Research Paper

THE IMPACT OF CAPITAL STRUCTURE ON FIRMS PERFORMANCE: EVIDENCE FROM MALAYSIAN INDUSTRIAL SECTOR – A CASE BASED APPROACH

Abdul Basit
Lecturer
School of Accounting & Business Management
FTMS College, Malaysia
Abdulbasit@ftms.edu.my

Nur Fasirah Irwan
BSc(Hons) Accounting & Finance Student
Lord Ashcroft International Business School
Anglia Ruskin University, UK
raniaveronique@gmail.com

ABSTRACT

This research aim to identify the impact of capital structure on firm performance of Malaysia listed industrial product company. Convenience sampling technique was using in this research to select 50 industrial product companies listed in Bursa Malaysia main exchange market based on available of 2011 to 2015 annual report. The independent variables used in this research are debt to equity ratio, total debt ratio and total equity ratio. Return on asset (ROA), return on equity (ROE) and earning per share (EPS) are used as dependent variable to measure firm performance. Descriptive statistics and multiple regression are used in this research to analyses the data. This research found industrial product company are heavily rely on equity finance in their capital structure. Besides that, the regression result found debt to equity has negative impact on ROA, total debt ratio and total equity ratio has insignificant impact on ROA. Debt to equity has negative impact on ROE, total debt has positive impact on ROE and total equity has insignificant impact on ROE. Besides that, debt to equity has negative impact on ROE, total debt has positive impact on ROE and total equity has insignificant impact on ROE. Finally, debt to equity has a negative significant impact on EPS, total debt ratio has positive significant impact on EPS and total debt has insignificant impact on EPS. In conclusion, industrial product company raise debt finance can reduce agency problem and enjoy tax advantage, but debt level over the optimum capital structure will bring a negative impact on firm performance. This research will benefit for the industry, manager, shareholder, investor and future researcher. Future researchers are recommending to use large sample size and other variable to identify the impact of capital structure on firm performance.

Key Terms: Capital Structure, Debt to Equity, Total Debt, Total Equity, Firm Performance, ROA, ROE, EPS
1. INTRODUCTION

The purpose of this research is to identify the impact of capital structure of firm performance in listed company of the Bursa Malaysia exchange on the industrial product sector. Started from 1980, Malaysia to be a new industrialized country and focus on produce and export manufacture goods (Bank Negara Malaysia, 2011). Manufacture export occupy 80.2% of Malaysia 2015 total export (Economic Planning Unit, 2016). From the 2016 total export, industrial product such as technical, machinery, plastics product, rubber product and chemical good were ranking in to the top 10 of Malaysia Export (Workman, 2017). Summary of the above information, industrial product sector is an important part of Malaysia economic.

Capital structure is a mixture of the debt and equity securities used to finance real investment (Myers, 2000). The beginning of capital structure study was introduced by Modigliani and Miller in 1958 (Tailab, 2014). After Modigliani and Miller, many research have developed to investigate capital structure and argue with the Modigliani and Miller theorem. So, there are many capital structure theories were developed such as Myers (1984) introduced tradeoff theory to argue that the optimum capital structure is exists, Myers and Majluf (1984) introduce a pecking order theory which indicated manager more prefer using internal funds, Jensen and Meckling (1976) introduce agency theory which indicated principle-agent problem can reduce by raising debt level and so on.


In empirical Malaysia capital structure studies, San and Heng (2011), did a research on Malaysia listed construction companies performance. While Salim and Yadav (2012) did a research on several sectors construction, consumer product, industrial product, plantation, property, trading and service sector, Malaysia. In addition, Foo et al (2015) did a research on Malaysian public listed oil and gas companies and Hadi et al (2015) did a research on Malaysia property companies. Furthermore, Shahara and Shahar (2015) did a research on Malaysia Shariah compliant and Non-Shariah compliant listed companies while Sabin and Miras (2015) did a research on low capitalized firm. Finally, Ahmad et al (2012) did a research on consumers and industrials sectors. However, none of these past researcher did a study on Malaysian industrial product sector which is why this study is important.

Therefore, this research will help author to understand the impact of capital structure on industrial product companies’ performance. Moreover, this research will help company manager and stakeholder know more about the impact of capital structure and the sensitive of debt and equity in the industrial product sector. It will provide a guide to financial manager to design a better capital structure to reduce cost of capital, raise firm performance and maximize shareholder wealth. Besides that, this research can lead the investor to know more about the effect of capital structure choice on their return, it will give a guide to help them to
create their investment portfolio. Finally, this research can enrich the following capital structure researcher literature and given a guideline in their future research.

**Research Objectives**

- To identify the impact of capital structure on ROA.
- To identify the impact of capital structure on ROE.
- To identify the impact of capital structure on EPS.

**2.0 LITERATURE REVIEW**

According to Myers (1984), capital structure is the choice of debt, equity or hybrid securities for firms to finance their business while Harris and Raviv (1991) indicated capital structure as a part of solution problem of overinvestment and underinvestment. Myers (2000) defines the capital structure as a mixture of the debt and equity securities used to finance real investment. Roshan (2009) indicated that capital structure is a financial structure of an entity, is combined debt and equity fund maintained by an entity. Finally, Bredea (2011), stated that capital structure is the long term financing used by entity while Nirajini and Priya (2013) added that capital structure refer to the way which the entity financed a mixture of long term capital and short term liabilities.

The first theory established from capital structure is the Modigliani and Miller’s (1958) which the research found that capital structure has not brought any impact to the firm’s market value and average cost of capital. M&M 1958 theory is based assumption of perfect capital market with no tax, no transaction cost and risk free debt (Modigliani & Miller, 1958). M&M’s 1958 has been supported by Cole, et al (2015) research, capital structure had no relationship with companies’ stock price. In year 1963, Modigliani and Miller have published a new research paper to correct their previous error and indicated debt finance given tax advantage to firm (Modigliani & Miller, 1963). Hence, the capital structure is relevant to the firm value and firm able to maximize firm value by raise debt level in their capital structure (Sabin and Miras, 2015). Nirajini and Priya (2013) research show support to this theory, a positive relationship between debt and firm performance. M&M theory (1858 and 1963) was criticized as unrealistic due to the impractical assumption (Sabin & Miras, 2015). Imperfect capital market, transaction cost and bankruptcy cost exist in real world lead the M&M’s theory to be limited applicability (Foo, et al., 2015). Deeds, et al (1995) also indicated M&M’s theory only suitable to explain the capital structure decision in small firm only. Even M&M theorem have some weakness, but it provided a basis concept for the capital structure and a foundation of other theories (Ahmad, et al., 2012). Ahmeti and Prenaj (2015) also supported MM theory goes beyond the propositions themselves.

Trade-off theory was develop by multi research paper and grew up from the M&M relevant theory (Myers, 1984). Tradeoff theory indicated each financial source has own benefit and cost (Awan & Amin, 2014). The firm’s optimum capital structure is identified by the tradeoff of the benefit and the cost of debt finance (Myers, 1984). Trade-off theory indicated higher profitability firm will be able to take more tax advantage by increases borrowing without risking financial distress and apply a higher portion of debt finance in capital structure (Kausar, et al., 2014). Several studies such as Goyal (2013), Javed and Akhtar (2012), Salawu (2009), Coleman (2007) and Negasa (2016) provided empirical evidence to supporting tradeoff theory, a positive relationship between debt level and profitability. However, trade-off theory were criticizes that it is correct under the assumption of no cost of adjustment (Myers, 1984). Besides that, trade-off theory has ignored the effect of retain earning in the capital structure, retain earning is no cost and no risk (Frank & Goyal, 2005). Pettit and Singer (1985) criticize that trade-off theory is not suitable for small firms, because small firms don’t have enough earning to trade-off cost of debt.
Pecking order theory was introduced by Myers and Majluf (1984) to explain that optimum capital structure does not exist and firm manager are more prefer to use internal fund to finance their business activities (Hasan et al, 2014). Asymmetric information arisen between manager and stakeholder, manager know more information than outsiders investor about the firm performance (Nirajini and Priya, 2013). This theory connote an existence of financial hierarchy with fist is an internal fund, second is debt and lastly is equity (Jamal et al, 2013). Saputra et al (2015), Foo et al (2015), Mohammadzadeh et al (2013) research used pecking order theory to test the capital structure and found capital structure has a negative impact on firm performance. Acaravci (2015) indicated pecking order theory is widely applicable, large company and small company also can apply. Butt and Khan (2013) indicated pecking order theory has considers the motivation of firm. Liesz (2011) also supported this theory have observe and reported managerial actions. However, this theory is few to consider the tax shield effect (Acaravci, 2015). More than that, pecking order theory also ignore the problem of too much financial slack and long term does not issue security may led to the low security price (Liesz, 2001). Saputra, Achsani and Anggreani (2015), Foo et al (2015), Mohammadzadeh et al (2013) research found capital structure has a negative impact on firm performance, consistent with the pecking order theory.

Agency cost theory developed by Jensen and Meckling in year 1976. Agency cost is a cost arisen from the interest conflict between principal and agent (Ahmad, et al., 2012). Jensen (1986) develop a free cash flow hypothesis, manager and shareholder have different expected to use the free cash, so interest conflict and agency problem arise. Principle – agent problem and free cash flow problem can dealt with some extent of capital structure by increasing debt level (Roshan, 2009). High debt encourage manager invest in profitable project that benefit of shareholder wealth to ensure company able to paid the interest (Berger & Patti, 2002). Hence, high debt will reduce agency cost and lead to firm performance increase (Chinaemerem & Anthony, 2012). Chinaemerem and Anthony (2012) research show support to this theory. In order hand, this theory can considered as a version of trade-off theory (Brendeа, 2011). Agency cost theory states that the optimum capital structure is at the point which the benefit of debt finance offset agency cost of debt (Brendeа, 2011). Agency cost are real exist in the world, level of agency problem is depend on the law, regulation and human ingenuity in devising contracts (Jensen & Meckling, 1976). However, agency theory only applicable when the agent and shareholder goal incongruence (Arthurs & Busenitz, 2003). Agency theory was criticize is well in explain the concept of human being, but does not accurately reflect the diverse motivation for individual behavior (Baumüller, 2007). Besides that, the agency theory only consider about principle’s perspective, principals behavior, responsibilities and their influence on the relationship with agent has been ignore (Baumüller, 2007).

In Malaysia capital structure studies, San and Heng (2011) did a research on investigating the relationship of capital structure and performance for the period 2005-2008. 49 listed construction companies were taken as sample of the research and divided into big, small and medium size companies. Dependent variable of the research is corporate performance, measure through ROC, ROE, ROA, EPS, operating margin (OM) and net margin (NM). Long term debt to capital (LTDС), debt to capital (DC), debt to asset (DA), debt to equity market value (DEMВ), debt to common equity (DСE) and long term debt to common equity (LTDСE) were employed as independent variable (capital structure). Pooling regression model was employed to test the impact of capital structure on corporate performance. San and Heng found that in big companies, ROC with DEMВ and EPS with LTDС have a positive relationship, but EPS and debt to capital has a negative relationship. For medium companies, OM has a positive relationship with LTDСE. For small companies, negative relationship between EPS and DC. The author only observes three years data, the
observation is fewness. Increase in sample size or the years’ observation can improve the result. For example, Salim and Yadav (2012) research taken 237 companies as sample and observed over 1995 until 2011 period. The result of research shows firm performance measure through ROA, ROE and EPS has a negative relationship with capital structure, but Tobin’s Q has a significant positive relationship with short term debt and long term debt. Besides that, companies’ sale growth has positive relationship with firm performance for all sector.

<table>
<thead>
<tr>
<th>Capital structure</th>
<th>Variables</th>
<th>Source</th>
<th>Financial performance</th>
<th>Variables</th>
<th>Source</th>
</tr>
</thead>
</table>

Based on Table 1 the variables adopted in this research for capital structure are debt to equity, total debt and total equity. The three variables adopted for the financial performances are return on asset (ROA), return on equity (ROE), and earning per share (EPS).

Debt to equity formulate is total debt divided by total equity, increase debt will raise debt to equity (Hitchner, 2003). Based on trade off theory, debt provide tax advantage to company (Obim, et al., 2014). Hence, increase company debt level able to reduce tax expense and raise firm performance. Therefore, debt to equity has a positive significant impact on ROA. Goh et al (2016), Nawaz et al (2011) and Nirajini and Priya (2013) finding show support to this view. Numerous studies was found a difference result and indicate debt to equity has negatively significant impact on ROA (Mwangi, et al., 2014; Saputra, et al., 2015; Sabin & Miras, 2015; Abeywardhana, 2016; Pratheepkanth, 2011; Leonard & Mwas, 2014; Akeem, et al., 2014; Mohamad & Abdullah, 2012; Muhammad, et al., 2014).

**H1: Debt to equity has positive significant impact on ROA**

Total debt ratio formula is using total debt divided by total asset Invalid source specified. Based on agency cost theory, agency problem can reduce through raising company debt level (Roshan, 2009). High debt level encourage manager to work for company interest (Berger & Patti, 2002). Hence, total debt ratio has positive significant impact on ROE. Negasa (2016) and Idode et al (2014) research finding show support to this view.

**H2: Total debt ratio has positive significant impact on ROA**

Equity is another important element of capital structure, equity finance dos not require fixed repayment and interest (Saad, et al., 2014). So, raising equity finance will bring a positive impact on firm performance (Boateng, 2004) Githire and Muturi (2015) and Idode et al (2014) research result show support to this hypothesis and indicated total equity ratio has a positive significnat impact on ROA.
**H3: Total equity ratio has a positive significant impact on ROA**

According to Modigliani & Miller (1963) relevant theory, debt provide huge tax shield effect and it able to reduce cost of capital. Hence, raising debt to equity ratio able to reduce cost of capital and led the manager able to produce more efficiency ROA. Saputra et al (2015) and Nirajini & Priya (2013) research finding show support to this view. However, numerous empirical studies has found debt to equity has significant negative impact on ROE (Mohamad & Abdullah, 2012; Sabin & Miras, 2015; Mwangi, et al., 2014; Pratheepkanth, 2011; Leonard & Mwasa, 2014; Akeem, et al., 2014; Chadha & Sharma, 2015; Muhammad, et al., 2014).

**H4: Debt to equity has positive significant impact on ROE**

Based on tradeoff theory, debt able to raise firm performance through the tax shield effect (Myers, 1984). Besides that, it also indicated high profitability firm will be able to take more tax advantage by increases borrowing without risking financial distress (Kausar, et al., 2014). Hence, total debt ratio has a positive impact on ROE. Saputra et al (2015) Nirajini and Priya (2013) and Abor (2005) finding show support to this view. However, some of the empirical research found an adverse result and indicate total debt ratio has a negative significant impact on ROE (Awais, et al., 2016; Foo, et al., 2015; Chinaemerem & Anthony, 2012; Tailab, 2014).

**H5: Total debt ratio has positive significant impact on ROE**

Large external equity holders can mitigate agency conflicts because of they have strong incentives to monitor manager and ensure resource are allocate appreciate (Booth, et al., 2001). Hence, this research assume total equity has significant positive impact on ROE. Ferati and Ejupi (2012) research support to this hypothesis and indicated total equity has a significant positive impact on ROE.

**H6: Total equity ratio has positive significant impact ROE**

High debt to equity means a high debt or low equity. High debt encourage firm manager work for company interest and hence has a positive effect on firm performance (Berger & Patti, 2002). Therefore, this research assumes that debt to equity ratio has significant positive impact on EPS. Ebrati et al (2013) discover debt to equity has a significant negative impact on EPS.

**H7: debt to equity has positive significant impact on EPS**

Based on Modigliani and Miller (1963), debt finance provide tax advancege for company and hence the cost of capital reduce. It impose a positive impact on firm performance. Hence, this research assume total debt ratio has a positive impact on EPS. Numerous research discover total debt has a significant negative impact on EPS (Awais, et al., 2016; Umar, et al., 2012; Ebrati, et al., 2013; Salawu, 2009; Salim & Yadav, 2012). Hasan et al (2014) found that total debt ratio has no significant impact on EPS.

**H8: Total debt ratio has positive significant impact on EPS**

High equity finance mean company are less borrowing, interest payment and financial risk (Saad, et al., 2014). Hence, company can reserve the profit and invest in profitable project. Therefore, this research assume that total equity ratio has a significant positive impact on EPS. Saad et al (2012) research show support to this view, total equity is significant positive correlation with earning per share.
Conceptual Framework

3.0 RESEARCH DESIGN AND METHODOLOGY

Explanatory research design is applied in this research to identical whether capital structure brought impact to firm performance. Compare to exploratory and descriptive research, explanatory research design able to provide more intellectual satisfaction and clear conclusion though eliminate puzzles (Blaikie, 2009). It because, explanatory research used hypotheses testing to identify whether the variable (capital structure) cause another (Blanche, et al., 2006). Besides of the explanatory research design, time series design also using in this research. Time series data refer to the data collect from containing series time (Hsiao, 1995). This research taken the data from 50 companies 5 year annual report. It can provided a more accurate data compare to cross-sectional design (Shukla, 2008). It because time series design able monitors the change over a period and capturing the complexity of human behavior (Hsiao, 1995; Shukla, 2008). Data provides from difference firm annual report might different, the time series data able to solve this problem. For example the company has restates the 2012 financial statement, the correction will be clear state in 2013 annual report.

Data collection methods: This research has employed secondary data collective method. Secondary data mean data that are already collected by someone for a different purpose (Johnston, 2014). Secondary data can collected from book, company annual report, journal article, social report, organization statistics and others (Kothari, 2004). In this research, author is direct take research require data such as company net income, total debt, total equity and others from company annual report without any cost.

Population and sample size: Based on the information available from Bursa Malaysia, a total of 268 industrial product companies are listed in Bursa Malaysia main stock exchange market. This research taken 50 listed industrial product companies and observe over 2011 to 2015. Totally 250 observation taken as a research sample, the sample size is excess the minimum sample size require (Cridland, n.d.). This research is using convenience
sampling technique. Convenience sampling technique is non-probability sampling method, sample are selected if they are meet particular certain criteria (Farrokhi & Hamidabad, 2012). Convenience sampling technique is appreciate for this research because many of the companies were not available of 5 year data that was require for this study. Hence, 50 companies which has publish 2011 to 2015 annual report in official website or Bursa Malaysia website have meet the criteria and taken as research sample.

**Accessibility and ethical issue:** In this research paper, all of the data is direct access from the companies’ annual report. Listed companies are requiring publishing their annual audited report and financial statement to Bursa Malaysia, so the access is easy (Crowe Horwath, 2015). The ethical issue in this research is quite less, only has copyright issue and legal assess should be taken into consider. In order to solve copyright issue, this research will have proper citation of the fact. Besides that, companies’ annual report was downloaded from Bursa Malaysia webpage. Hence, the legal assess is not an issue for this research.

**Data analysis method:** E-view was used in this research paper to interpretation of the data into statistical information because it is the best software to deals with the cross-sectional and time series data compare to Statistical Package of Social Sciences (Richard, 2015). Three data analysis method were used in this research paper which are descriptive and multiple liner regression analysis. Descriptive statistic is a set of coefficient that summarizes data provided by sample (Wyllys, 1978). It able shows the data into graphically and numerically (Jaggi, 2016). It will be easy to understand and discuss of the data. However, descriptive statistics only provided a summary of what the research already measure, unable to find out the causality (Xie, 2011). In order to overcome this limitation, correlation and multiple regression analysis have used to find out causality. Multiple liner regression are main data analysis in this research. It’s able to identify the associated between variety variable (Bewick, et al., 2003). For example to measure the impact of capital structure on ROA, ROE and EPS. Sykes (1993) also supported multiple regression analysis provided a helpful statistic data to qualify the impact of various independent influence upon a single dependent variable.

### 4.0 DATA ANALYSIS

**Descriptive analysis**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt to equity</td>
<td>0.368</td>
<td>0.097</td>
<td>7.001</td>
<td>0.0003</td>
<td>0.743</td>
</tr>
<tr>
<td>Total Debt Ratio</td>
<td>0.170</td>
<td>0.088</td>
<td>0.843</td>
<td>0.0003</td>
<td>0.211</td>
</tr>
<tr>
<td>Total Equity Ratio</td>
<td>0.836</td>
<td>0.913</td>
<td>1.449</td>
<td>0.116</td>
<td>0.219</td>
</tr>
<tr>
<td>ROA</td>
<td>0.082</td>
<td>0.071</td>
<td>0.813</td>
<td>-0.901</td>
<td>0.133</td>
</tr>
<tr>
<td>ROE</td>
<td>0.077</td>
<td>0.080</td>
<td>0.858</td>
<td>-3.661</td>
<td>0.293</td>
</tr>
<tr>
<td>EPS</td>
<td>0.124</td>
<td>0.091</td>
<td>1.173</td>
<td>-3.963</td>
<td>0.382</td>
</tr>
</tbody>
</table>

According to Table 2, equity ratio has a higher mean value of 0.836 with the standard deviation of 21.9%. It value indicated that the selected 50 company are average relies 83.6% on equity finance in their capital structure. Secondly, debt to equity has mean value of 0.368 with the standard deviation of 74.3%. It mean that the average company gearing level is lower, debt finance is 36.8% of the company total equity. However, the high standard deviation value show that the mean value of debt to equity is not reliable. Lastly, debt ratio has a mean value of 0.170 with the standard deviation value of 21.1%. It show that 50 company are relies 17% on debt finance in their capital structure. The standard deviation value is higher than 0.17 show that the mean value of total debt ratio is not reliable.
Based on the table 2, earning per share has a higher mean value of 0.124 with standard deviation of 38.2% in among of dependent variable. It indicates the industrial product companies shareholder are enjoy average of 12.4% return on each common share from the period 2001-2015. Secondly, companies are enjoying average return on total asset on 8.2% with standard deviation of 13.3%. Lastly, the industrial product companies are enjoy average value of 7.7% of return on equity with standard deviation of 29.2%. However, value of standard deviation for dependent variable (EPS, ROA, ROE) is higher than the mean value. It indicated the mean value of dependent variable is not reliable.

**Regression analysis**

<table>
<thead>
<tr>
<th>Model</th>
<th>R-squared</th>
<th>Adjusted R-squared</th>
<th>Prob (F-statistic)</th>
<th>Durbin-Watson stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.535</td>
<td>0.400</td>
<td>0.000</td>
<td>2.588</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt to equity</td>
<td>-0.064</td>
<td>0.023</td>
<td>-2.765</td>
<td>0.006</td>
</tr>
<tr>
<td>Total debt ratio</td>
<td>-0.136</td>
<td>0.167</td>
<td>-0.823</td>
<td>0.411</td>
</tr>
<tr>
<td>Total equity ratio</td>
<td>0.048</td>
<td>0.134</td>
<td>0.357</td>
<td>0.721</td>
</tr>
</tbody>
</table>

According to the Table 3, R-squared value is 0.535 which indicated 53.5% of ROA can be elaborated by the debt to equity ratio, total debt ratio and total equity ratio. A good fit model arisen when the adjusted R-squared value is more 0.6, this model is not a good fit because it value only 0.4 (Zygmont & Smith, 2014). The probability of F-statistics is 0.000 show that this model is significant. Durbin-Watson value is 2.588 indicated there autocorrelation among the 50 selected sample company as the value out in the range of 1.5-2.5 (Folarin & Hassan, 2015).

As for the dependent variables as according to table 4.2.1, debt to equity ratio beta coefficient value is -0.064 with a probability value of 0.006 which is lower than 0.05 (Hadi, et al., 2015). It show that debt to equity has negative significant impact on ROA. This result supported by the Mwangi et al (2014) and Saputra et al (2015). However, Goh et al (2016), Nawaz et al (2011) found adverse result and indicated debt to equity has a significant positive impact on ROA. Based on this result, hypothesis 1 is rejected.

Total debt ratio beta coefficient value is -0.136 with a probability of 0.411. Its show that total debt ratio has negatively insignificant impact on ROA. Foo et al (2015) found a same result. However, Negasa (2016) and Idode et al (2014) found a different result and indicated total debt ratio has a positive significant impact on ROA. Based on this result, hypothesis 2 is rejected.

Total equity ratio beta coefficient value is 0.048 with a probability of 0. Its mean total equity ratio has positive insignificant positive impact on ROA. However, Githire and Muturi (2015) and Idode et al (2014) discover total equity ratio has a significant positive impact on firm performance measure by ROA. Based on this result, hypothesis 3 is rejected.

<table>
<thead>
<tr>
<th>Model</th>
<th>R-squared</th>
<th>Adjusted R-squared</th>
<th>Prob (F-statistic)</th>
<th>Durbin-Watson stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0.713</td>
<td>0.629</td>
<td>0.000</td>
<td>2.296</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt to equity</td>
<td>-0.658</td>
<td>0.040</td>
<td>-16.495</td>
<td>0.000</td>
</tr>
<tr>
<td>Total debt ratio</td>
<td>1.332</td>
<td>0.289</td>
<td>4.617</td>
<td>0.000</td>
</tr>
<tr>
<td>Total equity ratio</td>
<td>-0.103</td>
<td>0.232</td>
<td>-0.453</td>
<td>0.651</td>
</tr>
</tbody>
</table>
According to the table 4, R-squared value is 0.713 which indicated 71.3% of ROE can be elaborated by the debt to equity ratio, total debt ratio and total equity ratio. This model is good fit because it adjusted R-squared value is higher than 0.6 (Zygmont & Smith, 2014). The probability of F-statistics is 0.000 shows that this model is significant. Durbin-Watson value is 2.296 indicated there no autocorrelation among the 50 selected sample company as the value fall in the range of 1.5-2.5 (Folarin & Hassan, 2015).

As for the dependent variables as according to Table 4, debt to equity ratio beta coefficient value is -0.658 with a probability value of 0.000 which is lower than 0.05 (Hadi, et al., 2015). Hence, debt to equity has significant negative impact on ROE. Sabin and Miras (2015) and Akeem et al (2014) found a same result. However, Nirajini and Priya (2013) argue that debt to equity has a significant positive impact on ROE. Based on this result, hypothesis 4 is rejected.

Secondly, total debt ratio beta coefficient value is 1.332 with a probability of 0.000 (Hadi, et al., 2015). Hence, debt ratio has a significant positive impact on ROE. This result are supported by Abor (2005) and Saputra et al (2015). However, Mohamad and Abdullah (2012) argue that total debt ratio has a significant negative impact on ROE. Based on this result, hypothesis 5 is accepted.

Lastly, total equity ratio beta coefficient value is -0.103 with a probability of 0. Hence, the equity ratio has insignificant negative impact on ROE. This research Based on this result, hypothesis 6 is rejected.

According to the Table 5, R-squared value is 0.617 which indicated 61.7% of EPS can be elaborated by the by the debt to equity ratio, total debt ratio and total equity ratio. This model is not good fit model because it adjusted R-squared is lower than 0.6 (Zygmont & Smith, 2014). The probability of F statistics is 0.000 shows that this model is significant. Durbin-Watson value is 2.157 indicated there no autocorrelation among the 50 selected sample company as the value fall in the range of 1.5-2.5 (Folarin & Hassan, 2015).

As for the dependent variables as according to Table 5, debt to equity ratio beta coefficient value is -0.685 with a probability value of 0.000 which is lower than 0.05 (Hadi, et al., 2015). Hence, debt to equity has significant negative impact on EPS. Ebrati et al (2013) found a same result. However, Sivathaasan & Rathika (2013) argue that debt to equity ratio has insignificant positive impact on EPS. Based on this result, hypothesis 7 is rejected.

Secondly, total debt ratio beta coefficient value is 1.279 with a probability of 0.000. Hence, total debt ratio has a significant positive impact on EPS. This research is opposite with the Ebrati et al (2013), Salawu (2009) and Awais et al (2016). They found that total debt ratio has a negative significant impact on EPS. Based on this result, hypothesis 8 is accepted.

Lastly, total equity ratio beta coefficient value is 0.099 with a probability of 0.099 which is higher than 0.05 (Hadi, et al., 2015). Hence, the equity ratio has insignificant positive impact on EPS. Sivathaasan and Rathika (2013) found a same result. Based on this result, hypothesis 9 is rejected.
4.3. DISCUSSION AND FINDING

Impact of capital structure on ROA

According to Table 3, debt to equity has negative significant impact on ROA. It mean company heavily depend on debt finance will cause a high cost of capital and lead the company performance fall. This result show support to agency theory, company are tend to overhang debt finance to reduce agency problem and it leads the ROA fall (Leonard & Mwasa, 2014). Mwangi et al (2014) and Saputra et al (2015) found a same result. However, Goh et al (2016) and Nawaz et al (2011) found difference result. The different result arise because the difference industrial characteristic and behavior.

Secondly, total debt ratio has negative insignificant impact on ROA. The insignificant value indicate any change on total debt does not impose impact on ROA. It result show support to Modigliani and Miller (1958) irrelevent theory. Negasa (2016) and Idode et al (2014) found a different result and indicated total debt ratio has a positive significant impact on ROA. The different result arise because this research does not taken the control variable into research framework, different country and industry has difference characteristic and behavior.

Lastly, total equity ratio has positively insignificant impact on ROA. Equity finance does not require company to have fixed monthly or annually interest payment. Hence, company more equity finance able to retain their earning and raise ROA. However, the insignificant value indicated change in total equity ratio does not inflict any impact on ROA. It result show support to Modigliani and Miller (1958) irrelevent theory. Githire and Muturi (2015) and Idode et al (2014) found a different result. The difference result arise because this research only focus on industrial product sector.

Impact of capital structure on ROE.

According to table 4, debt to equity has negatively significant impact on ROE. It mean company heavily depend on equity finance enjoy more return on equity compare to company heavily depend on debt finance. This result show debt to equity increase will cause firm performance fall, it show opposite with the Modigliani and Miller (1958) relevant theory. Sabin and Miras (2015) and Akeem et al (2014) found a same result with this research. Nirajini and Priya (2013) and Saputra et al (2015) found a difference outcome with this research. The different result arise because this research does not taken the control variable into research concept and the different industry has difference characteristic and behavior.

Secondly, total debt ratio has positively significant impact on ROE. It indicate company debt level increase given more tax advantage to company and hence company ROE will increase. It show support to Modigliani and Miller (1958) relevant theory. Saputra et al (2015), Nirajini and Priya (2013) and Abor (2005) found a same result. Mohamad and Abdullah (2012), Chinaemerem and Anthony (2012), Muhammad et al (2014), Muritala (2012), Tailab (2014) and Akeem et al (2014) found opposite result. The different result arise because this research does not taken the control variable into research framework, different country and industry has difference characteristic and behavior.

Lastly, total equity ratio has negatively insignificant impact on ROE. Transaction cost, asymmetric information problem and other issue cost lead the equity fund become expenses. However, the insignificant impact indicated change in total equity ratio does not inflict any impact on ROE. It result show support to Modigliani and Miller (1958) irrelevent theory.
Impact of capital structure on EPS

According to Table 5 debt to equity has negatively significant impact on EPS. It means the high gearing company are trend to use proportion of income to repay the interest. Hence, the high debt to equity ratio will lead the company EPS decline. This research show support with the tradeoff theory which indicated the debt level over the optimum point will cause cost of capital increase. Ebrati et al (2013) found a same result but Sivathaasan & Rathika (2013) found a different result. The different result arisen because different industry has difference characteristic and behavior. Sivathaasan & Rathika (2013) research is focus on financial institution, this research is focus on industrial product company.

Secondly, total debt ratio has positively significant impact on EPS. The high debt level require high fixed interest payment, it motivate manager to invest in profitable project (Berger & Patti, 2002). Hence, the high debt level can reduce agency problem and lead the company performance raise, it show support to agency theory. Salim and Yadav (2012), Ebrati et al (2013), Salawu (2009) and Awais et al (2016) found a different result with this research. The different result arisen because this research does not taken the control variable into research framework and different country has difference characteristic and behavior.

Lastly, total equity ratio has positively insignificant impact on EPS. Company more trend to used equity finance encourage shareholder to have a direct control to the firm manager to ensure company resource are allocated appropriate. However, the insignificant impact indicate change in total equity does not inflict any impact on EPS. It result show support to Modigliani and Miller (1958) irrelevent theory. Sivathaasan and Rathika (2013) found a same result.

Summary of hypothesis

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Beta Coefficient</th>
<th>Significant</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H: Debt to equity has positive significant impact on ROA.</td>
<td>-0.064</td>
<td>0.006</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Debt to equity has a negative significant impact on ROA.</td>
</tr>
<tr>
<td>H2: Total debt ratio has positive significant impact on ROA</td>
<td>-0.136</td>
<td>0.411</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total debt ratio has a negative insignificant impact on ROA.</td>
</tr>
<tr>
<td>H3: Total equity ratio has positive significant impact on ROA</td>
<td>0.048</td>
<td>0.721</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total equity ratio has positively insignificant impact on ROA.</td>
</tr>
<tr>
<td>H4: Debt to equity has positive significant impact on ROE.</td>
<td>-0.658</td>
<td>0.000</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Debt to equity has a negative significant impact on ROE.</td>
</tr>
<tr>
<td>H5: Total debt ratio has positive significant impact on ROE</td>
<td>1.332</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>H6: Total equity ratio has positive significant impact ROE</td>
<td>-0.103</td>
<td>0.651</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total equity ratio has negatively insignificant impact on ROE.</td>
</tr>
<tr>
<td>H7: Debt to equity has positive significant impact on EPS.</td>
<td>-0.685</td>
<td>0.000</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Debt to equity has negative significant impact on EPS</td>
</tr>
<tr>
<td>H8: Total debt ratio has positive significant impact on EPS</td>
<td>1.279</td>
<td>0.004</td>
<td>Accepted</td>
</tr>
<tr>
<td>H9: Total equity ratio has positive significant impact on EPS</td>
<td>0.099</td>
<td>0.777</td>
<td>Rejected</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total equity ratio has positive insignificant impact on EPS.</td>
</tr>
</tbody>
</table>
5.0 CONCLUSION

For the impact of capital structure on return on asset (ROA) which is based on descriptive statistics, sample companies more trend to using equity finance, average equity ratio is in 0.836. Further, the regression result show total equity ratio has positive insignificant impact on ROA. The selected sample companies with more equity finance will no imposes significant impact on ROA. It show support to Modigliani and Miller (1958) irrelavent theory. In conclusion, debt to equity has a negatuve significant imapct on ROA, total debt ratio and total equity ratio has no significant impact on ROA.

For the impact of capital structure on return on equity (ROE) which is based on descriptive statistics, sample companies more trend to using equity finance, average equity ratio is in 0.836. Further, the regression result show total equity ratio has negative insignificant impact on ROA. The selected sample companies with more equity finance will no impose significant impact on ROA. It show support to Modigliani and Miller (1958) irrelavent theory. In conclusion, debt to equity has negative significant impact on ROE, total debt ratio has positive significant impact on ROE and total equity has indignant impact on ROE.

For the impact of capital structure on return on earning per share (EPS) which is based on descriptive statistics, sample companies more trend to using equity finance, average equity ratio is in 0.836. Further, the regression result show total equity ratio has positive insignificant impact on EPS. The selected sample companies with more equity finance will no impose significant impact on EPS. It show support to Modigliani and Miller (1958) irrelavent theory. In conclusion, debt to equity has a negative significant impact on EPS, total debt ratio has positive significant impact on EPS and total debt has insignifiant impact on EPS.

**Recommendation**

Based on the research result, total debt ratio has a positive significant on ROE and EPS. Increasing debt finance is able to reduce agency problem and tax payment. Hence, firm manager can raising their company debt level to taken the advantage of debt finance. However, this research also found debt to equity has a negative impact on firm performance which measure of ROA, ROE and EPS. It means debt increasing over optimum level will raise cost of capital and bring negative impact on firm performance. Hence, firm manager should cautious while using debt finance. Firm manager should consider the impact of debt finance on firm performance before making capital structure decision. They are supported to identify the optimum debt level and ensure that they are no use excessive amount of debt in capital structure. In order to maximize firm performance and shareholder wealth, firm manager must move their real capital structure to optimum capital structure level and maintain it level as much as possible.

**Limitation**

This research is focus on the industrial product sector. Hence, the result cannot be representative for the overall Malaysia situation. Secondly, this research only study the overall debt effect only, the impact of long term debt and short term debt does not cover. Long term debt and short term debt has different characteristic and so the impact on firm performance also different. Lastly, this research only taken 50 company, the sample size is quite less. It’s unable to represent all industrial product companies.
Further research

Firstly, future researcher is advised to identify the impact of capital structure on other sector such as consumer, technology, financial institution. It’s because this research only focus on industrial product sector, the result cannot represent overall industry in Malaysia. Secondly, this research only using 50 company and 5 year data, future researcher are recommend using long time series data and large sample size to obtain a more accurate result. Thirdly, future researcher can do comparative research to compare the different between Malaysia and Singapore capital structure trend and the impact of capital structure. Lastly, future researcher can use other independent variable such as company market share, Tobin’s Q, growth opportunity in their research paper. Furthermore, future researcher also can included control variable such as size, sale growth, asset turnover rate into the research framework.

REFERENCES


