

Linkages between Capital Structure, Property Overhang and Financial Sustainability: Evidence from Property Sector in Malaysia

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Abstract

Purpose: In ancillary of sustainability concept that has become increasingly essential in globalized economy, current study beholds it through the lens of financial sustainability and thus, establishing its purpose in justifying the linkages between capital structure and property overhang with the financial sustainability of property firms in Malaysia.

Design/methodology/approach: Current study utilized unbalanced panel data of 65 property firms listed on Bursa Malaysia composed from 5-year period (2015–2019). The return on asset (ROA) was used as an indicator of financial sustainability. The firm-specific independent variables for capital structure indicators were represented by debt to asset ratio, equity to asset ratio, and debt to equity ratio. Whereas, the property overhang was represented by the volume of surplus units of unsold properties and the control variables were liquidity and firm size. Next, the model selected was tested for multicollinearity and heteroscedasticity. Lastly, the robust static panel data were used to estimate the coefficient for heteroscedasticity and endogeneity.

Findings: The results of the research demonstrate the importance of the correct choice of capital structure mix with a reduction in the overhang property in improving the financial sustainability of property firms. Thus, supporting the Pecking Order Theory of capital structure indicating that a firm with higher profitability level will lead to lower debt level.

Research limitations/implications: Nonetheless, an implication was observed. The current study is only focused on the property sector without consideration of the construction sector, thus forming its limitation in formulating the model specification.

Practical implications: The proposed financing method might be a valuable practical tool for managers and other business stakeholders by supporting the financial decision-making process.

Originality/value: Given the increasing significance of sustainability issues, the present study contributes to the literature on the Malaysian listed property firms through the viewpoints of financial sustainability. In assessing the financial sustainability, it is associated with the capital structure and overhang property of which is less explored by previous researchers.

Keywords: Financial Sustainability, Capital Structure, Property Overhang, Return on Assets (ROA)

Introduction

The notion of sustainability has gone full-fledged in recent years with the widespread of awareness in numerous disciplines. It's been defined by Bowman (2011) as the capacity of an organization to maintain its status over a long period. Yet, looking into it through the lens of financial sustainability might be a central element of the business in terms of its long-term success. In a globalized economy, it's become a challenge for all types of organizations in establishing the financial sustainability (Claessens & Van Horen, 2015). As mentioned by Acemoglu, Ozdaglar & Tahbaz-Salehi (2015), its importance was driven by its ability in impacting the financial system. Financial sustainability is defined as the firm's stability in generating the positive returns to cover the business operational cost and the firm growth (Al-Dirawi, & Dahash, 2018). Additionally, Bowman (2011) defined financial sustainability as the ability to maintain financial capacity over time. Meanwhile, Zabolotnyy & Wasilewski (2019) described firm's financial sustainability as firms' ability in optimizing the firm's investment and sources of financing to generate value for owners and long terms operational capacity. These definitions have inspired academics and industry players to justify firms and industry needs in maintaining firm's financial sustainability. As indicated by Ocampo(2018), a firms that is financially sustainable has the ability to surpass the financial turmoil thus marking its rationalisation for its ability as the key to avoid and manage such situations. Whereas, Gofman (2017) specified that financially sustainable firm was the least affected from financial turmoil. Additionally, the financial stability that relies upon a rigorous financial system helps to control any state of turmoil (Al-Dirawi & Dahash, 2018).

Motivated by the importance of sustaining firm's financial strength; present study attempted to identify the factors contributing to firm's financial sustainability from the perspective of property sector in Malaysia. The contribution of property industry concerning nation building and it being one of the pillars towards country's economic growth and the engine of social stability (Said, 2017) are worth to be addressed. Property sectors are also sensitive to economic conditions, having price sensitivity of which it rises during prosperous times and reduces during turbulent times. Simultaneously, property market also poses risks to the economy. The weaker property market will dampen the economic growth with higher unemployment. For example, in 2016, 10% of gross domestic product (GDP) was contributed by property-related sectors and employed 1.4 million Malaysians (Bank Negara Malaysia,(BNM) 2017). It's also detrimental for banking and financial institutions as the function of property as a collateral reduces in value due to the falling property prices. The mentioned complication also leads to multiple sectors suffering from prolonged weakness (BNM, 2017). The risks identified evidenced the rationale in maintaining a financially sustained property firm.

Notably, the property industry in Malaysia currently possesses an alarming threat due to its sensitivity to economic turmoil. BNM (2019) reported a dramatic turn in economic development in 2020, having registered a negative growth. Despite initially projected as a year of modest recovery, the unprecedented Coronavirus disease (COVID-19) pandemic impaired the expected stabilisation in the global economy (BNM, 2019). It was also speculated that the domestic economy will be impacted by the necessary global and domestic actions taken to manage the outbreak (BNM, 2019). Additionally, it was projected that Malaysia's GDP growth to be between -2.0 to 0.5% in 2020 (2019: 4.3%) in aggregation of highly challenging global economic outlook (BNM, 2019). Thus, maintaining the survival of property firms through a sustainable financial performance might able to mitigate the two way effects of this sector towards Malaysia economic growth. In which very vulnerable to economic downturn yet also possess higher risk to the economics trajectory. Findings from this study may contribute to the limited literature on financial sustainability from Malaysia perspective.

The remaining of this paper outlines the empirical study conducted on the issues of financial sustainability to address the problem statement. Then, the clarification of data and research methodology was discussed. Subsequently, the core findings of the research are presented and lastly, the discussion of the potential for future research is conferred

Literature Review

Several terms were used as substitutions for financial sustainability, such as financial health, long-term financial performance and financial longevity. Aside from that, financial sustainability also poses an inverse relationship with financial risk and distress (Imhanzenobe, 2020). Furthermore, the firm's profitability, solvency, and efficiency can also be linked to the notion of financial sustainability (Zabolotnyy & Wasilewski, 2019). Therefore, the literature review for the current study was founded from the past literature encompassing relevant topics such as profitability and firm performance.

Capital Structure and Firm's Financial Sustainability

According to Zabolotnyy & Wasilewski (2019), the managerial approach to the financial sustainability of a company derives from the principle of value maximization for shareholders at an acceptable level of risk, using the best combination of investments and available sources of financing. Being aware of the vitality of having right mixture of financing, a news published on the Edge Market (Malaysia) has clearly proven the importance of the right choice of financing as the news reported on Empire Resorts, a gaming company which was considering voluntary bankruptcy in attempt of restructuring its company borrowings (Shankar, 2019). This shows that imbalance in the company financing which was also captured through the capital structure in a company can lead to inefficient productivity thus impacting firms' financial sustainability. Hitherto, capital structure was used in this present study as the firm-specific indicator contributing towards the financial sustainability of the property firms. However, pre-existing literature focusing mainly on the financial sustainability of property sectors is very limited. Thus, the literature on relationship between capital structure and financial sustainability was constructed mainly of capital structures literatures from the viewpoints of other sectors as well in order to provide further understanding on the matter.

The records of capital structure literature were pioneered by Modigliani and Miller (1958). Looking back at the history of capital structure, many researchers developed other theories aside from the core theory of Modigliani and Miller such as Jensen and Meckling (1976) who came up with an agency theory. The theory talks about how the principle-agent issue can be reduced by increasing debt level (Jensen and Meckling, 1976). Later, Myers (1984) developed the famous theory of trade off which insists on the existence of optimal capital structure; while the pecking order theory which indicates that agents or managers choose internal funds over external funding was proposed by Myers and Majluf (1984).

As debt to equity mix of the firm can have critical implications on the value of the firm, identifying the right level of debt and equity might provide significant impact towards financial sustainability of property firms that are highly capitalized. Basit & Irwan (2017) indicated that the research on the impact of capital structure on firm performance is important for managers and stakeholders of a company to find the right mixture of debt and equity to finance their companies. In addition, firms that are doing well is vital for the government by supporting it through taxes payment (Lazar, 2016). Nevertheless, firm performance can be evaluated through capital structure determinants such as financial ratios, stock return, firm size, financial leverage, tangibles, and company growth.

Charles & Veronica (2018) explored the impact of capital structure on the profitability of listed insurance companies in Ghana on the Ghana Stock Exchange for five-year duration which was

from 2012 to 2016. Their study evidenced a significant relationship between financial performance and insurance company's capital structure using regression analysis. The same research also found evidence that profitable insurance companies depend more on debt financing than equity to finance the company operational activities. The results were consistent with the static trade-off theory. Similar to study done by Gebremichael & Ababa (2016) on the commercial bank of Ethiopia for the period of 5 years (2009 – 2013), it was discovered that 94% of the total capital of the commercial bank of Ethiopia were made up of debt in duration of that study. Meanwhile, Ebrati, Emadi, Balasang, & Safari (2013) indicated a mixed results based on the regression analysis of 85 firms listed on the Tehran Stock Exchange from 2006 to 2011. Their study evidenced positive impact on capital structure with ROE, MBVR and Tobin's Q. Whereas, a negative relationship was discovered between capital structure with ROA and EPS. In short, all results proved that capital structure has either positive or negative relation to firm performance depending on the proxies selected.

In Malaysia, Chan & Abdul Azizi (2017) indicated that a property firm with high debt to equity ratio prior to the 2008 global financial crisis (GFC) led by a continuing poor performance during the GFC period and beyond. Abdul Hadi, Yusof & Yap (2015) affirmed that the Modigliani-Miller theory provides better clarification compared to the Trade-Off theory in explaining Malaysian property firms. Their study indicated that EPS has more pervasive effect as compared to leverage in influencing firm's value. Salim and Yadav (2012) analyzed the effects of capital structure towards firm performance of 237 listed Malaysian companies in several sectors such as construction, consumer product, industrial product, plantation, property, trading and service. The study used return on equity, return on asset, Tobin's Q and earning per share as dependent variables and long-term debt, short-term debt, total debt ratios and growth as independent variables. The results showed that the return on asset (ROA), return on Equity (ROE) and earning per share (EPS) have negative correlation with short term debt (STD), long term debt (LTD) and total debt (TD). However, there is a positive correlation between the growth and firm performance in all sectors. A study was done by San & Heng (2011) on capital structure and corporate performance of construction companies which were listed in Bursa Malaysia from 2005 to 2008, before and during the crisis. A sample of 49 construction companies was categorized into big, medium and small sizes according to the paid-up capital. Results prove that a relationship exists between capital structure and corporate performance in selected proxies among the three categories of company.

Property Overhang and Firm's Financial Sustainability

Apart from the issues of imbalances in capital structure, property firms are also facing hard times due to property overhang. According to Ferlito (2019), the contributors towards the underperformance of property sector that would lead to economic downturn is recognizable in the increasing number of unsold units, declining number of transactions and the progressive reduction of property prices. It was recorded that over the last few years, the Malaysian property market has been characterized by sluggish sales and a rising number of unsold homes (Asia Analytica, 2020). This is mainly true, given that there was an overhang of 50,008 residential units worth RM33.96 billion in the country as of the third quarter of 2019 based on data from the National Property Information Centre (NAPIC), from the Unsold Property Enquiry System Malaysia (UPESM). The volume includes both residential and commercial-titled housing namely terraced homes, detached houses, apartments, condominiums, serviced apartments and Small-office Home-offices (SoHos). Out of the total, 60% was contributed mainly by the non-landed sub-sector with serviced apartments (17,459 units) as well as apartments and condominiums (13,630 units). As of the first quarter of 2017, there were 22,175 overhang homes worth RM13.27 billion. As reported by Ng (2020), the volume of the overhang

indicated a massive increase of 126% in volume and 156% in value by the third quarter of 2019 within two-and-a-half years of which needs to be rectified. Looking at the third quarter results shown in 2019, it will take time for property overhang to be solved in the market to achieve supply-demand balance.

Hung (2020) in his articles indicated that a property overhang tends to occur when the housing production exceeds the rate of housing absorption. The situation is also amplified by country's economic performance as it involves the public's purchasing power. However, property overhang is mainly caused by oversupply of property units. According to NAPIC, overhang is defined as residential or commercial units which have received a Certificate of Completion and Compliance (CCC) but remained unsold for more than nine months after launch (Ng, 2020).

Furthermore, due to the issues of property overhang, they will ultimately change the accounting transaction of the firms and will cause an increase in their liabilities, hence, unfavorably affects their debt covenant ratio. Consequently, property overhang is considered a major concern and it has affected the whole local market. Therefore, the external factor that might contribute to the financial sustainability chosen for the current study was the number of unsold properties which was used interchangeably with the term property overhang. Nonetheless, the literature on property overhang with financial sustainability is beyond the authors' reach. Thus, the novelty of this study may contribute in filling the literature gap within the current area of research. All in all, the findings of significant relation between the property overhang with firm's financial sustainability could provide a meaningful insight.

Theoretical Framework and Hypothesis Development

The indicators of financial sustainability require the inclusion of several financial components that resemble the business performance. Several studies have paralleled financial sustainability with profitability by measuring it with long-term profitability ratios like return on assets such as findings in Imhanzenobe (2020,2019), Okoye, Erin, Ado,& Isibor (2017), Umobong (2015) and Hasan et al.(2014) to name a few. While Emmanuel (2015) in defining financial sustainability indicated that it can be evaluated through profitability, liquidity, solvency, efficiency, and effectiveness. Thus, the current study used an accounting ratio of Return on Asset (ROA) as representations of financial sustainability. Consequently, higher value of the variable indicates financially sustainable property firms. The ROA was used since it gives an all-encompassing view of profitability as it relates profit (in the form of earnings before interest and tax) to the total asset of the firm (Imhanzenobe, 2019). Aside from that, ROA also measures how efficiently a company can make a profit within a specific period (Foo, Jamal & Abdul Karim, 2015; Salim & Yadav, 2012).

$$\text{Return on Asset (ROA)} = \text{Net Income} / \text{Total Assets}, (1)$$

Next, the independent variables were selected from the capital structure components. The capital structure is a mixture of long term financing with respect to the choice between debt, equity and hybrid securities such as convertible debt and preferred shares which are used to finance the company's operation (Abdul Hadi et. al, 2015). The indicator for leverage is the Debt ratio (DTA). It indicates the ability of a company to settle off its liabilities such as borrowings with its current and non-current assets. It also indicates the amount of assets that the company is obligated to sell off to pay the liabilities. Therefore, a company with higher liability is considered risky. (Foo et al., 2015; Salim & Yadav, 2012)

$$\text{Debt to Asset Ratio (DTA)} = \text{Total Liabilities} / \text{Total Assets} (2)$$

The second indicator for capital structure is the debt to equity ratio (DTE) which indicates the weightage of company financing that comes from bank loans or creditors and from shareholders or investor financing. (Hadi et al., 2015). The ratio analyses the debt level of a company used to run the business and it also identifies the risk level associated with the way the capital structure is set up. Higher value indicates that the company is highly levered.

$$\text{Debt to Equity Ratio (DTE)} = \text{Total Liabilities} / \text{Total Equity (3)}$$

The next indicator is equity to asset ratio (ETA) which is the solvency ratio. The ratio indicates how much assets are owned by investors in a company. In simpler words, it shows the shareholders' fund to total assets of a company. It is a solvency ratio, which indicates the company owner's investments by comparing the total equity with the total asset. The higher the value, the less leveraged the property firms are.

$$\text{Equity to Asset Ratio (ETA)} = \text{Total Equity} / \text{Total Assets (4)}$$

Meanwhile, the property overhang (PO) indicator is based on the surplus units of unsold properties for the total of residential and commercial units. It is based on the number of properties unsold of all statuses including constructed, under construction and yet to be constructed as reported in the Valuation and Property Services Department of Malaysia and the data were obtained from the (Unsold Property Enquiry System Malaysia)

Additionally, the control variables used are Liquidity (LIQ) and Firm size (SIZE). The liquidity indicator was measured using the current ratio formula of current asset over current liability. It indicates the ability of property firms in paying its short term debts; with higher liquidity representing superior firms' ability in fully utilising its current assets to pay off their current debts on time and can minimize the risks posed (Sonia & Khafid, 2020). The firm size was measured by the log value of firm's total asset. Larger firms size indicates greater company assets with greater capital thus, setting a benchmark of a good firm's performance (Husna & Ibnu, 2019). The significant relations between ROA with liquidity and firm size were proven by Odusanya, Yinusa & Ilo (2018), Seissian, Gharios & Awad (2018), Isik, Unal & Unal (2017) and Doan (2020) in their studies.

In an attempt to scrutinize the effect of capital structure and property overhang with the financial sustainability of property sector in Malaysia, the paper formulated main principal research hypotheses as follow:

H1: There is an association between capital structures and overhang property with the firm's financial sustainability

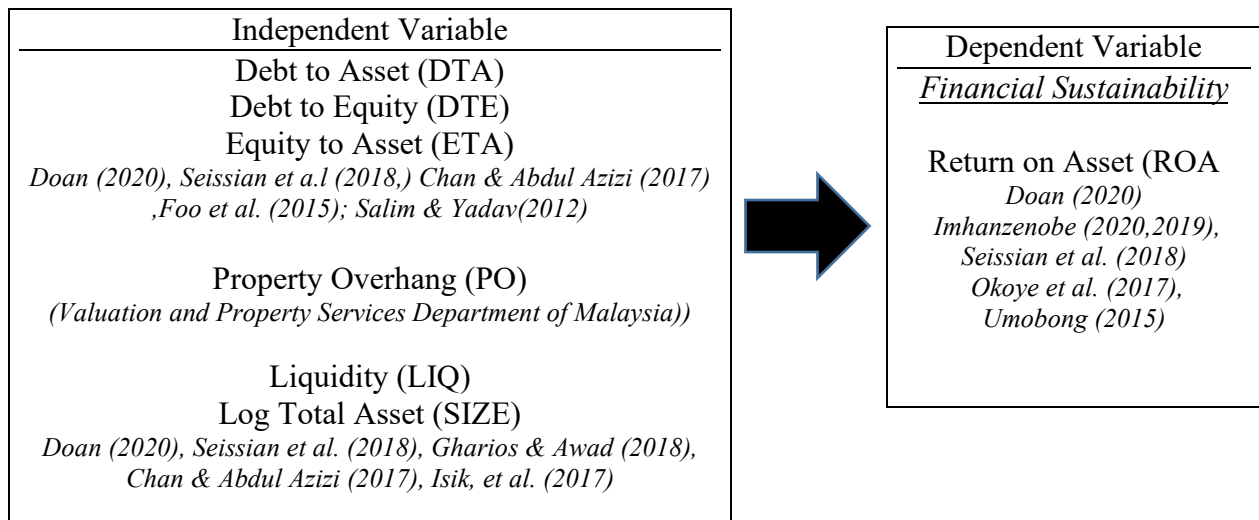


Figure 1: Theoretical Framework

Research Methodology

The current study proposed a theoretical framework on the factors influencing financial sustainability, using a panel data for a sample of 65 property firms listed on Bursa Malaysia. The time series observed was from 2015 till 2019, which is a total period of 5 years. A total of 325 observations were recorded based on unbalanced panel data. The property firms chosen were the firms with published data for the 5 years on either Bursa Malaysia or on their official page. Panel data had the ability in controlling heterogeneity which contributed to unbiased results. Additionally, the efficiency of panel data was captured due to its capacity in mitigating the multi-collinearity problems that arise in cross-sectional or time-series data (Griliches and Hausman, 1986). All data was extracted from the Thomson Routes Database. This study assumed that the data are dependent across varied years, making the pooled Ordinary Least Squares (OLS) not appropriate for the researchers' structure. Thus, the static panel data using Random Effect (RE) and Fixed Effect (FE) was also applied to test the model estimation. In examining the impact of capital structure and property overhang with the financial sustainability, the panel regression equation which was repeated observations on the same set of cross-section units was proposed as follows:

$$ROA_{it} = \alpha + \beta_1 DTA_{1it} + \beta_2 DTE_{2it} + \beta_3 ETA_{3it} + \beta_4 PO_{4it} + \beta_5 LIQ_{5it} + \beta_6 SIZE_{6it} + \mu_i + \lambda_t + \varepsilon_{it} \quad (5)$$

The subscripts i and t represent the firms (cross-section) and time (time series) respectively. While μ_i is the firms specific variable, λ_t is the time specific variable, and ε_{it} is the random disturbance which may exist due to the presence of some outliers in the data set.

Findings

Descriptive Statistics

Data of 65 property firms listed on Bursa Malaysia within the 2015-2019 period with the following variables and also the amount of overhang property are shown in Table 1. The Debt over Equity has the highest mean value of the capital structure indicators over the study period, indicating that property firms in Malaysia have higher preferences of debt over equity. This is also true based on the standard deviation value which also indicates higher variability for DTE. Hence, it suggests that property firms in Malaysia might have heavily relied on debt financing and apparently taken more risks. The descriptive table also reveals that the mean value of ROA

is only 2.97%, with the value ranging from -17.3% with a maximum value of 37.7% indicating an alarming threat towards financial sustainability. It is further supported by low variation in profitability with 0.0608 of standard deviation. As for total numbers of overhang property in Malaysia, it was indicated by the range from 17,073 units to the maximum of 55,688 units of unsold property with a combination of both commercial and residential properties within the 5-year period of study.

Table 1: Descriptive Statistics

VARIABLES	OBS	Mean	Std.Dev	Min	Max
DTA	325	0.391	0.159	0	0.875
DTE	325	0.812	0.675	0	7.014
ETA	325	0.591	0.174	0	0.973
LIQ	325	2.728	3.495	0	35.15
ROA	325	0.0297	0.0608	-0.173	0.377
PO	325	36,715	14,675	17,073	55,688
SIZE	322	6.881	1.258	4.307	11.12

Multicollinearity Issues among Variables

In rectifying the problems of multicollinearity among variables, Variance Inflation Factor (VIF) and the pairwise correlation (PWC) were run. The result indicates no presence of multicollinearity among variables since the VIF values for all the observations reported are less than 10 (García, García, López Martín & Salmerón, 2014). The VIF results of the current study are DTA (3.64), DTE (2.95), ETA (2.91), PO (1.10), CR (1.02) and SIZE (1.02) with the mean VIF of 2.11 as depicted in Table 2.

Table 2: Result of VIF and Pairwise correlation (PWC)

	ROA	DTA	DTE	ETA	PO	LIQ	SIZE	VIF
ROA	1							-
DTA	-0.2819	1						3.64
DTE	-0.2798	0.7292	1					2.95
ETA	0.2714	-0.7427	-0.7598	1				2.91
PO	-0.1335	-0.0453	0.0117	0.0024	1			1.1
LIQ	0.0372	-0.005	-0.0107	0.0278	-0.1041	1		1.02
SIZE	0.1355	0.252	0.1558	-0.241	0.0586	-0.1015	1	1.02
Mean VIF								2.11

To confirm the multicollinearity, the Pairwise correlation (PWC) analysis was performed and as indicated by Gujarati (2014), larger value than 0.80 in their coefficients regressors signified multicollinearity problems that are required for omission of the variable. The current results indicate no serious problem of multicollinearity as presented in Table 2. The highest correlation coefficient regressors value reported is for DTE (0.7292) and ETA (-0.7427) which was less than the threshold (<0.80). Overall, the analysis revealed that the multicollinearity is not detrimental to the results of multiple regression estimations since both VIF value and the pairwise correlations coefficients support the non-existent multicollinearity. Thus the model specification developed with the selected variables is valid for prediction.

Panel Data Analysis

Next, current study employed regression methods using panel data including Pooled Regression (POLS), Fixed Effects model (FEM) and Random Effects model (REM) as depicted in table 3.

In confirming the existence of specific effect or heterogeneity in the model prediction, the Breuch-Pagan Lagrange Multiplier (BP-LM) test (Breusch and Pagan, 1980) was used to distinguish between the Pooled OLS and the RE. The results in Table 3 illustrate that RE is the best fit model in explaining the relationship between the capital structure and others selected IV with the firm's financial sustainability. The BP-LM reported chi-bar-square value of 67.07 with significant probability at 99% confidence level ($P < 0.01$); thus rejected the null of $\sigma\mu^2 = 0$; that the slopes and intercepts are similar across the firm thus data cannot be pooled. Results indicate existence of firm random-specific effects on the data, hence the RE model provides a better estimation.

Next, the problems of endogeneity in the model estimation and to identify the final best-fit model prediction between the RE and FE; the Durbin–Wu–Hausman (DWH) specification test (Hausman, 1978) was performed. The DWH result as reported in table 3 indicate the chi-bar-square value of 6.64 with insignificant probability. The test fails to reject the null, as the p-value ($\text{Prob} > \chi^2$) is greater than 5%. Hence, the current study selected the RE model, implying that the company's effects, though present in the data set, are not correlated with the explanatory variables and can be taken very well at random. Therefore, the RE estimators will be consistent and efficient thus, the interpretation of results is based on RE model.

Afterward, the heteroskedasticity diagnostic test and serial correlations were performed and the results are reported in Table 3. The modified Wald Statistic for group wise heteroskedasticity in the residual of a fixed effects regression model (Greene, 2000) indicated a chi-bar-squared of 9.6E+32 with the probability significant to 99% confidence level. Hence, signify the problem of heteroskedasticity, and confirming that the non-constant of the variances for the selected model. Also, the Woolridge test for autocorrelation in panel data was performed and result indicated χ^2 value which is significant at 1% with F-value of 29.388 thus implies presence of variance inequality. The panel model thus indicated serial correlation problems. To rectify the problems of heteroskedasticity and serial correlation problems, the OLS with heteroskedasticity and serial correlation robust standard error (Hoechle, 2007) were conducted and results are depicted in table 3.

Based on the results of robust random effect, DTA, ETA, PO and SIZE was significant and portrayed the existence of a relationship with the firm's financial sustainability designated by ROA. Whereas, ETA, and LIQ signify insignificant results. The results for capital structure indicators suggest a significant negative coefficient (-0.0671) at 10% level between the DTA of the property firms in relations with the ROA. Reduction in the use of debt will increase the ROA to surge the firm's financial sustainability. Thus, coherently justify the positive coefficient (+0.0632) for ETA at 1% significant level with ROA. The results suggest that the property firm that are heavily burdened with debt consequently required to service their high debt cost in which will lower the pre-tax profit margin. Thus, will impair the return as well. This was corroborated by the previous study of Doan (2020), Chan & Abdul Azizi (2017), Ebrati, et al. (2013), and Salim and Yadav (2012) which also signify negative impact with debt capacity. Yet it contradicts with the study by Seissian et al. (2018) and Charles & Veronica (2018) and Abdul Hadi, et al. (2015) that denote positive relations with ROA.

Table 3: Results of Pooled OLS, Random Effect GLS and Fixed Effect and Robust OLS with Hetero & Serial Correlation

Variables	Model (1)	Model (2)	Model (3)	Model (4)
	Pooled OLS	Random Effect	Fixed Effect	RE with Hetero & Serial Correlation
DTA	-0.0869**	-0.0671	-0.0476	-0.0671*
DTE	-0.00798	-0.00585	-0.00621	-0.00585
ETA	0.029	0.0632*	0.128**	0.0632***
LIQ	0.000686	0.0000356	-0.00115	0.0000356
PO	-0.0205***	-0.0216***	-0.0268***	-0.0216***
SIZE	0.0116***	0.0123***	0.0297**	0.0123***
Constant	0.185**	0.165**	0.0552	0.165*
Observations	322	322	322	322
R-squared	0.165	0.1041	0.116	0.1041
Model Fit(F-stat)	10.41***		5.42***	
BP- LM Test		67.07***		
Hausman Test			6.64	
Multicollinearity (mean VIF)	2.11	2.11	2.11	2.11
Heteroskedasticity (F-Stat)			9.6E+32***	
Serial Correlation (F-Stat)			29.388***	

¹ Figure in the parentheses is t-statistics, except for Bruech-pagan LM test, hausman test, heteroskedasticity and serial correlation test, which are p-values.

² Asterisks *, ** and *** denote statistical significance level respectively at 10%, 5% and 1%.

For the PO, result indicates having a significant impact on the ROA signified by the negative coefficient (-0.0216) at 1% significant level. Results thus revealed the importance of reducing the number of property overhang in the market since it will hinder the financial sustainability of property firms. Next, SIZE posits a significant positive relation with ROA with the positive coefficient (+4.06) at 1% significant level similar to Odusanya et al. (2018) and Isik et al. (2017) yet is in contradiction with Doan (2020) and Seissian, et al. (2018). Results suggest that bigger firms are more financially sustainable compared to smaller firms. This is because firms with bigger size have cost advantage in producing the inputs with lower cost compared to smaller firms, thus, will resemble in increasing profit and consequently boosting the financial sustainability.

Discussion and Conclusion

The current study aimed to investigate the relationship between firm's financial sustainability with the choices of capital structure and overhang property among 65 listed property firms in Bursa Malaysia. The robust random effect results from Table 3 signified the significant relationships between the firm financial sustainability represented by ROA with the capital structure indicators of DTA and ETA together with overhang property and firm size while evidencing insignificant relations with DTE and Liquidity. Consequently, the test results have supported Hypothesis 1, affirming its efficiency for predictions. The hypothesis has also been proven as test results had implied that less dependency towards debt financing together with

reduction in the numbers of overhang property will secure the financial sustainability of property firms from Malaysia's perspective.

The results for the choices of capital structure are consistent with the findings of Doan (2020), Chan & Abdul Azizi (2017) and Ebrati et al, (2013). Results evidenced that equity financing is more preferable than debt financing in explaining the improvement of firm's financial sustainability of property firms in Malaysia. Current study supporting the Pecking Order Theory of capital structure indicating that a firm with higher profitability level will be having lower debt level, since the high profitability companies will eventually be having ample internal fund to finance their operations (Myers, 1984). This was further supported by previous study of Rajan and Zingales (1995) specifying that the variety of financial ailments will occur due to excessive use of debt or equity in the capital structure mix that might lead to the possibility of default risk and bankruptcy. However, the present study is in contradiction with the tradeoff theory by Modigliani and Miller (1963) which stated that increase in debt will eventually increase the profitability due to the tax benefits that reduce the cost of having the debt.

Additionally, the property overhangs also signify negative impacts towards the financial sustainability of property firms. The over supplying properties issues in Malaysia have led to numbers of building being complete yet having slow sales during the economic downturn which is an alarming threat towards financial sustainability of property firms. Supported by Adilena (2019), the overhang of completed units is significant in defining the local property market performance. In addition, stringent mortgage guidelines which limit the prospect buyer's eligibility have put the slow economy and property market performance under pressure (Adilena, 2019). Lim & Mohd Suki (2020) suggested that the traditional property developer firms should strengthen the marketing strategies to improve the company market share and selling off the completed balance of unsold stock units. The Government involvement in resolving the concerns over property supply and demand mismatch in Malaysia is plausible which could benefit the developers and investors and further sustain the financial performance of the property industry.

Finally, current study proposed that larger firms size are able to increase the firm's financial sustainability which is supported by the previous study done by Odusanya et al. (2018) and Isik et al. (2017) . Rationally, firms with larger asset composition have the ability to fully utilize their resources in generating maximum profits. Moreover, larger firms are more financially sustained due to its diversification ability with larger market power, hence, able to employ better technology and efficient utilization of firm's asset which eventually contribute to firm's profitability (Isik et al. 2017) .

Nevertheless, a limitation was observed in this current study as it did not analyze the effects of capital structure from the viewpoints construction sectors to sum up the property performance. However, this study could provide a significant contribution towards the literature on financial sustainability of property firms from Malaysia's perspective. Despite the presence of plentiful studies on capital structure and firm's performance, it still remains as a wide research area that requires further investigations and researches especially through the lenses of financial sustainability. It is urged that the study is further improved by having more proxies to measure the financial sustainability and extending to other sectors as well.

Acknowledgments

The authors thank University Tenaga National (UNITEN) for the funding from Pocket Grant 2020

References

- Abdul Hadi A.R , Yusoff,H. & Yap,E,T,H, (2015), Capital Structure of Property Companies– Evidence from Bursa Malaysia. *International Journal of Economics and Finance* (ISSN 1916-9728), 7(8)
- Acemoglu, D, Ozdaglar,A & Tahbaz-Salehi.A(2015). "Systemic Risk and Stability in Financial Networks." *American Economic Review*, 105 (2): pp564-608.
- Adilena A.(2019), The Property Market Sentiment, Impact Of Overhang Of Local HousingRaine & Horne International, retrieved from <https://raineandhorne.com.my/pdf/Articles/DN001.pdf>
- Al-Dirawi,A.N M & Dahash,Q.M, (2018), The Role of Financial Sustainability to Reduce the Financial Crisis, Through the Interactive Role of the Strategic Scenario: An Analytical Study in the Sector of Commercial Banks Listed in the Iraq Stock Exchange, *Research Article*, 22(1S)
- Asia Analytica (2020), *The Edge Malaysia* July 04, 2020
- Bank Negara Malaysia, (2017), Economic and Financial Developments in the Malaysian Economy in the Third Quarter of 2017, *Quarterly Bulletin*, retrieved from, https://www.bnm.gov.my/files/publication/qb/2017/Q3/3Q2017_fullbook_en.pdf
- Bank Negara Malaysia, (2019), Economic and Monetary Review, retrieved from https://www.bnm.gov.my/ar2019/files/emr2019_en_full.pdf
- Basit A & Irwan,N.F (2017), The Impact of Capital Structure on Firms Performance: Evidence From Malaysian Industrial Sector –A Case Based Approach. *International Journal of Accounting & Business Management* (ISSN: 2289-4519)
- Bowman, W. (2011). Financial capacity and sustainability of ordinary nonprofits. *Nonprofit Management and Leadership*, 22(1), 37–51. doi:10.1002/nml.v22.1
- Breusch, T.S.& Pagan, A.R., (1980). The lagrange multiplier test and its applications to model specifications in econometrics, *Review of Economic Studies*. 47(1),pp 239. 15
- Chan T.K & Abdul-Aziz, A.R(2017) "Financial performance and operating strategies of Malaysian property development companies during the global financial crisis", *Journal of Financial Management of Property and Construction*, Vol. 22 Issue: 2, pp.174-191, <https://doi.org/10.1108/JFMPC-02-2016-0009>
- Charles K.A. & Veronica, M(2018) The Effect of Capital Structure on Profitability of Insurance Companies in Ghana: A Case Study of Sic And Enterprise Insurance. Published and presented in Department of Mathematics.
- Claessens, S., Van Horen, N.(2015) The Impact of the Global Financial Crisis on Banking Globalization. *IMF Econ Rev* 63, pp868–918 (2015). <https://doi.org/10.1057/imfer.2015.38>
- Doan.T.T.T(2020), Profitability of real estate firms: Evidence using GMM estimation, *Management Science Letters*,10 ,327-322
- Ebrati M.R , Emadi F, Balasang,R.S Safari,G (2013).The Impact of Capital Structure on Firm Performance, *Australian Journal of Basic and Applied Sciences*, 7(4),pp 1-8
- Emmanuel, J.F. (2015). *Financial Sustainability for Non-Profit Organizations*. New York: Springer publishing company
- Ferlito, C (2019).The Property Market, Affordability and the Malaysian National Housing Policy, *Policy Ideas* NO. 61, Institute for Democracy and Economic Affairs (IDEAS),pp1-8
- Foo, V., Jamal, A. A. A. & Abdul Karim,M.R (2015). Capital Structure and Corporate Performance: Panel Evidence from Oil and Gas Companies in Malaysia. *International Journal of Business Management and Economic Research*, pp. 371- 379.

- García, C.B. García, J. López Martín M.M. & R Salmerón R (2015), Collinearity: revisiting the variance inflation factor in ridge regression, *Journal of Applied Statistics*, 42(3) pp 648-661, DOI: 10.1080/02664763.2014.980789
- Gebremichael G.G & Ababa A, (2016), The Impact of Capital Structure on Profitability of Commercial Bank of Ethiopia. *Journal of Poverty, Investment and Development (ISSN 2422-846X), Journal Vol.*
- Gofman, M. (2017). Efficiency and stability of a financial architecture with too-interconnected-to-fail institutions. *Journal of Financial Economics*, 124(1), 113-146.
- Griliches, Z. & Hausman J.A (1986), Errors in variables in panel data, *Journal of Econometrics* 31(1), pp 93-118
- Hausman, J, (1978), Specification Tests in Econometrics, *Econometrica*, 46(6). pp. 1251-71
- Hoechle, D (2007), Robust standard errors for panel regressions with cross-sectional dependence, *Stata Journal*, 7(3), pp. 281-312
- Hung F.C (2020). What caused Malaysia's residential property overhang and when will it get better?'. *Iproperty*
- Husna A & Ibnu.S (2019), Effects of Return on Asset, Debt to Asset Ratio, Current Ratio, Firm Size, and Dividend Payout Ratio on Firm Value, *International Journal of Economics and Financial Issues; Mersin* 9(5): 50-54.
- Imhanzenobe, J. O. (2019). Operational efficiency and financial sustainability of listed manufacturing companies in Nigeria. *Journal of Accounting and Taxation*, 11(1): 17-31. <https://doi.org/10.5897/JAT2018.0329>
- Imhanzenobe, J. O. (2020). Managers' financial practices and financial sustainability of Nigerian manufacturing companies: Which ratios matter most?. *Cogent Economics and Finance*, 8(1): 1724241. <https://doi.org/10.1080/23322039.2020.1724241>
- Isik, O., Unal E.A, Unal Y (2017) The Effect Of Firm Size On Profitability: Evidence From Turkish Manufacturing Sector, *Journal of Business, Economics & Finance*, 6(4), pp 301-308.
- Jensen, M.C. and Meckling, W.H. (1976) Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3, 305-360.
- Lazar, S, (2016). "Determinants Of Firm Performance: Evidence From Romanian Listed Companies," *Review of Economic and Business Studies*, Alexandru Ioan Cuza University, Faculty of Economics and Business Administration, issue 17, pages 53-69.
- Lim W.S & Mohd Suki, A (2020), Strengthening the Marketing Strategies for the Traditional Property Developer in Malaysia, *Global Business Management Review*, 12(1), pp 89-110
- Myers, S.C. (1984) The Capital Structure Puzzle. *Journal of Finance*, 39, 575-592. <http://dx.doi.org/10.2307/2327916>
- Myers, S.C. and Majluf, N.S. (1984) Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have. *Journal of Financial Economics*, 13, 187-221. [https://doi.org/10.1016/0304-405X\(84\)90023-0](https://doi.org/10.1016/0304-405X(84)90023-0)
- Modigliani, F. and Miller, M.H. (1958) The Cost of Capital, Corporation Finance and the Theory of Investment. *The American Economic Review*, 48, 261-297
- Ng, S. (2020). What shall we do with the property overhang?. *EdgeProp*
- Ocampo, J.A. (2018). International asymmetries and the design of the International financial system. In *Critical Issues in International Financial Reform* (pp. 45-74). Routledge.
- Okoye, L.U., Erin, O.A., Ado, A., & Isibor, A.A. (2017). Corporate Governance and Financial Sustainability of Microfinance Institutions in Nigeria. In 29th IBIMA conference Sustainable Economic Growth, Education Excellence, and Innovation Management through Vision 2020, 3-4 May 2017, Vienna, Austria.

- Odusanya I.A , Yinusa O.G & Ilo,B.M (2018). "Determinants of Firm Profitability in Nigeria: Evidence from Dynamic Panel Models," SPOUDAI Journal of Economics and Business, SPOUDAI Journal of Economics and Business, University of Piraeus, vol. 68(1), pages 43-58, January-M.
- Rajan R.R & Zingales, L (1995) What Do We Know about Capital Structure? Some Evidence from International Data, *The Journal of Finance*, 50(5)pp1421-1460
- Said,R (2017), Real Estate Market Conditions of Malaysia, *The Property Times*, retrived from <https://thepropertytimes.my/real-estate-market-conditions-of-malaysia/>
- Salim, M. & Yadav, R., 2012. Capital Structure and Firm Performance: Evidence from Malaysian Listed Companies. *International Congress on Interdisciplinary Business and Social Science*, p. 156 – 166.
- San, O.T & Heng,T.B (2011), Capital Structure and Corporate Performance of Malaysian Construction Sector. *International Journal of Humanities and Social Science*, Vol. 1 No. 2.
- Seissian, L. A., Gharios, R. T., & Awad, A. B. (2018). Structural and market-related factors impacting profitability: A cross sectional study of listed companies. *Arab Economic and Business Journal*, 13, 125–133.
- Shankar A.C (2019), GenM, Genting slip as Empire Resorts considers voluntary bankruptcy. *The Edge Markets*, retrieved from <https://www.theedgemarkets.com/article/genting-genm-slip-empire-resorts-considers-filing-bankruptcy>
- Sonia D & Khafid M. (2020), The Effect of Liquidity, Leverage, and Audit Committee on Sustainability Report Disclosure with Profitability as a Mediating Variable, *Accounting Analysis Journal* 9(2),pp 95-96
- Umobong, A. (2015). Assessing the impact of Liquidity and Profitability on Growth of Profits in Pharmaceutical Firms in Nigeria. *European Journal of Accounting, Auditing, and Finance Research*, 3(10):97-114
- Zabolotnyy, S. & Wasilewski,M (2019) The Concept of Financial Sustainability Measurement: A Case of Food Companies from Northern Europe, *Sustainability* 2019, 11(18), 5139; <https://doi.org/10.3390/su11185139>