjustment

Table 4.35 describes the speed of adjustment for all industries for dividend policy.

Table 4.35: Speed of Adjustment for Each Sector

Industry	Lev(-1) λ_0	Speed of Adjustment (δ_{it})	Speed of Adjustment (Years)
Consumer Products	0.085***	0.915	1.09
Industrial Products	0.384***	0.616	1.62
Construction	0.429***	0.571	1.75
Trading and services	0.743***	0.257	3.89
Properties	0.711***	0.289	3.46
Plantation	0.440***	0.560	1.79

Notes: ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. The computation of speed of adjustment is derived from one minus the coefficients on DPS (-1).

Based on the results above, all industries have a speed of adjustment for firms less than 1. This means that none of the firms have a speed of adjustment equal to 1, and, hence, are not consistently at their target or optimal dividend policy. A speed of adjustment of less than one is found to be below the required adjustment to be at the target within a year.

By comparing between industries, Consumer products firms find the highest speed of adjustment compared to other industries at 91.5% with 1.09 years to reach the firm's target dividend policy. This is followed by Industrial products at 61.6% and 1.62 years to reach the target, Construction at 57.1% equalling 1.75 years to reach the target, Plantation at 56% or 1.79 years to reach the target, Properties at 28.9% gap and 3.46

years to reach the target, and Trading and services at 25.7% or 3.89 years to reach the firm's target dividend policy.

4.4.5 Summarisation of the Results of TDP

Table 4.36 summarises the results of objective one to measure the existence of target dividend policy for Malaysian Public-listed Shariah-compliant firms. The study conducted analysis using static model to find the robustness checks and dynamic model in order to investigate the existence of the target dividend policy. Firstly, the study analysed the diagnostic checks using static models. There are three static models in this study, i.e. pooled OLS, random effect, and fixed effect. After going through the results of each diagnostic check, the study can conclude that the appropriate model under the static model is the Fixed Effect Model.

There are several independent variables in this study, i.e. earnings per share, market capitalization, liquidity, investment opportunities, firm size, sales growth, leverage, and growth opportunities. The findings show that lagged dividend has consistent results for the overall sample and all types of industries. This finding indicates that an increase in past dividend will tend to increase the future dividend payment. While, earnings per share only has a consistent positive influence on dividend for the overall sample, Industrial products, Construction, and Properties. These results are consistent with the signalling theory, which suggests that an increase in company profits leads to the payment of higher dividend to shareholders. The other factors have mixed results and insignificant influences on the dividend policy.

Another interesting observation is the existence of the target leverage and speed of adjustment; this study used the partial adjustment model of Lintner (1956) for analysis. Referring to the dynamic aspects, GMM-First Difference (2-step) is the most

preferred estimator after going through the diagnostic checks. Theoretically, similar to the previous analysis, the two-step estimator is more efficient than the one-step estimator because it uses optimal weighting matrices. The findings reveal that earnings per share has a consistent positive influence for the overall sample and all industries. The findings show that the signalling theory is the major theory in the analysis of the dividend policy. According to Table 4.29, most of the significant variables in the fixed effect present the results consistently in the significance of the variables used in the dynamic model (GMM).

This study finds that a target dividend policy exists for the overall sample and all types of industries. This result also reveals that there is a speed of adjustment for the overall sample and all industries, which is less than one to be under adjusted and below the required adjustment to be at the target within a year. This study revealed that Consumer products have the highest speed of adjustment, followed by Industrial products, Construction, Plantation, Properties, and Trading and services. This suggests that firms that were far from the target capital structure had faster adjustment than those close to the target.

Regarding the deviation from the target dividend payout, recently, Jacoby, Li & Lu (2018) found that the stock return drops as the dividend deviation increases. The authors stated that under-paying firms have greater exposure to future financial risk and that investors require a risk premium to hold the stocks. Thus, the analysis under Chapter 3 in the robustness test will examine 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 the target to the SGR and SPP.

Table 4.36: Summarisation Results of Dividend Policy for Overall Sample and by Industry

Hypot heses	Variable	Overall Sample				Consumer Product				Industrial Product				Construction			
		FE	GMM (2)	Theory	Sig	FE	GMM (2)	Theory	Sig	FE	GMM (2)	Theory	Sig	FE	GMM (2)	Theory	Sig
	Lagged Dividend	+	+		/	+	+		/	+	+		/	+	+		/
H1.2a	Earnings Per Share	+	+	ST	/	+	+	ST	/	+	+	ST	/	+	+	ST	/
H1.2b	Market Capitalization																
H1.2c	Liquidity					- (*)											
H1.2d	Investment opportunities																
H1.2e	Firm Size	- (**)				- (**)											
H1.2f	Sales growth	+															
H1.2g	Leverage																- (**)
H1.2h	Growth Opportunities	- (***)								- (***)							- (***)
	Speed of Adjustment (δ it)		0.572				0.915				0.616				0.571		
	Speed of Adjustment (Years)		1.75				1.09				1.62				1.75		
Hypot heses	Variable	Trading and services				Properties				Plantation							
		FE	GMM (2)	Theory	Sig	FE	GMM (2)	Theory	Sig	FE	GMM (2)	Theory	Sig				
	Lagged Leverage	+	+		/	+	+		/	+	+		/				
H1.2a	Earnings Per Share		+	ST	/	+	+	ST	/		+	ST	/				
H1.2b	Market Capitalization									+							
H1.2c	Liquidity																
H1.2d	Investment opportunities	- (*)															
H1.2e	Firm Size																- (*)
H1.2f	Sales growth																
H1.2g	Leverage																+
H1.2h	Growth Opportunities																
	Speed of Adjustment (δ it)		0.257				0.289				0.56						
	Speed of Adjustment (Years)		3.89				3.46				1.79						

4.5 Conclusion

The chapter presented the findings and analyses the existence of target capital structure and the existence of the target dividend policy. The objective one measures the existence of the target capital structure. Before identifying the existence of a target capital structure, the study investigated the diagnostic checks by analyse the firm specific factors that influence the capital structure of Malaysian Public-listed Shariah-compliant firms. The findings indicate that most of the factors significantly influenced the capital structure. These are non-debt tax shield, tangibility, profitability, business risk, growth opportunities, firm size, liquidity, and SPP.

Moreover, in the dynamic aspects, the study finds that a target leverage for firms exists in the overall sample and each of the industries. At the same time, firms under the overall sample for all types of leverage have a speed of adjustment that is less than one to be under adjusted and below the required adjustment to be at the target within a year. Hence, the first hypothesis under the objective one is accepted because a target capital structure exists in Malaysian Public-listed Shariah-compliant firms.

Next, the second hypothesis under the objective one was to identify the existence of the target dividend policy. The results show that only lagged dividend, earnings per share, firm size, sales growth, and growth opportunities significantly influenced the dividend policy for the overall sample. Looking at each of the industries under robustness test, lagged dividend, liquidity, and firm size significantly influenced the dividend policy on Consumer products; lagged dividend, earnings per share, and growth opportunities significantly influenced the dividend policy on Industrial products; lagged dividend, leverage, and growth opportunities significantly influenced the dividend policy on Construction; lagged dividend and investment opportunities significantly

influenced the dividend policy on Trading and services; lagged dividend significantly influenced the dividend policy on Properties; and lagged dividend, market capitalization, firm size and leverage significantly influenced the dividend policy on Plantation. The findings also show that earnings per share have a positively significant influence on the target dividend policy, which is consistent with the signalling theory.

Looking at the dynamic aspects, the study finds that a target dividend policy exists for firms in the overall sample and each of the industries. At the same time, firms under the overall sample and all industries have a speed of adjustment that is less than one to be under adjusted and below the required adjustment to be at the target within a year. Hence, the hypotheses under the second sub-objective one because a target dividend policy exists in Malaysian Public-listed Shariah-compliant firms.