DO MARKET TIMING INCENTIVES AFFECT THE DEBT-EQUITY CHOICE OF MALAYSIAN SHARIAH-COMPLIANT IPOS?

Khemaies Bougatef[1], Oumayma Kassem[1]

[1] Higher Institute of Computer Science and Management of Kairouan, University of Kairouan, Tunisia

Abstract

Introduction: Empirical and theoretical literature points out that market timing attempts could shape financing decisions and persistently affect capital structure. However, prior studies on market timing did not distinguish between Shariah-compliant and non-compliant firms although Shariah compliance considerations may affect market timing incentives.

Purpose: This paper aims to fill this gap in the literature by investigating whether market timing theory predictions are relevant in the case of Shariah-compliant firms.

Methodology: This paper aims to fill this gap in the literature by investigating whether market timing theory predictions are relevant in the case of Shariah-compliant firms. We use a sample of 40 Malaysian Shariah-compliant companies that went public during the period from 1 January 2015 to 31 December 2018.

Findings: The findings provide useful implications for investors and portfolio managers interested in investing in Shariah-compliant IPOs. They should identify market timers to avoid low subsequent returns of equity issuers.

Paper Type: Research Article

Keywords: Capital structure; market timing; *Shariah* compliance; Malaysia; IPO; panel data.

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INTRODUCTION

The debt-equity choice remains one of the main challenging topics for researchers in corporate finance given that theoretical and empirical works have not reached a consensus on its explanatory factor. Modigliani and Miller (1958) defend the neutrality thesis and argue that the firm's value is independent of its financial structure. The trade-off theory relaxes the assumptions of Modigliani and Miller (1958) by introducing market imperfections such as bankruptcy costs, taxes, and agency costs but it maintains the hypothesis of market efficiency. This theory admits the existence of an optimal level of leverage resulting from a trade-off between the advantages of debt such as interest tax shield and the disadvantages of debt such as financial distress and agency costs. This optimal level is expected to minimize the overall cost of capital and maximize the firm's value. The deviation from this target debt ratio pushes firms to follow an adjustment process. Indeed, the gap between the actual and the target debt level determines the choice of amount and type of securities to be issued.

However, the survey carried out by Graham and Harvey (2001) corroborates weakly the assumption of the existence of an optimal capital structure. They argue that only 10% of firms set a target debt ratio due to the importance of transaction costs impeding firms of the adjustment of their leverage ratios toward their targets (Fisher, Heinkel and Zechner, 1989). Recently, Khoa and Thai (2021) examine the relevance of the trade-off theory's predictions in the context of listed real estate firms in Vietnam. Using the generalized method of moments (GMM), empirical evidence justified that these firms readjust their debt ratios to achieve a target capital structure. At the end of the paragraph, the author/s should end with a comment on the significance concerning the identification of the issue and objective of the research.

The pecking order theory introduced by Myers and Majluf (1984) contradicts the predictions of the trade-off theory by rejecting the hypothesis of the existence of an optimal capital structure. This theory is based on two fundamental assumptions:

- Managers are better informed than investors about the quality of their firms. The costs of this information asymmetry between managers and investors are more important than the benefits of debt mentioned by the trade-off theory. Given the negative signal that equity issuance conveys to investors, raising capital becomes more expensive than debt issues.
- Managers act on behalf of current shareholders. Myers (1984) shows that the company passes up some valuable projects if their acceptance requires the firm to issue new shares at prices that do not reflect the true value of future investment opportunities. For this reason, the company should maintain liquidity and debt capacity unemployed.

The pecking order theory emphasizes managers should adopt a financial policy that aims to minimize the costs associated with information asymmetry. Thus, the company gives priority to self-financing, and then relies on debt borrowing, and as a last resort, the issuance of new shares. The predictions of the pecking order theory have been validated by several empirical studies that confirmed the existence of a hierarchical order in the choice of funding sources (Jarallah et al. 2019; Rao et al. 2019; Zhang and Zhu, 2021). In contrast, findings in other studies did not corroborate with the hypothesis of the existence of such financing hierarchy (Smith and Watts, 1992; Barclay and Smith, 1995a; Fama and French, 2004).

The most recent theory of capital structure is the market timing theory, described by Baker and Wurgler (2002). It predicts that the capital structure of a company evolves as a cumulative outcome of its past ability to issue overpriced equity shares. The market timing theory posits that managers issue securities depending on their relative costs, i.e., they may prefer external equity when the cost of equity is low and prefer debt otherwise. In addition, these market timing attempts exhibit long lasting effects on capital structure. There is therefore no optimal capital structure but a debt-equity ratio that results from past attempts to time the market. Indeed, equity market timing could have persistent effects on the leverage level if the costs of deviation from an optimal capital structure are lower compared to those resulting from adjustment process. Therefore, managers will not rebalance away market timing effects toward target leverage. If there is no optimal capital structure, managers need not reverse these decisions when the firm appears correctly valued and its stock returns appear to be normal, allowing market timing to have permanent effects on leverage (Baker and Wurgler, 2002). Numerous empirical studies have been conducted to test the relevance of the market timing theory's predictions in the case either of Seasoned Equity Offerings (SEO) or Initial Public Offerings (IPO) (Baker and Wurgler, 2002; Alti, 2006; Hovakimian, 2006; Gaud, Hoesli, and Bender, 2007; Boubaker and Nguyen, 2009; Huang and Ritter, 2009; Bougatef and Chichti, 2010; Gomes and al., 2019; Yang Zhao and al., 2020; Ratih, 2021; Huang et al., 2021; Vogt, 2023).

The review of the existing literature on capital structure shows the scarcity of studies focusing on Shariah-compliant firms despite their growing number and the fast development of Islamic banking and finance (Narayan and Phan, 2019). To the best of the authors' knowledge, there is no study investigated so far whether the predictions of the market timing theory are relevant to Shariah-compliant firms. In fact, Shariah compliance considerations may affect market timing incentives since Shariah-compliant firms may take advantage from timing windows to raise capital and keep their debt level below the threshold of 33%. To fill this gap in the literature, this paper aims to

investigate whether market timing considerations drive the financing choices of Shariah-compliant firms, using a sample of Malaysian initial public offerings (IPOs).

Following Alti (2006), we focus only on IPOs for two reasons. First, an IPO is arguably the most important financial event in the life of a company, and successful timing can potentially result in high gains for the issuer. Second, investors face greater uncertainty and information asymmetry when pricing IPOs compared to public companies, presenting more opportunities for mispricing and the source of timing incentives. Additionally, we chose to study firms operating in Malaysia for two reasons. First, the Shariah Advisory Council of the Securities Commission of Malaysia was the pioneer in introducing a Shariah screening methodology, including both quantitative and qualitative assessments, in 1995 (Bougatef and Nejah, 2022). Second, Malaysia is so far the only country that established Shariah-compliant financial market infrastructures to enable investors to undertake both trade and post-trade activities with respect to Islamic principles (IFSB, 2020). The investigation of the relevance of market timing predictions on capital structure of Malaysian Shariah-compliant IPOs is thereby very interesting given the attractiveness of these firms for Muslim investors who seek to earn Halal (lawful) income (Adam and Bakar, 2014). Indeed, at the end of 2021, there were 750 Shariah-compliant public limited companies listed in Bursa Malaysia with a total market capitalization reaching 1.2 trillion Malaysian ringgit (Statista Research Department, 2022).

Our empirical results provide overall support for the predictions of the market timing theory. Indeed, they indicate that managers of Malaysia Shariah-compliant IPOs tend to time the market by issuing equity when they perceived that their shares are overpriced, and market conditions are favorable. However, the impact of these equity market timing attempts on their capital structure vanishes within only one year.

The rest of the paper proceeds as follows. Section 2 presents the Shariah screening methodology. Section 3 reviews the literature on the determinants of capital structure of Shariah compliant companies. Section 4 describes the sample used in the empirical analysis and reports summary statistics on firm characteristics. Section 5 presents the empirical analysis of the relevance of market timing theory predictions on capital structure of Malaysia Shariah-compliant IPOs. Section 6 concludes.

METHODOLOGY

Shariah Screening Methodology

Shariah screening is relatively a new practice in Islamic finance. Indeed, until the 1970s, the Muslim community was generally reluctant to invest in stock markets because of the Shariah prohibition, imposed on capital market (Htay, Abedeen and Salman, 2013). Shariah equity

Screening is the practice of including or excluding publicly traded securities in investment portfolios or mutual funds based on religious and ethical precepts of Shariah (Zaher and Hassan, 2001). It seeks to identify investments that adhere to Shariah principles and, therefore, be considered eligible for Muslim investors to invest (Asutay and Marzban, 2012). Mahfooz and Ahmed (2014) distinguish two Shariah screening criteria: sector screening criteria also called qualitative or extra-financial screening, and financial screening criteria also called quantitative screening. These both criteria must be met by a business to be considered Shariah-compliant. The screening process is generally carried out using two main criteria: business activities and financial ratios. The screening based on business activity is carried out to identify the nature of the core activity of the company, while the financial screening is carried out to verify the compliance of the company with the financial standards issued.

Qualitative Screening

The extra-financial screening consists of selecting companies based on the nature of their sector of activity. Islamic investment must first be in accordance with the rules of Islamic law which prohibit certain activities. However, it should be mentioned that most types of trade are permitted in Islam, with prohibition being the notable exception (El-Gamal, 2000). Peillex and Ureche-Rangau (2012) posit that extra-financial screening involves excluding companies based on the nature of their industry. Islamic precepts expressly prohibit certain activities considered haram (illicit) such as pork, wine, conventional finance (non-Islamic banking and insurance), hospitality, pornography, gambling and so on. Conventional banking is excluded because of its natural tendency to operate with Riba (usury). The prohibition of conventional insurance is due to the al-gharar or uncertainty involved in contracts. Although not explicitly mentioned by Islamic law, other activities are excluded by the Shariah. These activities include tobacco, arms production, advertising and the media, with the exception of sports and news channels. From a religious and ethical point of view, Shariah prohibits investments in activity sectors whose products can harm human health and have no utility (tobacco), or consumption that is not conform to the precepts of Islamic law. Thus, this prohibition extends to cover all so-called "haram" activities (El Hajjaji and Moutahaddib, 2019).

Overall, the sector screening process seeks to examine whether the company is engaged in non-Shariah compliant activities. Thus, we can categorize qualitative screening in primary and secondary activities:

Primary activity

- Conventional banks, financial institutions and insurance companies
- Alcoholic beverages and products.
- Pork and pork-related products.

- Gambling, casinos, lotteries and related games.
- Entertainment production like movies and cinemas, etc.
- Weapons.
- Harmful environmental pollutants
- Tobacco and tobacco related products.
- Trading of gold and silver as cash on the deferred basis.

Secondary activity

Muslims are not unanimously allowed to buy the shares issued by companies that do not comply with the Shariah standards. However, if a company has exceptional income from non-Shariah compliant activities, including investing excess cash in interest-bearing instruments, some Shariah scholars consider investment in the shares of these companies to be Haram while others have issued a legal opinion (i.e., a fatwa) which allows such investment under two conditions:

- This income deemed illicit must not exceed a certain threshold of overall income which is generally ranges from 4% to 5%.
- The obligation to purify the dividends.

Quantitative Screening

Once the company meets the criteria of the qualitative screening, the quantitative screening should be completed (Nasiri and Drissi-Bakhkhat, 2021). The quantitative screening is based on financial ratios, and it seeks to check whether their values are below the 33% tolerance threshold. The main goal of the financial screening criteria is to exclude companies with unacceptable levels of conventional debt, liquidity, and interest-based investment or non-permissible income. According to Islamic principles, companies should not borrow based on a predetermined interest rate, nor invest in debt-bearing instruments, nor should they generate income through other activities prohibited by the Shariah (Mahfooz and Ahmed, 2014).

Debt level

The Leverage level is one of the key elements used to check whether the company is Shariah-compliant since a lower debt level may indicate a positive investment signal (Derigs and Marzban, 2008). The debt screening aims to ensure that the company is moderately leveraged (or ideally debt-free). Indeed, one of the pillars that differentiate Islamic finance is the prohibition of remunerated loans, since receiving and payment of interest are both banned by Islam (El Hajjaji and Moutahaddib, 2019). A company would be considered as Shariah–compliant if the portion of total debt (non-Shariah compliant) does not exceed 33% of the equity.

Liquidity Ratio

There is not a single liquidity threshold. According to the Shariah board of the Dow Jones index, the liquidity level of companies defined as the portion of liquid assets from total assets should be less than 33 percent. For the other indexes such as FTSE, S&P and HSBC, the investment in a company is considered permissible if its illiquid assets are larger than 50 percent of the total assets (or market capitalization value) (Derigs and Marzban, 2008). The reason behind liquidity screens is twofold. First, it allows excluding companies whose primary activity is to place cash in the form of bank deposits or financial instruments, and which generate financial income in the form of interest. Indeed, a high level of cash and interest-bearing securities may increase the likelihood that excess cash will be deposited in conventional banks. The second reason is to avoid investing in companies whose assets are mainly made up of cash, which would lead to investing directly in cash.

Interest Ratio and Impure Income

The investment is considered halal if the level of non-compliant income or interest income is less than the 5 percent threshold. However, this threshold has no real foundation in the holy Quran or Hadith and is mainly founded on pure Ijtihad of the Shariah scholars (Derigs and Marzban, 2008).

RESULTS AND DISCUSSION

Data and summary statistics

To form our main sample, we start with all Shariah-compliant firms that have gone public between 1 January 2015 and 31 December 2018. IPO dates are provided by Bursa Malaysia in the IPO Summary published from 2015.This document provides several information on newly listed companies such as the issue price, the number of shares, the issuing house, and the date of listing. We exclude financial firms due to their capital structure specificity (Thabet et al. 2017). Data was hand collected from annual reports published by firms on their web sites.

Table 1 shows that 25% of our sample belongs to the sector of industrial products and services. The plausible explanation of this evidence is that manufacturing firms are generally larger size and consequently they have easier access to capital markets. Indeed, 60% of the firms of our sample are listed on the Main market which is reserved to large companies.

Table 1. Sample Composition

By sector			By market			By year		
Sector	No. firms	%	Market	No. firms	%	Year	No. firms	%
Industrial products & services	10	25	Main Market	24	60	2015	8	20
Technology	8	20						
Construction	5	12.5				2016	9	22.5
Consumer products & services	5	12.5	ACE Market	11	27.5			
Health care	4	10						
Telecommunication	2	5				2017	9	22.5
Transportation & logistics	2	5						
Utilities	2	5	LEAP Market	5	12.5			
Property	1	2.5				2018	14	35
Energy	1	2.5						
Total	40	100	Total	40	100%	Total	40	100

Table 2 presents summary statistics of firm characteristics since the year prior to the IPO. As can be seen, the leverage level as measured by book value fall from 49.89% in Pre-IPO to 34.94% in IPO year which indicates that firms tend to reduce their indebtedness after going public. We also point out that book leverage is always higher than market leverage, suggesting that on average the market value of the firm is always higher than its book value.

This evidence is confirmed by the values of the market-to-book ratios that are all greater than 1. The net equity issues $\left(\frac{e}{A}\right)$ take their high value in the IPO year which indicates that IPO proceeds from the sale of primary shares exceed proceeds from subsequent sale of secondary shares. Meanwhile, this evidence is consistent with the market theory predictions that market timers sell substantially more equity when they go public (Alti, 2006). Table 2 also reveals that profitability deteriorates after IPO. This evidence is in line with previous findings that IPOs and seasoned equity issues underperform their benchmarks in the long run (Ritter (1991), Loughran and Ritter,1995) and this underperformance is more pronounced for hot-market IPOs (Ritter, 1991). Meanwhile, this evidence corroborates with the market timing hypothesis suggesting that firms tend to go public after an increase of their profitability to sell overvalued shares.

Table 2. Firm characteristics

	N	BLEV (%)	MLEV (%)	$\left(\frac{e}{A}\right)$%	TANG (%)	PROF (%)	SIZE	MTB
Pre-IPO	37	49.89	-	-	28.37	14.86	17.08	-
IPO	40	34.94	28.17	22.80	27.95	10.58	17.29	1.61
IPO+1	40	33.53	25.60	8.63	27.70	8.34	17.38	1.84
IPO+2	40	37.93	29.34	3.79	27.06	4.93	17.37	1.87
IPO+3	26	39.04	36.63	-1.76	26.96	4.23	16.72	1.46
IPO+4	17	38.75	34.97	2.31	28.44	1.56	16.94	1.46
IPO+5	8	60.14	35.27	21.99	31.26	-37.33	16.43	1.73

Notes: Book leverage (BLEV) is defined as book debt scaled by total assets. Market leverage (MLEV) is defined as book debt divided by market value of the firm. Market value is measured as total assets minus book equity plus market capitalization. Market capitalization is calculated by multiplying outstanding shares by their close prices. Net equity issuance $\left(\frac{e}{A}\right)$ equals the change in book equity minus the change in retained earnings reported to total assets. Asset tangibility (TANG) is defined as property, plant, and equipment reported to total assets. Profitability (PROF) is measured as earnings before interest and tax (EBIT) reported to total assets. Firm size (SIZE) is the natural logarithm of net sales. The market-to-book ratio (MTB) is defined as book debt plus market value of equity divided by total assets.

EMPIRICAL ANALYSIS

Impact of Market Timing and Equity Issuance

The pecking order theory states that equity may be used only as a last resort since underpricing due to information asymmetry between managers and investors deters firms to raise their capital. Conversely, the market timing theory argues that firms should take advantages form the presence of windows of opportunities by issuing equity when market conditions are favorable which allow them to reduce their overall cost of capital. Numerous prior studies provide evidence on the tendency of firms to time the equity market to raise capital at lower costs (Baker and Wurgler, 2002; Alti, 2006; Zhao, Lee and Yu, 2020). To investigate the impact of market timing considerations on equity issues, we specify the following model connecting equity issuance to two variables that reflect market conditions (MTB and Market) and two control variables (Profitability and Size):

$$\left(\frac{e}{A}\right)_{it} = \alpha_i + \beta_1 MTB_{it} + \beta_2 Market_t + \beta_3 PROF_{it} + \beta_4 SIZE_{it} + \varepsilon_{it} \qquad (1)$$

Following Baker and Wurgler (2002), net equity issuance (e/A) is defined as the change in book equity minus the change in retained earnings reported to total assets. Market-to-book ratio (MTB) is defined as book debt plus market value of equity divided by total assets. Book

debt is defined as total liabilities. The market-to-book (MTB) ratio is defined as book debt plus market value of equity divided by total assets. High values of this ratio are interpreted as an indicator of overvaluation and therefore firms tend to issue more shares to take advantage of this market timing window (Fama and French, 2002; Baker and Wurgler, 2002)

Market value is measured as total assets minus book equity plus market capitalization. Market capitalization is obtained by multiplying outstanding shares by their close prices. The variable *Market* reflects the performance of stock market and is defined as the return of the *FTSE* which represents the main index of the Bursa Malaysia. *Market* is measured as the natural logarithm of $\frac{FTSE_t}{FTSE_{t-1}}$. This variable is used to assess the impact of stock market performance on net equity issuance (Frank and Goyal, 2003; Alti, 2006; Hovakimian, 2006; Chen et al, 2013; Belkhir et al., 2016; Allini et al., 2018). According to the market timing theory, the improvement of stock market performance induces equity issuance.

The variable Profitability (PROF) is measured as earnings before interests and tax (EBIT) reported to total assets. The market timing predicts that companies should wait for the release of profitable results before issuing stocks, in order to capitalize on investors' increased optimism about the future of the company. Indeed, when profitable results are announced, investors tend to be more confident about the company's prospects, which can lead to an increase in the stock price. By issuing stocks at that time, companies can take advantage of this increased demand and obtain financing at a potentially lower cost (Bougatef et Chichti, 2010).

The firm size (SIZE) is defined as the natural logarithm of net sales. The market timing theory suggests that there is a negative relationship between stock issuance and the firm size since small companies are often characterized by higher information asymmetry. Therefore, small companies may choose to issue stocks only when their securities are overvalued (Lee, 2021).

The estimation results reported in table 2 are consistent with the market timing hypothesis. Indeed, they suggest that market conditions play a primordial role in equity issuance decisions. The market-to-book ratio turns out to have a significant and positive impact on equity issues suggesting that *Shariah*-compliant firms tend to raise their capital when their market values are relatively higher than their book values. This result is consistent with the hypothesis that the increase of the market-to-book ratio leads firms to perceive their shares as overpriced and consequently they attempt to take advantage from this mispricing (Baker and Wurgler, 2002; Chang et al., 2007).

The variable *Market* measuring the performance of the Malaysian stock market exhibits a strong positive effect on equity issuance. This result aligns with the market timing prediction that an improvement of

market conditions is followed by an increase of net equity issues (Alti, 2006).

The variable profitability (PROF) is found to be negatively and significantly related to equity issuance. This finding suggests that companies do not adopt a market timing strategy by issuing stocks after earning announcement to take advantage of investor optimism. Instead, their financing behaviors can be explained by the pecking order theory, which advocates prioritizing internal funding sources and using stock issuance as a last resort. There are two plausible explanations for this evidence. First, companies may be concerned about preserving their reputation with investors and maintaining their credibility by avoiding exploiting investor optimism. Second, companies may prefer to avoid transaction costs and fees associated with stock issuance.

The variable size turns out to have a negative and significant effect on equity issuance. This result indicates that small companies generally issue more shares than large companies. Indeed, small companies tend to grow and invest more quickly than large companies (Karabarbounis et al., 2014). The negative relationship between company size and equity issuance is rather explained by the market timing theory, which assumes that small companies seek to take advantage of periods of investor optimism to issue equity, unlike large companies that have sufficient internal resources to finance their projects.

Moreover, small companies often face higher levels of information asymmetry, meaning that investors have less information about their activities and prospects. This can lead to equity mispricing, which persuades small companies to raise capital when they perceive their shares are overvalued (Lee, 2021). In contrast, this result contradicts the pecking order theory, which assumes that large companies prefer equity financing because they are less sensitive to information asymmetry problems than small companies.

Table 3. Determinants of equity issues

Variables	MTB	MARKET	PROF	SIZE	INTERCEPT
Coefficients	0. 7453**	0.3742***	-0.6411***	-0.7426**	26.2673***
	(0.3281)	(0.1114)	(0.1292)	(0.3455)	(6.0813)
Adj. R-squared	0.4189***		Prob. Haussman		0.0826
Prob.(F-statistic)	0.0000		No. of observations		111
Prob.(Cross-section F)	0.0187		No. of firms		40
Prob.(Cross-section Chi-square)	0.0488				

Notes: The dependent variable is net equity issuance $\left(\frac{e}{A}\right)$ defined as the change in book equity minus the change in retained earnings reported to total assets. The independent variables are market-to-book ratio (MTB), profitability (Prof), size, and tangibility (Tang). The market-to-book ratio (MTB) is defined as book debt plus market value of equity divided by total assets. *Market* is measured as the natural logarithm of $\frac{FTSE_t}{FTSE_{t-1}}$. Profitability (PROF) is measured as earnings before interest and tax (EBIT) reported to total assets. Firm size (SIZE) is the natural logarithm of net sales. The probability of Fisher and Chi-square tests indicate the presence of individual effects. The test of Hausman indicates that the random effects model is appropriate for net equity issues. The Panel Estimated Generalized Least Squares (EGLS) method is used to deal with heteroskedasticity or auto-correlation problems. ** and *** indicate the significance level at 5 and 1%, respectively. Robust standard errors are in parentheses.

Overall, our findings strongly support the market timing theory predictions especially regarding the existence of "windows of opportunity" to issue equity. These equity market timing attempts could have a significant impact on a firm's capital structure.

Impact of Equity Market Timing on Capital Structure

Using an international sample of the G-7 countries, Rajan and Zingales (1995) provide evidence that leverage is positively related to size and tangibility and negatively associated with profitability and market-to-book ratio. In this paper, we maintain the first three determinants and we compute a weighted market-to- book ratio in order to assess the impact of equity timing attempts on capital structure. Indeed, the coincidence between higher values of the market-to-book ratios and the issuance of new equity is interpreted by some researchers as an attempt of market timing that affects negatively leverage (Baker and Wurgler, 2002; Huang and Ritter, 2009; Mahajan and Tartaroglu, 2008).

To compute the weighted market-to-book ratio, we use two methods. The first method is proposed by Baker and Wurgler (2002) and it consists of using total external finance as a weight. The external finance weighted average market-to-book is computed as follows:

$$MTB_{efwa.it} = \sum_{s=0}^{t} \frac{e_{is}+d_{is}}{\sum_{r=0}^{t} e_{ir}+d_{ir}} \times MTB_{is} \tag{2}$$

Where (e) represents net equity issues defined as the change in book equity minus the change in retained earnings reported to total assets. (d) represents net debt issues defined as the change in book debts reported to total assets. This variable takes high values for firms that raised external finance when the market-to-book ratio was high and vice-versa.

The second method described by Mahajan and Tartaroglu, (2008) consists of replacing external finance by net equity issues. The equity issue weighted average market-to-book is computed as follows:

$$MTB_{ewa.it} = \sum_{s=0}^{t} \frac{e_{is}}{\sum_{v=0}^{t} e_{ir}} \times MTB_{is} \qquad (3)$$

This variable takes high values for firms that have a history of issuing new equity when their market valuations are higher than their book values and past market values.

Besides the weighted market-to- book ratio, we introduce three other firm characteristics assumed by previous theories as determinants of capital structure namely profitability, tangibility and firm size. Thus, we propose the following model:

$$LEV_{it} = \alpha_i + \beta_1 MTB_{wa,it} + \beta_2 PROF_{it} + \beta_3 TANG_{it} + \beta_4 SIZE_{it} + \varepsilon_{it} \quad (4)$$

We use two measures of the dependent variable "leverage" (LEV). Indeed, we believe that it is important to employ both book and market measures of leverage in order to understand the managers' preferences in terms of leverage ratios and control potentially spurious correlations that may result from a discrepancy between measures included in the regressions and those used by managers. Book leverage (BLEV) is defined as total debts reported to total assts. Market leverage (MLEV) is defined as total assets minus market value divided by total assts.

Table 4 reports regression results. Both tests of Fisher and Chi-square suggest the significance of the cross-section effects. The test of Hausman indicates that we should choose the fixed effects model for market leverage and the random effects model for book leverage. The explanatory power of our regression varies between 22.08% and 96.75% as we focus on book leverage or market leverage.

The examination of the coefficients of variables shows that market timing proxies ($MTB_{efwa.it}$ and $MTB_{ewa.it}$) are more relevant if we focus on market leverage. The weighted market-to-book ratio is negatively correlated with leverage. This result suggests that *Shariah*-compliant firms tend to reduce their leverage when their market valuations are relatively higher than their book values. This result is consistent with the market timing theory predictions that firms tend to issue more new stocks when their market values are significantly higher than their book values by considering a high market-to-book ratio as an indicator of overvaluation. Companies should therefore take advantage of this mispricing opportunity to improve their capital structures by issuing more equity and use proceeds to repay their debts.

This inverse relation between weighted average market-to-book ratio and leverage has been previously documented by Baker and Wurgler (2002) for U.S firms, Hogfeldt and Oberonko (2004) for Sweden firms, Bie and Haan (2004) for Dutch firms and Mahajan and Tartaroglu for firms in all G-7 countries, except Japan. In the Islamic context, our results corroborate those of Hussain et al. (2020), who point out that

during periods of overvaluation, managers of Shariah-compliant firms in Malaysia that are above their target levels tend to take advantage of mispricing by issuing more equity. They then return to their target levels more quickly. The managers of Shariah compliant firms are likely to reduce reliance on debt during periods of overvaluation in order to create financial leeway, preserve financial flexibility and protect potential future growth. In addition, the restrictions related to Sharia compliance, such as keeping their debt level below the threshold of 33%, create an additional incentive for over-leveraged firms to rely on equity during periods of overvaluation.

The other explanatory factors of leverage present generally the expected signs. The variable "Tangibility" exhibits a positively significant impact on leverage. This result corroborates with the predictions of the trade-off theory suggesting the existence of a positive association between tangibility and leverage since real assets may be considered by creditors as a guarantee that attenuates the default risk. This result is also in line with the principles of Islamic finance suggesting that debt should be asset-backed which means that Shariah-compliant companies cannot have more debt than tangible assets. This also means that companies with more tangible assets will therefore have a higher level of indebtedness, and conversely, companies with lower tangible assets will therefore have a lower level of indebtedness (Habib, 2007). This result corroborates with findings in Haron and Ibrahim (2012) and Yildirim et al. (2018) for Shariah-compliant firms in Malaysia and Guizani and Ajmi (2021) for a sample of 66 Islamic-compliant firms listed on Saudi Stock Market.

Profitability plays a negative and significant role whatever the measure chosen of leverage. This result confirms the existence of a financing hierarchy prioritizing internal funds over external sources. Profitable Shariah-compliant companies tend to avoid debt if their financing needs can be met by the cash flow generated by their activities. The plausible explanation of this financing hierarchy is that profitable compliant firms are not allowed to invest their excess cash (internal funds) in interest-bearing investments (riba). Our finding contradicts the trade-off theory which postulates the existence of a positive relationship between leverage and profitability since the default risk is negligible for profitable firms. This negative relationship between leverage and profitability has been previously documented by Haron and Ibrahim (2012) and Yildirim et al. (2018) for Shariah-compliant firms in Malaysia and Guizani and Ajmi (2021) for Shariah-compliant firms in Saudi Arabia.

The variable SIZE turns out to have a positive and significant impact only on market leverage. This positive relationship is consistent with trade-off theory, which predicts that large firms and large companies rely more on leverage compared to small companies. Indeed, large firms are well diversified, have a better understanding of the market,

a better ability to adapt and a better reputation in the debt markets, which leads to a lower risk of bankruptcy. In this case, the access of large companies to the credit market will be easier, which increases their debt capacity. In contrast, the ownership structure of small firms is generally characterized by capital concentration. Managers of these firms who hold a large share of the capital tend to be reluctant to issue new debt to avoid its disciplinary role.

The negative relationship between the firm's size and its leverage confirms our prior result on the tendency of small firms to issue more equity than larger firms. Our result corroborates with previous findings in Rajan and Zingales (1995) for firms in major industrialized (G-7) countries, Antoniou et al. (2008) for firms in UK, US, Germany, France and Japan, Yildirim et al (2018) for a sample of Shariah-compliant and non-compliant firms from 7 countries and 7 industries, and Hussain et al. (2020) for Shariah-compliant and non-compliant firms in Malaysia.

The variable "Size" has no significant impact on book leverage. This result is consistent with previous findings in Frank and Goyal (2009), who point out that when focusing on book leverage, the firm size loses the reliable impact that they have when studying market-based leverage. lose the reliable impact that they have when studying market-based leverage.

Table 4. Determinants of leverage

	Book leverage (BLEV)		Market leverage (MLEV)	
	Random effects		**Fixed effects**	
MTBefwa	-1.8321*** (0.4655)	-	-0.15091*** (0.0549)	-
MTBewa	-	-2.4874*** (0.5174)	-	-0.3062** (0.1581)
PROF	-0.0844*** (0.0196)	-0.1412*** (0.0184)	-0.1125*** (0.0427)	-0.1492*** (0.0535)
TANG	0.0954*** (0.0283)	0.0981*** (0.0319)	0.0443*** (0.0171)	0.0688** (0.0334)
SIZE	0.2179 (0.6449)	0.4556 (0.6538)	1.6818* (0.9379)	1.6312* (0.9321)
Intercept	6.4722*** (1.6043)	4.3410*** (1.8185)	3.8194 (5.9143)	5.0353 (6.0644)

Adj. R-squared	0.2208	0.2427	0.9675	0.9409
Prob. (F-statistic)	0.0000	0.0000	0.0000	0.0000
Prob. (Cross-section F)	0.0000	0.0000	0.0000	0.0000
Prob. (Cross-section Chi-square)	0.0000	0.0000	0.0000	0.0000
Prob. Haussman	0.9533	0.5031	0.0497	0.0013
No. of observations	199	192	171	169
No. of firms	40	40	40	40

Notes: The dependent variable is leverage, whereas the independent variables are weighted market-to-book ratio (MTBefwa or MTBewa), profitability (Prof), size, and tangibility (Tang). Leverage is measured by book value (book leverage) and market value (market leverage). Book leverage (BLEV) is defined as book debt scaled by total assets. Market leverage (MLEV) is defined as book debt divided by market value of the firm. Market value is measured as total assets minus book equity plus market capitalization. Market capitalization is calculated by multiplying outstanding shares by their close prices. Profitability (PROF) is measured as earnings before interests and tax (EBIT) reported to total assets. Asset tangibility (TANG) is defined as property, plant, and equipment reported to total assets. Firm size (SIZE) is the natural logarithm of net sales. The market-to-book ratio (MTB) is either weighted by total external finance (MTBefwa**)** or by only net equity issuance (MTBewa). The probability of Fisher and Chi-square tests indicate the presence of individual effects. The test of Hausman indicates that the fixed effects model is appropriate for market leverage and the random effects model for book leverage. The Panel Estimated with Generalized Least Squares (EGLS) method for random effects and least square dummy variable (LSDV) for fixed effects. *, ** and *** indicate the significance level at 10, 5 and 1%, respectively. Robust standard errors are in parentheses.

PERSISTENCE OF EQUITY MARKET TIMING EFFECTS ON CAPITAL STRUCTURE

The persistence of equity market timing impact on capital structure is the key testable prediction of market timing theory since prior studies on this topic found controversial results (Baker and Wurgler, 2002; Alti, 2006; Zhao, Lee and Yu, 2020). To test the persistence of equity market timing attempts on capital structure of Shariah-compliant IPOs operating in Malaysia, we run the following regression:

$$LEV_{i,t+\tau} = \alpha_i + \beta_1 MTB_{wa,it} + \beta_2 PROF_{i,t+\tau} + \beta_3 TANG_{i,t+\tau} + \beta_4 SIZE_{i,t+\tau} + \varepsilon_{i,t+\tau} \quad (5)$$

The empirical findings reported in table 5 suggest that the effect of equity market timing disappears within one year suggesting that Shariah-compliant IPOs quickly rebalance their capital structures to catch up with their target leverage. This evidence contradicts the market timing theory predictions that capital structure is the outcome of past abilities to time equity issues. This result is consistent with previous finding in Haron and Ibrahim (2012) who argue the existence of target capital structure for Shariah compliant firms in Malaysia.

Table 5. Persistence of market timing attempts on capital structure

Year	Book leverage (BLEV)		Market leverage (MLEV)	
	MTBefwa	**MTBewa**	**MTBefwa**	**MTBewa**
t + 1	-0.9604** (0.4613)	-0.9182* (0.4861)	-0.9141*** (0.3901)	-0.4519*** (0.1041)
t + 2	-0.1097 (0.5125)	-0.45013 (0.7513)	-0.2048 (0.8661)	-0.4216 (0.3486)

Notes: This table displays the results regarding the persistence of equity market timing on leverage. The dependent variable is leverage, whereas the independent variables are weighted market-to-book ratio (MTBefwa or MTBewa), profitability (Prof), size, and tangibility (Tang). We report only the results of the variable of interest, namely the weighted market-to-book ratio. *, ** and *** indicate the significance level at 10, 5 and 1%, respectively. Robust standard errors are in parentheses.

CONCLUSION

The market timing theory has challenged both trade-off and pecking order theories by assuming that observed capital structure is the outcome of successive attempts to time equity issues. Previous empirical studies on market timing behavior are mainly reserved to the non-Shariah compliant firms. In this paper, we extend the test of market timing to Shariah-compliant firms. We used a sample of Malaysia Shariah-compliant firms that went public between 2015 and 2018. Our empirical findings reveal that high market-to-book ratios are associated with high equity issues. This evidence indicates that managers of Malaysia Shariah-compliant IPOs interpret high values of market-to-book ratios as an indicator of overvaluation and tend to take advantage from this opportunity by issuing overpriced equity shares. Indeed, Shariah-compliant firms possess certain financial characteristics that make their information environment worse than information environment of Shariah non-compliant firms (Farooq and Pashayev, 2020) which could increase the likelihood of misevaluation that is at the root of timing incentives.

We also documented that equity market timing attempts affect significantly and negatively the leverage ratio. However, Malaysia Shariah-compliant IPOs become underleveraged only in the short-term since the effect of market timing quickly vanishes. This evidence is consistent with the dynamic trade-off theory suggesting that firms quickly rebalance their capital structures to move toward their target leverage.

Our findings provide useful implications for investors and portfolio managers interested in investing in Shariah-compliant IPOs. They should identify market timers in order to avoid low subsequent returns of equity issuers.

The market timing hypothesis posits that managers are able to time the market not only by issuing equity when valuations are high (equity market timing) but also by issuing debt when the borrowing cost is occasionally low (debt market timing). Therefore, in future research, it is suggested to investigate the impact of debt market timing on the issuance of Shariah-compliant bonds (Sukuk).

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