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1 August 2017

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Abstract: Our paper evaluates the capital structure of Malaysian firms from a unique perspective by evaluating the impact of Shari'ah compliance on firms' financing decision. We find that firms that are Shari'ah compliant tend to lean towards lower debt issues to finance their deficits, implying that the compliance status has an impact on their cost of equity which ultimately affects cost of capital.

There are several main competing explanation of capital structure when evaluating how firms their deficit. The general contention between the theories have centred around the cost of capital, whereby managers serving the interests of shareholders' would be keen on lowering cost of capital to maximize firm value.

We examine how Malaysian firms finance their deficit by studying a unique factor (Shari'ah compliance) which could have implications on the cost of capital given that the nature of compliance could impose restrictions on the capital structure. Our findings imply that firms which are non-compliant are better able to access the debt market due to lack of restrictions imposed on the funding sources. However, the relative preference for equity by compliant firms could also imply a lower cost of equity, raising an interesting question for future research.

The next section provides a brief literature on motiving the study. The section is followed by a brief explanation of the data as well variables, and the analysis of the results. Implications and conclusion are presented in the last section.

LITERATURE REVIEW

Deficit Function.

Shyam-Sunder and Myers (1999) study financing behaviour based on the net debt issues. The authors hypothesize that if the pecking order hypothesis holds, the empirical results should yield a unity result. Their results provide support for their notion as the net debt issues tracks the deficit function closely. However, Frank and Goyal (2003) find that net equity issues track the deficit function as opposed to the net debt issues. Huang and Ritter (2009) further prove that the pecking order explanation is insignificant in some years.

METHODOLOGY

To maximize the number of firm year observations, we start our sample by including all firms available from the Datastream Thomson Reuters database. Our period ranges from 2007 – 2016. Our sample selection is guided by data availability and the objective of measuring net debt issues. We avoid selection and survivorship bias by including dead firms in our sample (Hussain, 2014). Drawing from the literature, we exclude all financial firms (Guney and Iqbal-Hussain, 2010).

Our study uses nbalanced panel data to allow better inference of model parameters, more accurate capturing of firms' issuing behavior due to econometric efficiency and limiting the impact of omitted variables that allow the control of missing or unobservable variables. The use of variables to explain our model is based on the literature and defined accordingly (Haron et al, 2013 and Hussain et al, 2016). We define net debt issues, (Δd) as the net change in total book debt scaled by total assets. Net equity issues (Δe) is the net change in book equity minus the change in retained earnings divided by total assets. Firms' SIZE is the natural logarithm of net sales in millions of 2007 ringgit. TANG, asset tangibility is net plant, property and equipment over total assets. Profitability (PROF) is measured by earnings before interest, taxes, depreciation and amortization divided by total assets. Furthermore, we proxy for growth opportunities using R&D (research and development) expenses and CAPEX (capital expenditure). Both variables are scaled by total assets (Iqbal-Hussain et al, 2015).

Guided by the literature on capital structure, we eliminate outliers by eliminating observations where net equity issues, book value of debt and net debt issues are over 100% (Hussain et al, 2017). Furthermore, we drop firm-year observations with missing data. Our final sample comprises of 818 firms with 7245 firm-year observations. We report the summary statistics of the variables used in the study in Table 1.

Insert table 1 about here

To measure the extent of financing via debt issues we interact a dummy variable (NSC) non-Shari'ah compliant with the deficit term (DEF) in our regression which is defined based on Guney and Iqbal-Hussain (2009). Our basic model is as follows:

$$\Delta d_i = \alpha + \beta_1 (\text{DEF x NSC})_i + \beta_2 \Delta SIZE_i + \beta_3 \Delta TANG_i + \beta_4 \Delta R\&D_i + \beta_5 \Delta PROF_i + \beta_6 \Delta CAPEX + \varepsilon_i \quad (1)$$

All our regressions control for firm fixed effects, report the coefficients and p-values, based on standard errors clustered by firm and year to avoid correlation of observations across time for a given firm and correlation across firms for a given year (see Peterson, 2009). This is to avoid biased standard errors in our unbalanced panel dataset regressions. Our results are robust to using White (1980) standard errors, although White standard errors are generally smaller and would yield 'more' significant results i.e. smaller p-values. Drawing from similar studies in the literature, we predict the deficit coefficient to be positive (Iqbal-Hussain and Guney, 2011). In addition we conjecture the interaction term would be positive. Our study assumes the cost of equity remains constant. To provide additional controls and increase robustness of our results, we include known determinants in equation (1). The SIZE variable is expected to be positive given that larger firms would be able to afford more debt in their balance sheet while tangibility is also expected to have a similar coefficient as tangible assets serve as debt collateral. Growth is proxied by including research and development expenditures as well as capital expenditures. The correlation for profitability remains fuzzy as profitable firms would want to reduce the amount of taxes paid by increasing debt issues (as interest payments are tax deductible). But increasing cash flows would also reduce the reliance on external sources of financing. We test for multicollinearity for our regressions and find the variance inflation factor (VIF) is less than 10 indicating the absence of multicollinearity issues.

RESULTS AND DISCUSSION

Our results are reported and discussed in this section. We provide the results for regressing the model in equation (1) in Table 2. Our regressions control for firm fixed effects the remove omitted time invariant firm factors that may lead to a spurious correlation between net debt issues and expalanatory variables while controlling for firm specific differences, which are time invariant such as specific customer characteristics, talented management and economic shocks. All regressions include industry dummies [0, 1] variables.

Insert table 2 about here

Looking at Table 2, the first column reports the regression that the deficit function has a positive coefficient as expected. To satisfy our objective, the next column reports the

regression results for the interaction term as well as control variables based on the known determinants of capital structure. This allows us to capture how non-Shariah

compliance influences the financing of the deficit. The results report the interaction term to be positive and significant thus validating our notion that firms which are compliant would increase reliance on equity issues and vice-versa and are in line with Thabet et al (2017). Our results are also economically significant, as the coefficient of the deficit has been reduced.

Our results allow us to infer that Shari'ah compliance is not only statistically but also economically significant in explaining capital structure decisions i.e. net debt issues. Furthermore, the adjusted R^2 improves when the interaction term is included, suggesting the inclusion allows an increase in power of explanation. The last column reports the results of the regression when the known determinants discussed in equation (2) are included into the estimation. Size, tangibility and growth proxies all have positive and significant coefficients. Profitability however has a negative and insignificant coefficient.

CONCLUSION

Our paper uses unbalanced Malaysian panel data to empirically test the capital structure implications from Shari'ah compliance. The main notion of the paper is to show that managers of Shari'ah compliant companies increase reliance on equity relative to non-compliant companies.

Drawing from the literature, we regress net debt issues against the financing deficit, which is interacted with a non-compliance dummy. The initial results confirms our hypothesis. Our findings are economically as well as statistically significant.

The implications of our findings show that Shari'ah compliant firms are restricted in financing their deficit with debt issues and thus tend to place a heaiver reliance on equity issues. This raises an important question on the understanding of capital structure of Shari'ah compliant companies in terms of the

relative cost of equity as well as ownership structure which we delegate to future researchers.

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Table 1

	d/A	e/A	DEF	ΔSIZE	ΔTANG	ΔR&D	ΔPROF	ΔCAPEX
Mean	0.0108	0.0382	0.0501	0.1028	0.0014	-0.0018	0.0056	0.0044
Median	0.0002	0.0292	0.0308	0.0425	0.0020	0.0002	0.0022	0.0008
Maximum	0.9241	0.9692	1.7238	6.2889	0.7868	0.0308	2.4569	0.6845
Std Dev	0.1428	0.3122	0.3836	0.4414	0.0737	0.0208	0.3344	0.0916

Table   2

	1	2
CONST	0.0048	0.0036
	(0.0704)	(0.0801)
DEF x NSC	0.2466***	0.2338***
	(0.0030)	(0.0036)
ΔSIZE	-	0.0108***
	-	(0.0021)
ΔTANG	-	0.2188***
	-	(0.0386)
ΔR&D	-	0.0021
	-	(0.0909)
ΔPROF	-	-0.0201
	-	(0.0300)
ΔCAPEX	-	0.0028
	-	(0.0405)
Adjusted R^2	0.4656	0.5188
Wald (p-values)	0.0000	0.0000
Firms	818	818
Observations	7245	7245
Period	2007 - 2016	2007 - 2016