Firm's Size and Solvency Performance: Evidence from the Malaysian Public Listed Firms

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Abstract: Firm solvency is one of the important indicators in measuring firm's performance. Firm ability to grow and sustaining their business in the highly competitive business environment depends significantly on its cash flow management capacity that subsequently results to a business stay solvent at every phase of business life cycle. Early detection of financial distress is important for every firm of various sizes. Previous findings on firm's size and solvency performance varies which tendency on agreeing to the assumption that larger firms have the advantages to avoid insolvency as compare to smaller firms. However, previous studies have also revealed that larger firms such as public listed company were not escape from facing financial distress which eventually lead to insolvency. Therefore, the study was aimed to indentify the influence of firm's size and solvency performance of public listed firms in Malaysia. A total of 149 firms were used to measure their financial data performance for a period between 2011 and 2014. Firm total assets and paid capital were used as a proxy to firm size. The current ratio and debt ratio were used as a proxy to measure the solvency performance. The study found that firm size measured by total assets has moderately influence the solvency performance of firms indicated by the debt ratio and current ratio. However the firm size measured by paid-up capital has lesser influence on solvency performance measured by debt ratio and no influence on current ratio.

Key words: Current ratio, debt ratio, firm size, insolvency, liquidity, solvency

INTRODUCTION

In any situation, firms should be able to meet short and long term obligation to achieve operational sustainability. In this situation, firms with operational sustainability were regarded as in the position of solvency. Insolvency occurs when a firm's total liabilities exceeded a fair valuation of its total assets. Previous study by Brigham and Houston (2012) described technical insolvency as the position whereby firms were unable to meet their current obligations as they fall due (that is the firm's current assets are lower than its current liabilities) despite having higher total assets than the total liabilities. Early detection of financial distress is important in avoiding insolvency. Public listed firms were relatively capable in managing liquidity to ensure that they remain in solvency position sustainably. Previous findings on the relationship between firm's size and solvency performance shows mixed result which tendency on agreeing to the assumption that large firms have the advantages over small firm to remain solvent. However, prior studies have also revealed that larger firms such as

public listed companies were not immune from having financial distress which eventually leads to insolvency. Firm ability in servicing and repaying debts was the main indicator of the solvency position measurement of any firms (Zhang and Zhang, 2010). Earlier empirical studies by Coleman (2002), Obert and Olawale (2010) that focus on larger firm in various developed countries suggest that large firms showed that size have significant impact on the ability in serving debts lead to greater chances in sustaining their solvency position. This finding consistent with a study by Sahudin *et al.* (2011) in which larger firms allows a greater level of debt management towards their ability to sustain the solvency position. Despite many findings revealed that larger firms have an advantages over the smaller firms in managing their liquidity, there were cases particularly in which Practice Note (PN 17) was served to considerably large firms listed in Bursa Malaysia as a result of liquidity issues. PN 17 is the control procedure specifically for public listed companies which are facing financial distress and to be delisted from the stock exchange. There were 21 firms subjected to PN17 as at first half of 2015 bringing the total

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listing of financial distress firms to 2.32% of the total listed firms on the stock exchange. Shareholders and investors continue to demand for healthy firms to ensure their investments. Solvency and liquidity of firms would remains significant elements for managers to manage for sustainability of the firms. It is pertinent for managers to understand about business failures, its causes and its possible remedies (Sulub, 2014). Therefore, the study was aimed to indentify the influence of firm's size on solvency performance of public listed firms on the Bursa Malaysia (BM).

Literature review

Past research: Lun and Quaddus (2011) in their study among Hong Kong electronic industry propagated that firm size does influence the performance of business. In other findings suggested that smaller firms were more likely to issue equity while larger firms are more likely to issue debt rather than equity which influence the liquidity. Past study done by Cassar and Holmes (2003) and Esperanca *et al.* (2003) found a positive relationship between firm size and long-term debt but a negative relationship with short-term debt which eventually influence the liquidity. Other study suggested that firm size and capital structure strategy may influence firm's solvency performances. Other finding by Beck *et al.* (2008) indicated that firms size influence the firm's performance which includes the solvency and liquidity operation. Findings from Rajeev indicated that small firms were much faced higher risks of liquidity as compared to those larger firms. Therefore, these two findings show a risk versus return trade-off that exists at the firm performance level in relation to firm's size. Justification of this findings propagated that larger firms have the advantages to access for better resources and skill competencies to better manage the firm. Other proponent to this hypothesis added that economies of scale only can only be found at larger firms (Nguyen and Reznek, 1991). Despite many findings propagated that larger firms have better performance in term of solvency, there were findings which argued that smaller firms may also performance better in term of efficiency, growth and liquidity. Recent finding by Vithessonthi and Tongurai (2015), firm size does not influence the firm performances during the 2007-2009 Thailand financial crisis.

Other finding by Campos and Sanchis (2015) firm's size among agricultural industry in Spain does not influence the performance of liquidity and solvency of the industry. In general, performance of firms such as the productivity, firm size to be found in mixed contribution towards firm's productivity which could influence the financial health of the operation (Pompe and Bilderbeek,

2005). Erlier finding by Michaelas *et al.* (1999) also supported that a debt ratio and firm's size could correlate depending on the other factors within the firms.

Other findings by Bourlakis *et al.* (2014) suggest different small firm performed better in case of agriculture industry in Greek. Small firms preferred to opt for short-term finance as compared to larger firms and better performed as opposed to larger firms. It may caused small firms highly sensitive to short term economic environment as oppose to larger firms. It is concluded that the relationship between firm's size and firms performance findings varies as many other factors may influence the both variables. It is therefore, continuous study on this issues remain relevant as economic factors continue to influence firms operation.

Firm size: Firm size has been widely used as a control variable in empirical research specifically to corporate finance. Firm size matter for many reasons, it is said that larger firms are better in managing their cash flow, therefore difficult to fail and liquidate (Shumway, 2001). Size can also be the proxy for the volatility of firm's assets. Additionally, measurement of firm size varies according to the research perspective. Rajeev suggested that firm size is defined according to the value of a firm's assets. In addition, Sahudin *et al.* (2011) propagated that the size of firm is defines as the logarithm of total assets of the firms used in business; $Firm_s = log_e$ Total asset. Previous scholar such as Kato and Honho and Sun preferred to use total assets value to represent firm's size to measure liquidity and predictor for bankruptcy. While some researchers used asset value as the proxy to firm's size, others have suggested alternative measurement such as paid up capital as a proxy for firm's size. According to Allen paid-up capital for a firms company is the number of shares outstanding multiplies the face value of the shares. Kidanu defined paid-up capital as the amount of capital which is contributed/paid by owner(s) during the establishment of a firm adopting measurement of firm's size using paid-up capital is a more stable measure of firm size (Ponnu and Okoth, 2009). Other researcher suggested that total assets as a proxy for firm size indicated the influence of firm's size and solvency performance (Vithessonthi and Tongurai, 2015). In view of the widely adopted by other researcher, this study employed this variable as the proxy for firm's size.

Solvency: The importance of knowing solvency through the optimal debt ratio could help policymakers and financial managers to formulate an appropriate financing policy that could prevent companies from going into

financially distressed situation due to excessive level of debt (Ahmad and Abdullah, 2011). Previous researches works widely suggested that 'Debt Ratio' (DR) and 'Debt to Equity Ratio' (DER) be used as a proxy to solvency (Khidmat and Rehman, 2014). DR was widely used as its reflecting the company' liability situation and has the best protection degree for borrower's benefit and it is the basic ratio in translating financing structure as well as easy to define and calculate (Li and Jian, 2008). Other proponent on the use of DR was finding by Ahmad and Abdullah (2011) in which DR was consistent with trade-off theory which hypothesize that high debt ratio will lead to financial distress and thus deteriorate the firm value. Other measurement on solvency was based on performance of Current Ratio (CR). The CR measure a firm's ability to pay current obligations on business such as operating and financial expenses is current ratio. Current ratio consists of cash and near-cash assets (together called "current" assets) of a business on one side and immediate payment obligations (current liabilities) on the other side. Using the CR to measure solvency enable firms to monitor payment obligations include dues to suppliers, operating and financial expenses that must be paid shortly and maturing installments under long-term debt (Saleem and Rehman, 2011; Altman, 1968). It is therefore, CR and DR were adopted in this study as a proxy for solvency performance.

MATERIALS AND METHODS

This study employs quantitative methodology involving collection of secondary audited financial data from 149 firms for a period between 2011 and 2014 representing a sample size of 16% from a total of 934 firms listed on Bursa Malaysia. Quantitative method based on secondary data was employed as simple random sampling technique was employed to select a sample representing type of sector and firm size. Table 1 shows industrial product accounts the largest number of the samples which were 47 firms (31.5%) and followed by trade and service sector of 35 firms (23.5%). There were 25 firms or 16.8% representing consumer sector. Property sector accounts for 12.1% or 18 sample firms. The remaining samples came from construction, plantation and technology and hotel industry. Detail breakdown of samples firms is depicted in Table 1 (Dhawan, 2001).

Data observations covers annual reports from 149 firms for 4 years period were analysis using excel prior to further analysis using SPSS. Firm size was measure by total assets of the firms and paid up capital. Total assets were derived as:

Table 1: Samples firms by sectors

Sector	Frequency	Percentage
Industrial product	47	31.5
Trade and service	35	23.5
Consumer	25	16.8
Property	18	12.1
Construction	9	6.0
Plantation	7	4.7
Technology	5	3.4
Finance	3	2.0
Total	149	100.0

$$\text{Fixed assets+Current assets} \tag{1}$$

Debt ratios were calculated as:

$$\text{Total debt divided by total asset} \tag{2}$$

Current ratios were calculated as:

$$\text{Total current assets/Total current liabilities} \tag{3}$$

RESULTS AND DISCUSSION

Descriptive analysis on debt ratios and current ratio resulted in their respective mean scores of each firm's size category as depicted in Table 2 mean score for DR varies according to firm's size in which small firms scored mean of 0.259, medium size; 0.378 and larger firm scored mean of 0.452. For the CR, small firm scored mean of 6.605, medium firm; 2.534 and larger firm scored 2.562. Correlation test on the relationship between firm size (total assets) and DR yielded $p<0.005$ and r-value of 0.313 indicated that there was a moderate positive correlation between two variables as depicted in Table 3. Firm size (total assets) value correlate with the performance firm's debt ratio indicating that as the asset value increase it will also resulted to moderate and significant increase in the firm's DR.

Further, test on the correlation between firm sizes (total assets) on CR yielded r-value of 0.194 and p-value of 0.018, $p<0.005$ indicated that was a weak and significant positive correlation between the two variables as highlighted in Table 4.

A test was also conducted on the relationship between firm size measures by paid-up capital against the DR. The finding indicated that there was a weak and significant positive correlationbetween paid-up capital and debt ratio, $r = 0.299$, $p<0.005$ (Table 5 and 6).

The final test on the relationship between paid-up capital and current ratio yielded $r = 0.214$, $p<0.009$. The result indicated that there was a weak and significant positive correlation between the two variables. All in all,

Table 2: Mean score of DR and CR for various firm's size

Firm size (total assets)	Mean Debt Ratio (DR)	Mean Current Ratio (CR)
Small firm (TA<RM100 mil)	0.259	6.605
Medium firm (TA>RM100<RM499 mil)	0.378	2.534
Large firm (TA>RM499mil)	0.452	2.562

Table 3: Correlation between total assets and debt ratio from year 2011-2014

Spearman's rho	DR	TA
DR		
Correlation coefficient	1.000	0.313**
Sig. (2-tailed)	-	0.000
N	149	149
TA		
Correlation coefficient	0.313**	1.000
Sig. (2-tailed)	0.000	-
N	149	149

**Correlation is significant at the 0.01 level (2-tailed)

Table 4: Correlation between total assets and current ratio from years 2011-2014

Spearman's rho	CR	TA
CR		
Correlation coefficient	1.000	0.194*
Sig. (2-tailed)	-	0.018
N	149	149
TA		
Correlation coefficient	0.194*	1.000
Sig. (2-tailed)	0.018	-
N	149	149

**Correlation is significant at the 0.05 level (2-tailed)

Table 5: Correlation between paid-up capital and debt ratio from years 2011-2014

Spearman's rho	DR	Paid-up capital
DR		
Correlation coefficient	1.000	0.299**
Sig. (2-tailed)	-	0.000
N	149	149
Paid-up capital		
Correlation coefficient	0.299**	1.000
Sig. (2-tailed)	0.000	.
N	149	149

Table 6: Correlation between paid-up capital and current ratio from years 2011-2014

Spearman's rho	CR	Paid-up capital
CR		
Correlation Coefficient	1.000	0.214**
Sig. (2-tailed)	-	0.009
N	149	149
Paid-up capital		
Correlation Coefficient	0.214**	1.000
Sig. (2-tailed)	0.009	-
N	149	149

**Correlation is significant at the 0.01 level (2-tailed)

the correlation analysis indicates that there exist significant positive correlation between measure of firm size and solvency performance. Nevertheless, it is important to note the correlations are rather weak. With highest linear correlation at 0.313 it does suggest that firm size has quite minimum impact on firm's solvency performance. The findings also support prior studies that the relationship between firm size and solvency performance is mixed.

CONCLUSION

Summary of the findings can be concluded that firm's size measured by total assets does influence the firm's solvency performance for both measurement of debt ratio and current ratio. The ability to optimize higher assets value may help firm improve their liquidity. This findings was consistence with previous studies by Michaelas *et al.* (1999), Hall *et al.* (2000) and Sogorb-Mira (2005) in which a positive relationship between firm size (assets) and leverage and solvency measured in the ratio of total debt (long-term debt).

As for the relationship between paid-up capital and solvency performance, the debt ratio found to be influence by the paid-up capital while current ratio showed no relationship with the size of paid-up capital. It was nature of paid-up capital which used as initial resources to start the business operation. Over the time paid up capital relatively experience fewer changes despite the need for additional resources. Firms are preferred to sources external funding as compare to equity financing. However, the use of debt can also increase the financial risk of a firm and lead to the insolvency. According to Coleman and Cohn (2002) and Coleman (2002), debt is one of the variables that can cause insolvency for most of firms. Failure rates in the range of 50-75% were commonly cited for smaller firms, making it difficult for smaller firms to raise external capital from either debt or equity providers. The weak of financial structure as reflected by the gearing (debt-equity ratio) has been found to be the key source of insolvency. Many firms were unable to keep up this high debt ratio and, later become insolvent. A high debt ratio in itself, does not make a firm insolvent as long as the firm is earning enough to cover interest and principal payments when it they come due. However, the more leveraged a firm is the more vulnerable it is to bankruptcy. Therefore, the flow of earnings and the ability of the firm to make interest and principal payments will determine whether the firm will actually become insolvent or otherwise (Kim and Lee, 2002). The prediction and prevention of financial distress is one of the major factors that should be analyzed in advance as an early warning signal and to avoid bankruptcy. In addition to the awareness that can make a company successful, it is also useful for managers to have an understanding of business failures and bankruptcy, its causes and its possible remedies. In conclusion, firm size does matter, although the impact is quite small in term of their influence towards solvency performance. However, equally important is the ability of the managers to leverage available resources within the firms to strive for healthy financial position and remain solvent all the time.

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