Factors affecting profitability in Malaysia

Ali Saleh Alarussi
Tunku Puteri Intan Safinaz School of Accountancy, Universiti Utara Malaysia, Sintok, Malaysia, and
Sami Mohammed Alhaderi
Department of Management, Universiti Utara Malaysia, Sintok, Malaysia

Abstract

Purpose – The purpose of this paper is to examine the factors affecting profitability in Malaysian-listed companies. It has been argued that profitability is the main pillar for any company to survive in the long run. Although profitability is the primary goal of all business ventures, scant attention has been paid to the factors that affect profitability in developing countries. This study investigates the factors affecting profitability in Malaysian-listed companies.

Design/methodology/approach – This research is based on five independent variables that were empirically examined for their relationship with profitability. These variables are: firm size (as measured by total sales), working capital (WC), company efficiency (assets turnover ratio), liquidity (current ratio) and leverage (debt equity ratio and leverage ratio). Data of 120 companies listed on Bursa Malaysia covering the period from 2012 to 2014 were extracted from companies’ annual reports. Pooled ordinary least squares regression and fixed-effects were used to analyze the data.

Findings – The findings show a strong positive relationship between firm size (total sales), WC, company efficiency (assets turnover ratio) and profitability. The results also show a negative relationship between both debt equity ratio and leverage ratio and profitability. Liquidity (current ratio) has no significant relationship with profitability.

Research limitations/implications – Due to the time limitation, the data includes only 120 companies listed in bursa Malaysia and covers the period from 2012 to 2014.

Practical implications – These results benefit internal users (such as managers, shareholders and employees). They can realize the determinants of enhancing the profitability of their company after the depreciation of the Malaysian currency and therefore concentrate more on the factors that enhance their companies’ profitability. On the other side, other external users (such as investors, creditors, new established companies, tax authority) also may get advantages of these results. It is clear that those users concern about the profitability of companies and the determinants of their profitability after the currency’s depreciation.

Originality/value – This study differs than previous studies in many ways: first, it focuses on non-financial listed companies in Malaysia. Previous studies have concentrated on companies in the financial sector, such as banking and financial institutions or on industrial organizations. Second, this study analyzes the data in companies’ annual reports for a three-year period from 2012 to 2014. During this period, the economy in Malaysia was fluctuating due to currency depreciation. Third, the study used both return on equity and earnings per share as indicators of profitability. Fourth, the results of the study provide empirical evidence that large size firms with efficiently managed assets can improve operating income and ultimately enhance profitability. Last but not least, this study applies the resource-based theory and the trade-off theory.

Keywords Profitability, Malaysia, Efficiency, Leverage, Liquidity, Working capital

Paper type Research paper

1. Introduction

One of the main goals of any company is to be sustainable in any competitive environment. To do so, it is important for the company to develop, implement and maintain strategies that can enhance its performance. This can be done by investigating the internal and external factors that may have an impact on the company’s profitability. The quality and efficiency of managers depend on their ability to identify those elements that can lead to increased
profitability. In general, profitability is defined as the earnings of a company that are generated from revenue after deducting all expenses incurred during a given period. It is one of the most important factors that signal management’s success, shareholders’ satisfaction, attraction for investors and the company’s sustainability (Bekmezci, 2015). Undoubtedly, the ultimate goal of any firm is to maximize the wealth of its shareholders by increasing the value of its stocks. Previous studies have found a positive relationship between earnings and stock values (Kalama, 2013). In other words, if earnings announcements come as expected or are better, stock prices will increase, but if earnings announcements fall short of expectations, the stock prices will decline.

A majority of companies, if not all, realize the concept and the importance of profitability but they may not know how to enhance it and what the factors affecting profitability are. This is more obvious during a time of crisis; some companies attempt to preserve their financial status by undertaking risky measures, but due to limited experience and high risks, these kinds of actions more often than not result in worsening their financial status.

Identifying the factors which determine profitability is still one of the major concerns of researchers. A number of previous studies have investigated the factors that influence profitability of firms, including size (Stierwald, 2010a, b; Yazdanfar, 2013; Mohd Zaid et al., 2014); working capital (WC) management (Goddard et al., 2005; Chowdhury and Amin, 2007; Alipour, 2011; Charumathi, 2012); age of the firm (Geroski and Jacquemin, 1988; Bhayani, 2010; Agiomirgianakis et al., 2013); and leverage (Burja, 2011; Mistry, 2012; Boadi et al., 2013). However, previous studies have shown inconsistent findings that make generalization questionable. Based on this, this study is concerned with profitability in Malaysia. Malaysia is widely recognized as an emerging market.

The Malaysian economy showed strong signs of recovery in 2010 from the global economic crisis (Datamonitor, 2010; Watanabe et al., 2011). The profitability persistency of individual firms exists in seven developing nations, including Malaysia (Glen et al., 2003). This puts Malaysian companies in competition with others and has increased the challenges they have to face. The main challenge Malaysian companies are facing is how to achieve stability and sustainability. In order for a company to achieve this, it is crucial that the company has a good knowledge of specific internal and external conditions within which the company operates. The quality and efficiency of managers depend on their ability to identify those elements that can enhance company performance and profitability (Burja, 2011). This is also applicable for Malaysian companies if they wish to continuously compete in the emerging market. The Malaysian currency started began depreciating during the Asian Financial Crisis of 1997–1998 and dropped to almost 50 percent of its value. Companies have less incentive to reduce costs because they can rely on devaluation to boost competitiveness. The recession over the long term can lead to lower productivity due to a decrease in incentives and inflation (Todorović and Veličković, 2010). This creates an ambiguous picture about companies’ profitability in Malaysia.

Generally, very few studies, such as Ahmad Farid (1980), Mohd Zaid et al. (2014) and the latest study by Ulfana Nisa (2015), have investigated the factors affecting profitability in Malaysia. However, this study differs from the previous studies in a number of aspects: first, it examines different independent variables (IVs), including company efficiency and WC. Second, the study covers the period during the depreciation of the Malaysian currency (Ringgit). Third, the study uses two measurements for profitability, i.e. earnings per share (EPS) and return on equity (ROE), which can produce more realistic results that are beneficial to stakeholders of these firms, specifically, creditors, investors, management and shareholders. Therefore, based on previous studies, this study examines the impact of five factors on companies’ profitability by using six financial indicators, namely, total sales, WC, assets turnover ratio, current ratio, debt equity ratio and leverage ratio.
The profitability factor is measured by using ROE and EPS. This study intends to achieve the following objectives:

1. to examine the relationship between firm size and profitability;
2. to examine the relationship between WC and profitability;
3. to examine the relationship between company efficiency and profitability;
4. to examine the relationship between company liquidity and profitability; and
5. to examine the relationship between company leverage and profitability.

This study is organized into five sections as follows: Section 2 displays briefly previous studies. Section 3 explains the source of data, the hypotheses under investigation and the research model. Results of the tested hypotheses are included in Section 4. Finally, Section 5 concludes the study.

2. Literature review

2.1 Previous empirical studies

It has been proven that a business will not survive if it is not profitable, and a business that is highly profitable has the ability to reward its owners with high returns on their investment. Thus, companies that want to achieve stable profitability need to know internal and external factors that may have a significant effect on profitability. Earlier and recent studies have attempted to determine the financial indicators for profitability by empirically examining different factors that have theoretical relationships with profitability, like size (Mehta, 1955; Comanor and Wilson, 1969); net operating profitability (Ito and Fukao, 2006; Rahman et al., 2010; Burja, 2011); liquid ratio, receivables turnover ratio and WC to total assets (Singh and Pandey, 2008); debt ratio (Burja, 2011); return on total assets (Padachi, 2006); return on invested capital and return on assets (ROA) (Narware, 2010); financial leverage (Burja, 2011); equity ratio (Burja, 2011); market share (Nagarajan and Barthwal, 1990); current assets ratio (Singh and Pandey, 2008; Burja, 2011); and R&D (Fenny and Rogers, 1999). Some related studies have examined these aspects in different countries, like Huang and Song (2006) and Chakraborty (2010) in China; Akintoye (2008) in Nigeria; Pirtea et al., Burja (2011), Moldovan et al. (2013) and Vătavu (2014) in Romania; Sivathaasan et al. (2013) in Sri Lanka; Kaen and Baumann (2003), Hoffmann (2011) and Gowe et al. (2014) in the USA; Raza et al. (2012) and Bhutta and Hasan (2013) in Pakistan; Dencic-Mihajlov (2014) in Serbia; Geroski et al. (1997) in the UK; Fenny and Rogers (1999) in Australia; Claver et al. (2006) in Spain; Ito and Fukao (2006) in Japan; Chander and Priyanka (2008) in India; Asimakopoulos et al. (2009) in Greece; and Goddard et al. (2009) in 11 European countries. Some of these studies are descriptive and others are empirical, which show the relationship between profitability and its determinants.

The findings of previous studies have broadly highlighted a number of variables that have a significant impact on companies' profitability. All these variables, namely, company size, age, risk, liquidity, leverage, industry type, capital intensity, skill, concentration ratio, capacity utilization, market share, advertising intensity, R&D intensity, retention ratio, growth in revenue, long-term financing, turnover ratios, ownership characteristics, exports, working assets, indebtedness level, etc., are equally popular among researchers. However, previous studies differ from each other because of the period the study was undertaken, ranging from one year (as seen in Jones et al., 1973; Barthwal, 1984) to 20 years (Kaur, 1997), or because of focusing on country-specific and firm-specific factors (Kaur, 1997; Glancey, 1998; Ito and Fukao, 2006); and inter-industry-specific factors (Barthwal, 1984; Nagarajan and Barthwal, 1990; Grinyer and McKiernan, 1991). In addition, the review also shows that most of the research work relating to inter-industry profitability has been conducted in developed countries. Vătavu (2014) examined the determinants of financial performance in 126 Romanian
companies listed on the Bucharest Stock Exchange over a period of ten years (2003–2012). The analysis was based on cross-sectional regressions, performance was measured by ROA, while the IVs were debt, asset tangibility, size, liquidity, taxation, risk, inflation and crisis. The outcomes of regression analysis indicate that profitable companies operate with limited borrowings. Tangibility, business risk and the level of taxation have a negative impact on ROA. Although earnings are sustained by significant sales turnover, performance is affected by high levels of liquidity. Periods of unstable economic conditions, reflected by high inflation rates and the financial crisis, have a strong negative impact on corporate performance.

Several financial indicators, such as current ratio, liquidity ratio, receivables turnover ratio and WC to total assets, have been examined in other studies (Singh and Pandey, 2008); while some studies have considered performance assessment expressed by earnings before interest and taxes and the associated risks resulting from the influence of using a certain financing structure (Akintoye, 2008), or expressing it through economic value added, ROE, operating profit margin (OPM) and EPS (Rayan, 2008).

Profitability is the main concern of Malaysian-listed companies as it is the concern of other related parties. However, the studies done in Malaysia are very few and the focus has been mostly on two sectors, i.e. the construction and banking sectors. Examples of these studies include Ramasamy et al. (2005), Narware (2010), San and Heng (2011), Razak et al. (2008) and Salim Yadav (2012). Nevertheless, all of these studies have highlighted the importance of profitability at the microeconomic level. Mohd Zaid et al. (2014) examined the determinants of profitability based on construction companies in Malaysia. The data were collected for the period of 2000–2012. This study used ROE to measure the profitability of companies; debt equity ratio to measure capital structure; quick ratio to measure liquidity; sales to measure the size of companies; and term premium to measure the economic cycle. The result shows that liquidity and size have significant relationships with profitability. A negative and insignificant relationship is found between capital structure and profitability. Another study (unpublished) by Ulfana Nisa (2015) examined factors that affected profitability during the financial crisis of 2008. The ROA was used as a measurement for company profitability, while size, liquidity, leverage, sales growth and gross domestic product were examined as IVs. The data of 161 listed companies for the period of 2001–2012 were analyzed using ordinary least squares (OLS) and fixed-effects estimation. The findings show that leverage has a negative and significant relationship with ROA; and size, liquidity and sales growth have a positive and significant relationship with ROA. However, gross domestic product does not have a significant relationship with ROA. In general, in today’s economy, where strong competition dominates and where all processes are highly dependent on information (Alarussi et al., 2009), the success of a company requires specific measurements and management systems. To comply with the principle of rational economics, a company must systematically analyze its financial result, or in other words, analyze profitability. Parkitna and Sadowska (2011) affirmed that when determining the profitability index of a business entity, it is important to use many variants of the numerator and denominator to gain more information about a company. This paper is concerned with the profitability of companies in Malaysia and chooses the most common variables in order to check whether the determinants of profitability for developed countries are applicable in Malaysia’s case as a developing country following the depreciation of the Malaysian Ringgit. The results of the study will be useful for related parties, including management, shareholders, financial analysts and investors.

2.2 Selection of variables, hypotheses
Profitability is significantly affected by different factors. Many empirical studies have been done to explore the association between various factors and profitability in different countries and they have produced mixed results. For example, Pathak (2011) found a significantly negative association between level of debt and profitability. This result is not
consistent with studies done on western economies but consistent with some of the studies done for Asian countries. One important reason for this conflicting result can be the high cost of borrowing in developing countries, like Malaysia, compared to western countries. Hadlock and James (2002) suggested corporations with high level of profitability having a high level of debts. Arbabiyan and Safari (2009) found a positive relationship between short-term debts and profitability (ROE) but a negative relationship between long-term debts and ROE, when they studied 100 Iranian-listed firms from 2001 to 2007. In addition, Wiwattanakantang (1999) reported a negative relationship between leverage and ROA by using the data of 270 Thai companies. Similar results were found by Huang and Song (2006).

This study attempts to focus on financial indicators, i.e. firm size (total sales), WC, company efficiency (assets turnover ratio), liquidity (current ratio) and leverage (debt equity ratio and leverage ratio) as IVs and profitability as the dependent variable (DV), measured by ROE and EPS.

2.2.1 Firm size. Size is considered as a proxy for many positive aspects, including profitability. Ha-Brookshire (2009) found a positive and significant relationship between size and profitability when he examined US non-manufacturing companies. Similar results were reported by Stierwald (2010a, b) when he examined large companies in Australia. The resource-based theory states that the more the access to financial resources, the lesser the cost of capital. This is applicable for big size firms. As the size of the company increases, it is easier for it to access more financial resources which lead to the lower cost of capital and higher profit. Punnose (2008) and Malik (2011) showed a positive relationship between firm size and profitability. Nguyen (1985) found that large foreign-owned firms generally earn higher profits than large domestic firms. However, Keith (1998) found that size has a limited value in explaining profitability when he examined 38 small manufacturing firms in the Tayside Region of Scotland. Goddard et al. (2005) examined the determinants of profitability for manufacturing and service firms in Belgium, France, Italy and the UK. The results provide evidence of a negative relationship between size, gearing ratio and profitability. This study examines the association between firm size and profitability. Firm size is measured by total sales, which is the same measurement used by Kajüter (2006). Based on the above discussion, the first hypothesis is drawn as follows:

H1. There is a positive association between company firm size and profitability.

2.2.2 Working capital. Grinyer and McKiernan (1991) found that WC is amongst the variables that play a significant role in explaining corporate profitability. This is the result that was obtained when the data of 45 UK electrical companies was examined. Similar results were found by Chowdhury and Amin (2007), who investigated the profitability of pharmaceutical companies listed on the Dhaka Stock Exchange. The results provide evidence of the impact of WC on profitability as measured by ROA. In addition, Alipour (2011) employed the multiple regression technique and the Pearson correlation test on 1,063 companies on the Tehran Stock Exchange. The results show a significant relationship between WC management and profitability. In developing countries, Malik (2011) tested the profitability of 35 life and non-life insurance companies in Pakistan. The findings reveal a positive and significant relationship between WC and profitability. Similar results were found by Burja (2011). However, Dong and Su (2010) found a negative relationship between WC management and profitability for firms listed on the Vietnam Stock Market. Since the results are not consistent in developing countries, this study examines the association between WC and profitability in Malaysian-listed companies, and based on the above discussion, the second hypothesis is as follows:

H2. There is a positive association between WC and profitability.

2.2.3 Company efficiency. There is no doubt that efficiency is the cornerstone to achieve higher profits. Efficiency can refer to the operations per se or to the whole company. Innocent
et al. (2013) tested the profitability of the pharmaceutical industry in Nigeria covering 11 years from 2001 to 2011. The results show a negative and insignificant relationship between profitability and debt turnover ratio, creditor’s velocity and total assets turnover ratio. Inventory turnover ratio is also found to have a negative but significant relationship with profitability. Warrad and Al Omari (2015) studied the impact of total assets turnover ratio and fixed assets turnover ratio on ROA of firms in the Jordanian industrial sector. A simple linear regression was used to test the impact during the period of 2008–2011. The study shows a significant impact of total assets turnover ratio on the Jordanian industrial sector’s ROA. Hence, changes in ROA can be explained by total assets turnover ratio. However, a prior study conducted by Selling and Stickney (1989), using data from a group of Compustat companies over a period from 1977 to 1986, examined total assets turnover and OPM ratios as they related to ROA. Their sample was classified into 22 industries; they found negative correlations between total assets turnover and OPM ratios in 15 of them. Another study by Reed and Reed (1989) found that the total assets turnover and OPM ratios are negatively correlated. Fairfield and Yohn (2001) studied the use of OPM and assets turnover ratios to forecast future profitability. They found that the two variables are negatively correlated, and that the correlation is statistically significant. Skolnik (2002) used the non-financial firms in the S&P 500 and a time-frame of 1989 through 1999 to study the relationship among operating returns, OPM and total assets turnover ratios. He found that the total assets turnover ratio decreased over the study period while the OPM ratio increased. Consequently, he found a statistically significant and negative correlation between total assets turnover and OPM ratios. As the results show contradiction in this relationship, this study examines the assets turnover ratio as one of profitability measurements. It is expected that there is a positive relationship between company efficiency (measured by assets turnover ratio) and profitability. Therefore, based on the above discussion, the third hypothesis is as follows:

\[ H3. \text{ There is a positive association between company efficiency and profitability.} \]

2.2.4 Company liquidity. Liquidity is defined as the ability of a firm to convert an asset to cash quickly. It is also defined as the ability of a firm to pay off its short-term obligations. Liquidity is measured by a number of ratios, such as current ratio, quick ratio and cash ratio. Liquidity is very important to run the business properly. Bhayani (2010) examined factors that influence profitability for cement firms covering the period from 2001 to 2008. He concluded that liquidity, age of the firm, operating ratio, interest rate and inflation are important determinants of profitability for the Indian cement industry. Boadi et al. (2013) found a positive relationship between liquidity and profitability. Elsiefy (2013) tested the determinants of profitability of commercial banks in Qatar and found evidence of a strong relationship between liquidity and profitability for Islamic banks. A more recent study by Al-Jafari and Alchami (2014) investigated the determinants of profitability of Syrian banks utilizing the generalized method of moments technique. Their results reveal that liquidity ratio, credit risk, bank size and management efficiency affect significantly the profitability of Syrian banks. Similarly, Pratheepan (2014) tested the determinants of profitability for 55 Sri Lankan manufacturing companies using static panel models. The results show that size has a significantly positive relationship with profitability. Likewise, Mohd Zaid et al. (2014) investigated the factors affecting profitability for construction companies in Malaysia. They found that liquidity and size have a significant and positive relationship with profitability. However high liquidity may lead to agency cost and may hinder performance (Ganguli, 2016). Eljelly (2004) did a study on companies listed on the stock market in Saudi Arabia; he examined the relationship between profitability and liquidity measured by current ratio and cash gap (cash conversion cycle). He found a negative relationship between profitability and liquidity indicators. Similar results were found by Raheman and Nasr (2007) when they
studied 94 Pakistani companies listed on the Karachi Stock Exchange. Based on the above discussion, the fourth hypothesis is as follows:

**H4.** There is a positive association between company liquidity and profitability.

2.2.5 *Company leverage.* Leverage is one component of the capital structure of a company. This is because the choice between debt and equity suggests somehow a trade-off between business and financial risk. When companies choose more borrowings to finance their needs, they do not affect corporate ownership (Yazdanfar, 2013). After examining the data of 12,530 non-financial micro-firms operating in four industrial sectors in Sweden to measure the factors affecting profitability as well as industry affiliation, the researcher concluded that companies with a large proportion of equity based on shareholders’ investment offer better credit rating for the companies. Therefore, companies using large borrowings face higher risks while those using more equity tend to operate more conservatively by relying on internal funds. According to the trade-off theory of capital structure, the optimal debt level balances the benefits of debt against the costs of debt. The tax benefits of debt dominate up to certain debt ratio, resulting in higher ROE, but the benefit would be less than the cost after a certain level of debt ratio. The more a company uses debt, the less income tax it pays, but the greater its financial risks (Myers, 1984). Charumathi (2012) examined the determinants of profitability for the Indian life insurance companies. He found that leverage has a negative and significant impact on profitability. Eriotis *et al.* (2011) investigated the relationship between debt to equity ratio and profitability. They concluded that financing investments using retained profits are more profitable than using borrowed funds. Another study conducted by Boadi *et al.* (2013) examined the factors affecting profitability for the insurance companies in Ghana and revealed a positive and significant relationship between leverage, liquidity and profitability. Agiomirgianakis *et al.* (2013) found a positive and significant impact between low cost access to bank financing and profitability, when they investigated factors that influence profitability for the tourism industry in Greece. Burja (2011) obtained the same results when he examined factors that influence profitability for the Romanian chemical industry.

Generally, the influence of capital structure on performance is not clearly stated in the literature. Some studies have argued that companies have higher returns when they operate with a larger amount of borrowed funds, but there is a negative influence on long-term debt (Abor, 2005). Other studies have not found any relationship between financing decisions and profitability (Ebaid, 2009). This study uses two ratios to measure this variable, i.e. debt equity ratio and leverage ratio. They show the extent to which the total assets of the company are funded by loans. For this reason, it is necessary to rationally and efficiently use this financing method. Based on the above discussion, the fifth hypothesis is as follows:

**H5.** There is a negative association between company leverage and profitability.

3. **The data, sample and model specifications**

3.1 **Data description**

This study utilized secondary data collected from annual reports of non-financial companies listed on Bursa Malaysia (www.bursamalaysia.com). Due to the time limitation, the data includes only 120 companies and covers the period from 2012 to 2014. The study employs the most important factors that influence firms’ profitability and commonly utilized in the previous literature. However, some of variables are new in the Malaysian context, i.e. WC and company efficiency. The variables and their measurements used in this study are listed in Table I.
Pooled ordinary least regression was used to analyze the data to find the results. Two models were estimated in the study and both measured profitability as follows:

(Model 1):

\[ \text{ROE} = \alpha + \beta_1 \text{LTS} + \beta_2 \text{WC} + \beta_3 \text{CRIO} + \beta_4 \text{ASTRIO} + \beta_5 \text{LEVRIO} + \beta_6 \text{DTERIO} + \epsilon. \]

(Model 2):

\[ \text{EPS} = \alpha + \beta_1 \text{LTS} + \beta_2 \text{WC} + \beta_3 \text{CRIO} + \beta_4 \text{ASTRIO} + \beta_5 \text{LEVRIO} + \beta_6 \text{DTERIO} + \epsilon, \]

Here, \( \alpha \) and \( \beta_1 - \beta_6 \) are coefficients, Log of Total Sales (LTS), WC, Current Ratio, Assets Turnover Ratio, Leverage Ratio and Debt to Equity Ratio are the explanatory variables, and \( \epsilon \) is the error term.

Table II shows the descriptive statistics for the sample. The mean (median) of absolute value is ROE 6.7 (6.64) whereas the minimum value is negative, showing loss. In addition, the mean (median) of EPS is 12.61772 (8.305); however, the minimum value is negative 75. In terms of WC, the mean (median) is 4.15 (1.01); the mean (median) of liquidity (current ratio) is 0.5790497 (0.686061); the mean (median) of leverage (debt equity ratio and leverage ratio) is 0.4262042 (0.3894299) and 0.6138858 (0.8631349), respectively.

Table III shows the correlation between the IVs and the DV in this study. Total sales and WC are positively correlated with EPS. However, leverage is negatively correlated with EPS. These results are similar to the studies of Malik (2011), Burja (2011), Stierwald (2010a, b), Warrad and Al Omari (2015) and Al-Jafari and Alchami (2014). Total sales, WC and assets turnover are positively related with ROE. However, within the IVs, the maximum correlation

<table>
<thead>
<tr>
<th>No</th>
<th>Variable</th>
<th>Measurements</th>
<th>Supported studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Profitability</td>
<td>(1) Returning on equity (2) Earnings per share</td>
<td>Yasser et al. (2011), Nawafly and Alarussi (2016)</td>
</tr>
<tr>
<td>2</td>
<td>Firm size</td>
<td>Total sales</td>
<td>Kajuter (2006)</td>
</tr>
<tr>
<td>4</td>
<td>Company efficiency</td>
<td>Assets turnover ratio</td>
<td>Lesáková (2007)</td>
</tr>
<tr>
<td>5</td>
<td>Liquidity</td>
<td>Current ratio</td>
<td>Gurbuz et al. (2010)</td>
</tr>
<tr>
<td>6</td>
<td>Leverage</td>
<td>(1) Debt equity ratio (2) Leverage ratio</td>
<td>Alarussi and Shamki (2016)</td>
</tr>
</tbody>
</table>

Table I. Variables’ measurements

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE</td>
<td>6.74725</td>
<td>6.64</td>
<td>-35.3</td>
<td>66.32</td>
<td>12.55171</td>
</tr>
<tr>
<td>EPS</td>
<td>12.61772</td>
<td>8.305</td>
<td>-75.61</td>
<td>130.3</td>
<td>25.36119</td>
</tr>
<tr>
<td>LTS</td>
<td>8.443028</td>
<td>8.46</td>
<td>5.7</td>
<td>10.48</td>
<td>0.7969461</td>
</tr>
<tr>
<td>WC</td>
<td>1.15</td>
<td>1.01</td>
<td>-1.13</td>
<td>1.74</td>
<td>2.15</td>
</tr>
<tr>
<td>CRIO</td>
<td>3.03802</td>
<td>1.858931</td>
<td>-2.204296</td>
<td>34.15189</td>
<td>4.288155</td>
</tr>
<tr>
<td>ASTRIO</td>
<td>0.5790497</td>
<td>0.686061</td>
<td>0.0078316</td>
<td>3.863519</td>
<td>0.5505352</td>
</tr>
<tr>
<td>LEVRIO</td>
<td>0.4262042</td>
<td>0.3894299</td>
<td>0.0054159</td>
<td>2.148005</td>
<td>0.2779165</td>
</tr>
<tr>
<td>DTERIO</td>
<td>0.6138858</td>
<td>0.8631349</td>
<td>-3.91677</td>
<td>4.413547</td>
<td>1.003956</td>
</tr>
</tbody>
</table>

Note: \( n = 360 \)
is \(-0.4245\), which is between leverage ratio and current ratio. It is very important to treat any econometric problems relating to serial correlation, multicollinearity and heteroskedasticity before going further for regression analysis. According to researchers, empirical analysis done on panel data should be controlled for individual heterogeneity and multicollinearity (Kyereboah-Coleman, 2007). Myers (1990) indicated that a variance inflation factor (VIF) value of greater than 10 is a concern. Accordingly, the VIF values are well below 10, at 1.25. Therefore, multicollinearity is not a problematic issue or concern for this study. A test for homoscedasticity was also conducted using Breusch–Pagan/Cook–Weiberg test for heteroskedasticity (Table IV shows the results of the test). After the researcher ensured that data and model are free from heteroskedasticity, pooled OLS Regression was used to analyze the data. Pooled OLS Regression is widely used and recommended for panel studies because it derives unbiased and consistent estimates of parameters even when time-constant attributes are present (Zariyawati et al., 2009; Zhang, 2013). Moreover, pooled OLS regression is favored for data without dummy variables, which is the case of this study. In order to obtain robust results, a fixed-effects model was run. Table IV shows the results which are identical to Pooled OLS in terms of significant factors. The major advantage of using the fixed-effects estimator is that it controls for firm

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected sign</th>
<th>MODEL (1) ROE</th>
<th>Fixed-effect</th>
<th>MODEL (2) EPS</th>
<th>Fixed-effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS</td>
<td>1.0000</td>
<td>0.6232*</td>
<td>0.5765*</td>
<td>0.3065*</td>
<td>0.0355*</td>
</tr>
<tr>
<td>ROE</td>
<td>0.3065*</td>
<td>0.0871*</td>
<td>0.3130*</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>INS</td>
<td>0.3065*</td>
<td>0.0871*</td>
<td>0.3130*</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>WC</td>
<td>0.3065*</td>
<td>0.0871*</td>
<td>0.3130*</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>CRIO</td>
<td>-0.0355</td>
<td>-0.0198</td>
<td>-0.2227*</td>
<td>0.0418</td>
<td></td>
</tr>
<tr>
<td>ASTRIOR</td>
<td>0.1406</td>
<td>0.2819*</td>
<td>0.2551*</td>
<td>-0.0047</td>
<td></td>
</tr>
<tr>
<td>LEVRIOS</td>
<td>-0.0301</td>
<td>-0.1342</td>
<td>0.1776*</td>
<td>-0.1724*</td>
<td></td>
</tr>
<tr>
<td>DTERIO</td>
<td>-0.0301</td>
<td>-0.1342</td>
<td>0.1776*</td>
<td>-0.1724*</td>
<td></td>
</tr>
</tbody>
</table>

Table III. Correlation between DV and IVs

Note: *Significant in less than 5 percent

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected sign</th>
<th>MODEL (1) ROE</th>
<th>Fixed-effect</th>
<th>MODEL (2) EPS</th>
<th>Fixed-effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTS</td>
<td>+</td>
<td>5.836509</td>
<td>6.87***</td>
<td>17.93849</td>
<td>11.88***</td>
</tr>
<tr>
<td>WC</td>
<td>+</td>
<td>-3.94</td>
<td>-1.31</td>
<td>-1.32</td>
<td>1.24</td>
</tr>
<tr>
<td>CRIO</td>
<td>+</td>
<td>0.0169658</td>
<td>0.11</td>
<td>-0.0680419</td>
<td>-0.820</td>
</tr>
<tr>
<td>ASTRIOR</td>
<td>+</td>
<td>4.393316</td>
<td>3.91***</td>
<td>3.80***</td>
<td>0.0827936</td>
</tr>
<tr>
<td>LEVRIOS</td>
<td>+</td>
<td>-4.96923</td>
<td>-2.04***</td>
<td>-2.01***</td>
<td>-18.24041</td>
</tr>
<tr>
<td>DTERIO</td>
<td>+</td>
<td>-2.179542</td>
<td>-3.32***</td>
<td>-3.31***</td>
<td>-1.169142</td>
</tr>
<tr>
<td>Cons</td>
<td>-</td>
<td>6.87***</td>
<td>-5.81***</td>
<td>-5.81***</td>
<td>-10.24***</td>
</tr>
</tbody>
</table>

Table IV. Regression results of determinants and profitability

<table>
<thead>
<tr>
<th>Variable</th>
<th>Expected sign</th>
<th>MODEL (1) ROE</th>
<th>Fixed-effect</th>
<th>MODEL (2) EPS</th>
<th>Fixed-effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTS</td>
<td>+</td>
<td>5.836509</td>
<td>6.87***</td>
<td>17.93849</td>
<td>11.88***</td>
</tr>
<tr>
<td>WC</td>
<td>+</td>
<td>-3.94</td>
<td>-1.31</td>
<td>-1.32</td>
<td>1.24</td>
</tr>
<tr>
<td>CRIO</td>
<td>+</td>
<td>0.0169658</td>
<td>0.11</td>
<td>-0.0680419</td>
<td>-0.820</td>
</tr>
<tr>
<td>ASTRIOR</td>
<td>+</td>
<td>4.393316</td>
<td>3.91***</td>
<td>3.80***</td>
<td>0.0827936</td>
</tr>
<tr>
<td>LEVRIOS</td>
<td>+</td>
<td>-4.96923</td>
<td>-2.04***</td>
<td>-2.01***</td>
<td>-18.24041</td>
</tr>
<tr>
<td>DTERIO</td>
<td>+</td>
<td>-2.179542</td>
<td>-3.32***</td>
<td>-3.31***</td>
<td>-1.169142</td>
</tr>
<tr>
<td>Cons</td>
<td>-</td>
<td>6.87***</td>
<td>-5.81***</td>
<td>-5.81***</td>
<td>-10.24***</td>
</tr>
</tbody>
</table>

Notes: **,***Significant in less than 5 and 1 percent, respectively
characteristics which are not observable or measurable, but are likely to be correlated with
the regression, thus allowing a limited form of endogeneity (Lazar, 2016). The results of
analysis are shown in Table IV.

Table IV consists of two models: the first model examines the association between the
cfive IVs of the study and ROE. In this model, the results show that LTS has a significantly
positive association with ROE (as coefficient is 5.836 and significant at 1 percent). An almost 5 percent increase in the sales will increase the ROE by 1 percent. This result
shows the importance for Malaysian companies to increase and expand their sales to
different territories and places. In other words, as the total sales measures the company
size, it is clear that firm size is a significant determinant of ROE. The first model also
shows that assets turnover has a positive association with ROE, with coefficient of 4.3933
and significant at 1 percent; a 4.3 percent increase in assets turnover ratio leads to an
increase of 1 percent in ROE. Thus, assets turnover is one of the factors affecting company
profitability in Malaysia. The result motivates companies to increase their efficiency
(as assets turnover ratio measures the efficiency) and properly manage their assets to
increase their sales and therefore profitability. This will generate more investment in these
companies. Another determinant of profitability is leverage. The first model shows a
negative and a significant association between leverage (as measured by debt equity ratio
and leverage ratio) and ROE, with coefficient of $-4.96923$ and $-2.179542$, respectively,
and significant at 1 percent. The result reveals that the more the external funds that a
company depends on, the less the ROE it gets. This may mean that the cost of financing
from external sources is quite high and it affects the profitability of the company.
However, other variables, i.e. liquidity (as measured by current ratio) and WC, show a
positive relationship with company profitability (ROE) but not significant. The $R^2$ is
0.2192 and the Adj-$R^2$ is 0.2059. The second model examined the relationship between the
same five IVs and EPS.

In the second model, firm size and WC show significant relationships with profitability
(as measured by EPS), with coefficient of 17.93849 and 1.24 at 1 and 5 percent significance
levels, respectively. This result reveals that WC plays a significant role in increasing
the company’s profitability; actually, the coefficient, which is 17.938, shows how this
determinant is important for profitability. Consistent with the determinants of ROE, the
second model shows a negatively significant relationship between leverage and profitability
(EPS) as coefficient is $-18.24041$ and significant at 1 percent. The $R^2$ is 0.3953 and the
Adj-$R^2$ is 0.3851.

4. Discussion of results
This study focuses on financial indicators of profitability, i.e. firm size (total sales), WC,
company efficiency (assets turnover ratio), liquidity (current ratio) and leverage (debt equity
ratio and leverage ratio). These are the IVs and profitability is the DV, measured by ROE
and EPS. The results are elaborated on as follows.

4.1 Firm size
It is known that firm size is considered as a proxy for many positive aspects, including
profitability. The result of the current study shows a significantly positive correlation
between LTS (as a measurement for firm size) and ROE. The coefficient $t$-value $= 5.836$ and
$p < 0.001$ indicate this positive and significant relationship. This result supports that big
companies have different markets to market their products and this enhances their
performance which leads to high profitability. This supports the resource-based theory – as
the size of the company gets bigger, it is easier for it to access more financial resources
which leads to lower cost of capital and higher profit. Similar results have been found in
previous studies, such as Ha-Brookshire (2009), Stierwald (2010a, b) and Malik (2011).
All these studies have found a positive relationship between firm size and profitability. The second model also shows a positive and significant relationship between LTS and EPS. The coefficient $t$-value $= 17.93849$ and $p < 0.001$ indicate this positive and significant relationship. Hence, the first hypothesis cannot be rejected.

### 4.2 Working capital

Several studies have linked WC and operational efficiency (e.g., Barine, 2012). The results of the current study show a positive and significant relationship between WC and EPS as the coefficient $t$-value $= 1.24$ and $p < 0.05$. This relationship is not applicable to ROE in the first model. Thus, WC is positively correlated with EPS but not with ROE. Hence, the second hypothesis cannot be rejected. The logical reason behind this relationship may be that more WC (whether debt or equity) will lead to more EPS but may not lead to ROE. Similar results of a significant relationship between WC management and profitability were found by Grinyer and McKiernan (1991), Chowdhury and Amin (2007), Malik (2011) and Alipour (2011).

### 4.3 Company liquidity

The findings of the study show unexpected results in terms of liquidity. It has been predicted that there is a positive relationship between liquidity and profitability but the results do not show any significant relationship between current ratio (CRIO) (as a measurement of company liquidity) and either ROE or EPS. This is because profitability does not depend on cash base, and liquidity is important in financial institutions, such as banks, but not in non-financial companies. In banks, the liquidity is for covering the firms' current obligations (excluding shareholders). Hence, the third hypothesis cannot be accepted. Similar results were found by Pratheepan (2014), who tested the determinants of profitability for 55 Sri Lankan manufacturing companies using static panel models, and found that liquidity has an insignificant impact on profitability.

### 4.4 Company efficiency

The results of the study show a positive and significant relationship between assets turnover ratio (ASTORIO) (as a measurement of company efficiency) and ROE in the first model as the coefficient $t$-value $= 4.3933$ and $p < 0.001$. This relationship is not applicable to EPS in the second model. Thus, ASTORIO is positively correlated with ROE but not with EPS. Hence, the fourth hypothesis cannot be rejected. The reason behind this results may be that assets turnover ratio and ROE both measure company efficiency but not EPS.

### 4.5 Company leverage

Table IV shows a negative and significant relationship between LEVRIIO and both RIO and EPS. In the first model, the coefficient $t$-value $= -4.9692$ and $p < 0.001$, and in the second model, the coefficient $t$-value $= -18.24$ and $p < 0.001$. Hence, company leverage has a negative and significant relationship with profitability. Thus, the fifth hypothesis cannot be rejected. It is known that financial leverage is one of the capital structure policies in a company. This is because the choice between debt and equity suggests somehow a trade-off between business and financial risk. When companies choose more borrowings to finance their needs, they do not affect corporate ownership (Yazdanfar, 2013). In addition, the results also show that debt to equity ratio (DTERIO) has a negative and significant relationship with ROE but not with EPS. The first model shows the coefficient $t$-value $= -2.1795$ and $p < 0.001$. Thus, there is a negative and significant relationship between DTERIO and ROE. This is a logical conclusion because a company has a choice whether to finance its activities by equity or debt or both, based on how the company sacrifices on its ROE percentage.
Similar results were found by Charumathi (2012), that leverage has a negative and significant impact on profitability. Also, Eriotis et al. (2011) found the same results when they investigated the relationship between debt to equity ratio and profitability.

5. Conclusion, limitations and application
This study aims to determine the factors of profitability in Malaysian-listed companies. Five IVs, namely, firm size (as measured by total sales), WC, company efficiency (assets turnover ratio), liquidity (current ratio) and leverage (debt equity ratio and leverage ratio), were empirically examined for their relationships with profitability. Data of 120 companies listed on Bursa Malaysia, covering the period from 2012 to 2014, were extracted from companies’ annual reports and pooled OLS regression was used to analyze the data. The results emphasize strong positive relationships between total sales, WC and assets turnover ratio and profitability. The results show also negative relationships between debt equity ratio and leverage ratio and profitability. Liquidity does not show any significant relationship with profitability. The study concludes that large growing firms with efficiently managed assets improve operating income and ultimately enhance profitability.

This study, as with any other study, has a limitation. The database is limited to 120 companies and it covers the period from 2012 to 2014, which is considered as a short time period. However, the findings of this study benefit both internal users (such as mangers, shareholders and employees) and external (such as investors, creditors, newly established companies and the tax authority) users. They can be aware of the factors affecting the profitability of the companies after the depreciation of the Malaysian currency and therefore concentrate more on the factors that can enhance their company’s profitability. The results may help the external users to make the right decision. This study provides empirical evidence that supports the resource-based theory and the trade-off theory. This study also recommends that future studies include more factors or conduct a comparative study that includes companies in different countries in order to figure out whether the determinants of profitability are the same in different business environments in different countries.

References


Profitability in Malaysia

---

455


Myers, R. (1990), Classical and Modern Regression with Applications, 2nd ed., Duxbury, Boston, MA.


Zhang, L. (2013), The Impact of Ownership Structure on Capital Structure: Evidence from Listed Firms in China, University of Twente, Enschede.

Further reading


About the authors
Dr Ali Saleh Alarussi is an Assistant Professor at Xiamen University Malaysia, he has been Visiting Assistant Professor at University Utara Malaysia since 2013. He has more than nine years of teaching accounting subjects in different international universities, and his areas of expertise are financial reporting, financial disclosure, environmental disclosure, online internet reporting and corporate governance. Dr Ali Saleh Alarussi is the corresponding author and can be contacted at: al_arussi@yahoo.com

Dr Sami Mohammed Alhaderi is Senior Lecturer with School of Business Management, University Utara Malaysia. He was Manager in Human Resource Training Division in Yemen Public Telecommunication Corporation for 25 years; his areas of expertise are strategic management, leadership, organization behavior, human resource, information system, ethics and research methodology.