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THE ART OF TIMING: UNPACKING THE MARKET TIMING'S LONG -TERM IMPACT ON CAPITAL STRUCTURE :WITH REFERENCE TO LISTED COMPANIES IN COLOMBO STOCK EXCHANGE

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Abstract

The market timing theory serves as the basis for this study, which aims to unravel the persistent reaction to capital structure decisions. The rationale for conducting this study stemmed from observing a gap in understanding the capital structure behaviour of firms surrounding their initial public offerings and the progression of debt and equity from that initial point. The study's sample, which covered the years 1992 to 2018, was created by using the IPO date of companies listed at the Colombo Stock Exchange) in Sri Lanka. To measure market timing, the study utilized a variable called external finance weighted average market-to-book ratio. This variable served as an indicator of the firms' timing decisions in relation to the capital structure. A panel regression model quantified the timing impact, showing an inverse association between variables. However, the strength of the correlation was found to be less significant than what market timing theory had predicted. Thus, it could not be proven that listed companies consistently increase their equity by issuing new shares when the current share price rises. These findings suggest that while market timing may have some influence on the determination of the debt and equity portions in capital structure decisions, other factors may also come into play. The study highlights the importance of considering additional variables and factors that can impact capital structure choices. It further emphasizes the significance of increasing equity on firm capital structures and costs, and suggests that management can potentially adjust the capital structure based on historical market-to-book ratios.

Keywords: External Finance Weighted Average Market-to-Book Ratio, Market Timing
JEL: G100, G110

1 Introduction

In the early days, Modigliani and Miller (MM) believed that an efficient capital market would prevent the structure of the firm's capital from influencing the firm value. The composition of debt and equity would not affect the valuation of businesses (Modigliani &

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Miller, 1958). It sparked research on the decisions of capital structure. At a later point pecking order theory challenged MM's idea of irrelevance. As per the pecking order theory, businesses would instead get money from within than from outside sources. The concept expected that businesses would look for methods of financing that have lower costs associated with information asymmetry (Myers & Majluf, 1984).

Both pecking order and the trade-off theories implicitly assumed a semi-strong market by disregarding inefficient markets, which can lower capital costs (Shleifer, 2023). Many studies have shown that long-term stock performance implies firm-level market inefficiencies (Graves & Spiess, 1995; Hertzel et al., 2002; Loughran & Ritter, 1995). Both these theories have been broadly examined and tested. But, none of the capital structure theories can describe all observable time patterns. In the 1990s, the concept of pecking order was generally accepted, but this support has since diminished. The relationship between capital structure and past market-to-book ratios (Huang & Ritter, 2005) has led to serious concerns of the pecking order and trade-off theories. As per the theory of market timing, US-based companies' capital structure is believed to have been influenced by historical attempts to time the stock market (Baker & Wurgler, 2002). Companies participate in market timing when they release new shares of stock. The capital structure has been modified by two distinct applications of the idea of market timing. Initially, there are rational economic actors in the world (Myers & Mailuf, 1984). To address the information asymmetry problem between company management and shareholders, businesses immediately offer shares upon the disclosure of positive information. After then, the stock price rises as the degree of asymmetry decreases. This drives companies to develop their own market timing opportunities. According to the version number two, economic actors are irrational, which leads to a firm's stock price becoming incorrect over time. When the equity value is increased, managers would make financial decisions that will result in the company issuing new equity, and when the value of the equity is decreased, the company will buy back existing equity. Current shareholders benefit from the decrease in the cost of stock for the firm, as noted by Baker & Wurgler in 2002.

Although there has been a significant amount of research conducted on the topic of market timing, attention has been focused more on the temporary impacts than the long-term consequences (Ikenberry et al., 1995; Taggart, 1977). The concept of market timing was investigated in 2002 by using the historical market-to-book ratio. While the historical market-to-book ratio predominantly demonstrates the accumulated effect of stock market timing, the

current market-to-book ratio takes into consideration a company's potential for development. Market timing has an impact on capital structure, and variations in market capitalization remain stable for a period of at least ten years (Baker & Wurgler, 2002). Even though US data confirms the market timing theory, it cannot be generalized without further research (Baker & Wurgler, 2002; Elliott et al., 2008; Huang & Ritter, 2005; Kayhan & Titman, 2007). Although these countries are developed, the market timing hypothesis contradicts the effect of institutional features on capital structure (Mahajan & Tartaroglu, 2008; Mendes, et al., 2005). Several studies have studied whether previous equity issues affect capital structure strongly and long-term (Bougatef & Chichti, 2010; Kayhan &Titman, 2007).

There is little evidence that Sri Lankan businesses use debt financing, especially long-term debt, according to studies on the capital structure and factors related to leverage. When discussing the various capital structure choices, it was also noted that while highly lucrative businesses can fund their expenditures with kept profits, less successful ones must turn to debt financing because they do not have enough internal retention. The overwhelming majority of Sri Lankan studies are mainly concentrated on the elements that are intrinsic to the nation's capital structure (Samarakoon, 1999). It is fascinating to examine the impacts of market timing on capital structure in the context of Sri Lanka in order to determine whether or not there is a long-term timing influence on capital structure.

This research serves as to the corpus of knowledge about the timing of share issue and the structure of capital composition of businesses that operate in a variety of marketplaces by making use of the market timing literature that already exists and identifying areas in which there are knowledge gaps. By analysing the over time consequences of timing of the equity market in the Sri Lankan environment, one can acquire valuable insights into the manner in which companies that are listed on the *Colombo Stock Exchange* (CSE) react to market timing. Additionally, the outcomes of the various financial effects of businesses in emerging nations may help to clarify social relations and provide pertinent information to investors. Both sides could gain from this.

To make informed financing decisions with the lowest possible cost of capital, investors need more information. This research was motivated by a curiosity on what influences firms' debt and equity decisions after their IPO date, as well as the unique capital structure behaviour of these companies. The purpose of this research was to fill a knowledge vacuum and shed light on how Sri Lankan listed companies make decisions by analysing the timing influence of the market and its correlation with capital structure decisions.

This study will help improve policymakers' decision-making by supplying information to support capital structure forecasts in the future. This study aims to operate as an analytical tool when policymakers make decisions by supplying information to aid in the capital structure projection in the future. As a consequence of this, the study is beneficial in that it helps to explain how market timing influences capital structure and the applicability of market timing theory in Sri Lankan context.

2 Literature Review

The term "capital structure" is used to describe the proportion of debt to equity in a company. How a business raises money for its ongoing costs and future expansion is its capital structure. Debt and equity investments often make up the majority of a company's capital. Equity can take many forms; some examples include common stock, preferred stock, and retained earnings. On the other hand, debt can take the form of bonds and long-term notes due (Kinoti, 2015). As a result, having a well-balanced capital structure is essential for a company to maximise profits and value for the benefit of all stakeholders. Capital structure is a complex topic, and scholars have presented several theories to shed light on it, but none of them adequately explain the leverage of an organisation. Researchers have spent decades trying to explain how changing the mix of different types of capital affects a company's value and cost of capital as a whole.

Capital structure theories illuminate how a company may increase value by combining debt and equity funding. The trade-off theory is a prominent viewpoint that proposes businesses must balance the tax benefits of debt against the repercussions of a financial crisis. According to the trade-off theory, firms attempt to achieve a balance between the tax advantages of debt, such as interest tax shields, and the possible costs associated with experiencing financial troubles, such as bankruptcy charges and agency fees (Myers & Majluf, 1984). According to this line of thought, businesses should strive for the optimum level of debt that increases their net worth.

Another prevalent capital structure the theory is pecking order. According to the pecking order hypothesis, companies prefer retained earnings over external financing like issuing additional shares or debt due to information asymmetry and adverse selection. This hypothesis suggests that companies will employ internal capital before borrowing externally. The pecking order theory asserts that financing needs and internal funds determine firms' capital structures (Myers & Majluf, 1984). The pecking order theory has been criticised for

its assumptions and lack of empirical support, but it has shed light on business financing behaviour and spurred capital structure research.

There is another theory called signalling theory which uses financial actions to reduce information asymmetry by sending investors signals. The idea asserts that increased debt in the capital structure means that companies are better off, which raises share prices (Ross, 1977). When managers modify corporate leverage, they can alert the market. Signalling theory has been studied in relation to capital structure. In most developed economies, profitable businesses employ more debt than unprofitable ones (Ater, 2017; Rau, 2002).

The insights provided by trade-off theory, pecking order theory, and signalling theory can help us better understand capital structure decisions. Yet the optimal capital structure can be difficult to ascertain, however, and may require more than just the application of the aforementioned theories. One reason is that it is difficult to determine a unique optimal capital structure that is stable over time (Ritter, 2003) since organisations experience dynamic and changing business environments.

Market timing theory is a theory which tries to add additional insights by overcoming weakness in other theories to capital structure decision. The idea behind market timing, which has its roots in behavioural finance, is that a company would choose the source of capital that will be the most cost-effective at the moment that it needs it. A high market-to-book value persuades management to issue additional shares. When the market-to-book value is low, repurchasing shares is more appealing. According to market timing theory, companies' capital structures change over time as a result of their repeated attempts to predict the movement of stock prices by issuing new equity when prices are seen as being too high and repurchasing their own shares when they are seen as being too low (Baker & Wurgler, 2002). According to this view, a company's capital structure responds to changes in the value of its shares.

Market timing theory's applicability varies from nation to nation. As market timing theory was initially validated in the U.S. setting (Baker & Wurgler, 2002), where the persistence influence on the capital structure was discovered, Swedish firms evaluated this concept once more in 2005. In contrast to the United States, stock ownership is not spread in Sweden, and cash flow and control rights are separated more frequently due to the prevalence of dual-class shares. These two agency expenses have created a chasm between internal and external equity expenses. Thus, equities market booms are unlikely to reduce external equity costs relative to debt or internal equity. As a consequence, the traditional pecking order theory of

profitability had a greater impact on Swedish debt than the market timing hypothesis, which took historical market-to-book ratios into account (Hogfeldt & Oborenko, 2005).

A different finding for Canadian firms during the years 1998 and 2007 illustrated the impact of market timing theory. The findings revealed an interaction between the pecking order and the market timing theories, with companies' financing decisions being influenced by both their ability to adjust their financial plans and the discrepancy between a stock's market value and its true value. The results suggest that the effects of these factors play a role in determining a company's choice of financing, as observed in the study. The results even backed up the theory that undervalued enterprises make use of the funding hierarchy. When markets are overvalued, companies may be tempted to take advantage of the situation, which could lead to an incorrect assumption that they favour debt over equity (Dong et al., 2012).

Between 1990 and 2014, a number of Indonesian companies issued new shares through Initial Public Offerings (IPOs) and Right Issues (RI), and few scholars tried to capture the effects of stock market timing on these processes and the resulting capital structures. The analysis excluded financial institutions and focused on delisted and relisted firms with leverage below 100%. The subjects of study included IPO, RI, and post-RI capital structure (including issuance of new shares). Affected share issuance dates included IPO+1, IPO+2, RI+2, RI+3, and RI+4. However, by issuing only a little number of new shares and taking on additional debt, the companies have achieved the ideal capitalization. Market timing is shown to be synergistic in this research. When deciding how to allocate money, businesses often employ equity market timing techniques and cost-benefit analyses of issuing additional shares vs taking on debt (Pamungkas et al., 2023).

It was investigated how market timing affected corporate finance choices in the setting of hot and cold IPO markets. The research found that companies issued fewer shares in cold markets, which are characterised by lower IPO volumes and returns. In contrast, IPO equity was higher in hot markets, which resulted in better returns for issuers. This indicates that firms capitalise on rising markets by issuing more shares of stock to the public (Goncalves, 2021). Further findings from the study showed that companies operating in hot markets actively sought "windows of opportunity" to issue more shares despite being at a higher risk of poor performance, profitability, and investment levels. Therefore, as contrasted to cold-market corporations, these companies' leverage decreased more precipitously during the offering year. However, after their IPOs, companies in both hot and cold markets increased their leverage levels. Notably, companies in hot markets had greater leverage ratios five years

after their IPOs than those in cold markets did. The study's findings, taken as a whole, highlighted the crucial role that market timing plays in capital structure choices. Companies were able to obtain more money and temporarily lower their debt ratios by issuing shares at the right time, in line with favourable market conditions. Long-term leverage targets in debt markets, unfettered by market timing, could be the subject of further investigation in the future.

A study conducted in 2006 examined the effect of share prices on a funding choices, with a focus on the pecking order and the trade-off theories. The study found that companies experiencing an increase in share prices were prone to new equity and pay off debt, while those experiencing a decrease in share prices tended to avoid issuing equity. Additionally, the study found that management teams were hesitant to issue stock when they believed that their company's shares were undervalued. The study not only raised questions about the accuracy of the market timing theory but also proposed that firm's leverage over time is primarily driven by its growth potential rather than the fluctuations in equity markets (Hovakimian, 2006).

Despite the negative correlation between leverage and the weighted average market-to-book (MB) ratio, it is doubtful that decisions on leverage today were influenced by the timing of the stock market. In the current period, equity issuance is more common among companies with increased weighted average of previous market-to-book ratios, while debt issuance is more common among companies with a lower average. The External Finance Weighted Average Market-to-Book (EFWAMB) ratio has been found to have a detrimental impact on present leverage, change in leverage, and the decision to issue debt versus equity, highlighting its importance as a metric. To mitigate these effects, a projected weighted average could be used as an alternative to historical ratios and external funding (Alti, 2006).

Since the market timing hypothesis was introduced, it was discovered that firms that operate in developed financial markets use market valuations as a tool when making financial decisions. But the topic remained contentious when it came to nations with emerging environments. In 2008, a study examined whether companies issuing shares engaged in market timing in 26 emerging economies and 23 advanced economies. By analyzing actual data from a shared data set, the researchers found compelling evidence in line of the hypothesis that companies with higher MB ratios tend to issue equity. Other than that, the results reaffirmed that leverage is inversely connected with the ratio of historical market-to-book across several countries. Yet, the findings were very different when specific countries

were examined. It was discovered that past market timing choices do not seem to be enduring and have a substantial influence on businesses' financing selections (Reddy & Tran, 2015).

Even if market timing theory wins, according to some researchers, it has a little long-term influence. Several studies have shown that when taking into account leverage, a negative correlation exists between the MB ratio and the EFWAMB ratio (Alti, 2006; Hovakimian, 2006; Nguyen & Boubaker, 2009). Instead of creating an ideal capital structure, the theory of market timing and decisions regarding market timing tend to result in the eventual capital structure outcome over time.

Investor choices affect market patterns, which impact the capital structure of companies. It was shown that positive shocks caused the Sri Lankan stock market to fluctuate more than negative shocks did, ruling out the possibility of a leverage impact on the market (Jaleel & Samarakoon, 2009). Jegajeevan (2012) proposed a competing theory suggesting that the market demonstrates a stronger reaction to an adverse shock compared to a favorable shock of the same magnitude.

Due to the fact that the concept of market timing is implemented in a different manner in established and developing nations, it is useful to examine previous research that was conducted on the Sri Lankan capital market. According to the findings, the pecking order idea is not universally accepted in Sri Lankan businesses (Senaratne, 1998). It was found that when it came to raising capital from outside sources, Sri Lankan companies chose stock over the loan. Many factors were used as safety nets in settling on a financing strategy: interest payment capability, financial flexibility, interest tax savings, bondholder restrictions, and issue cost.

Listed companies in Sri Lanka provide a unique opportunity to analyze the persistence effects of equity market timing on capital structure. Although academic literature suggests that companies should take market conditions into account when allocating capital (Baker & Wurgler, 2002), few studies has examined how equity market timing affects the capital structure decisions of companies in Sri Lanka.

Numerous factors, including political unpredictability, macroeconomic constraints, and global market movements, have contributed to the substantial changes and volatility of the Sri Lankan equities market. Recognising the significance of equity market timing in influencing listed firms' capital structure decisions is essential in today's volatile market. Examining whether or how Sri Lankan businesses deliberately adjust their capital structure by timing

equity market circumstances and, if so, what the long-term repercussions of such actions are, is crucial.

3 Methodology

3.1 Sample frame, Sample and Sampling Procedure

All Listed Companies which issued IPOs from 1992 to 2018 in CSE in Sri Lanka are the population for this study. The study's primary focus was on companies that issued an IPO between 1992 and 2018. But several years, specifically 2019, 2020, 2021, and 2022, were left out of the sample frame because of extraordinary circumstances that might have had an impact on the accuracy and representativeness of the data.

Due to the Easter attack in Sri Lanka, which caused major disruptions in the economy and capital markets, the year 2019 was excluded from the sample frame. The two years after that, 2020 and 2021, were left out since companies fell during the global COVID-19 epidemic, which had a significant impact on the economy as well as unheard-of uncertainties and market instability. Additionally, 2022 was left out because of Sri Lanka's extreme political and economic unpredictability, which would have had an unusually large impact on the capital structure of company's decisions.

Further financial companies are omitted from the sample due to changes in leverage structure. Also, the Telecommunication sector excluded due to the changes in the accounting year. In order to test the long-term persistent impact ten years from the IPO year was taken in this study (Alti, 2006; Baker & Wurgler, 2002). The sample exclusively comprises equity IPO companies, including both voting and non-voting entities, as their inclusion does not impact the capital structure. The table below presents the total count of companies included in the sample, categorized according to their respective IPO year.

Table 1. Sample Size

Year	**Number of firms**
IPO+1	48
IPO+2	46
IPO+3	44
IPO+4	44
IPO+5	40

IPO+6	38
IPO+7	35
IPO+8	36
IPO+9	42
IPO+10	45

3.2 Data Collection Methods and Instruments

Secondary sources are used to gather data. Financial data from 1992 of the selected listed companies are gathered. To indicate the count of companies included in the sample at different time intervals after the initial public offering (IPO), the term "IPO+1" is used to denote one-year post-IPO, and "IPO+2" is used to refer to two years post-IPO. This notation is continued up to ten years after IPO, and data for this entire period was analyzed to examine its effect on the capital structure.

3.3 Data Analysis Tools

Data was analysed descriptively and inferentially. The mean and standard variation summarised and explained the results. Regression analysis determined the dependent-independent link. EViews was used to analyse the data, which was summarised in charts. To understand the nature and importance of the link between changes in leverage and changes in the timing factors described in the study, panel data regression was performed.

3.4 Conceptual Model

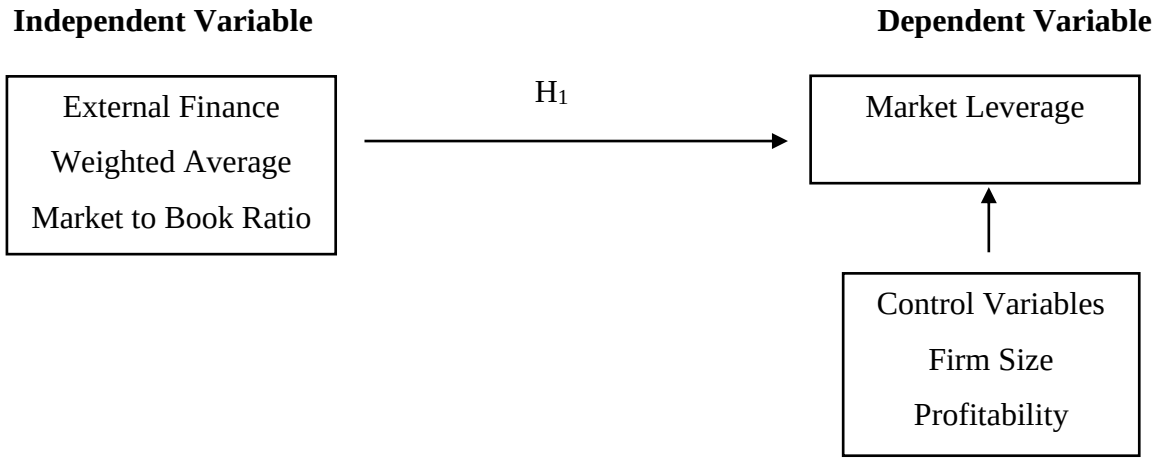

Figure 1: Conceptual Framework

3.5 Hypothesis of the Study

H_1: There is a negative relationship between of External Finance Weighted Average Market to Book ration and Market Leverage

The hypothesis suggests that there is a negative relationship between the external finance weighted average market to book ratio and market leverage, indicating that equity market timing has influenced the capital structure of firms. To validate this hypothesis, we can refer to studies that support the negative relationship between these variables. This hypothesis is supported by the market timing theory, which posits that firms take market conditions into account when making financing decisions. If companies believe that their stock is overvalued, they may issue equity to capitalize on the high stock price, resulting in a lower debt-to-equity ratio. Alternatively, firms that believe their stock is undervalued may prefer to issue debt to raise capital, resulting in a greater debt-to-equity ratio. Thus, the negative correlation between the independent and dependent variable is consistent with the market timing theory's predictions.

The research conducted by Baker and Wurgler (2002) is first study that supports this hypothesis. Using a large sample of U.S. firms, they studied the impact of market timing on capital structure decisions. Their findings indicated that firms with higher market-to-book ratios tend to have reduced leverage levels, supporting the negative relationship between market timing and leverage. In addition, different scholars examined the relationship between market timing and capital structure across the world. They discovered that firms with higher market values relative to book values have lower debt ratios, providing additional evidence of the negative relationship between market timing and leverage (Booth et al., 2001; Elliott et al., 2008; Kayhan & Titman, 2007; Ozkan, 2001; Rajan & Zingales, 1995).

3.6 Regression Model

$$MKTLev_{it} = \mathrm{a} + \mathrm{b}EFWAMB_{it-1} + cFS_{it-1} + \mathrm{d}\ PROF_{it-1} + eTANG_{it-1} + e_{it} \longrightarrow \text{Model 1}$$

Where,

MKTLEV- Market Leverage

EFWAMB- External Finance Weighted Average Market to Book Ratio

PROF - Profitability

FS -Firm Size

TANG -Asset Tangibility

e_{it}- Error Term

3.7 Operationalization

Table 2. Variable Measurement

Variable	Abbreviation	Measurement and Source of Justification
External Finance Weighted Average Market-to-Book-ratio	EFWAMB	$\sum_{s-1}^{t-1} \frac{es + ds}{er + dr} * MBs$ where M/B is the market-to-book ratio, e and d are equity and d issuance, and s and r are time. The EFWAMB is the weighted aver of a time-series of past market-to-book ratios, starting with year 1, first observation in our sample, and ending with the market-to-b ratio at t −1 (for IPO firms, year 1 is the first year the IPO firn listed on the stock exchange). Each year's weight is the ratio external financing to the firm's total external financing in years −1. (Baker & Wurgler, 2002; Mahajan & Tartaroglu, 2008)
Market to Book Ratio	MB	$\frac{Total\ Assets - Book\ equity + Market\ equity}{Total\ Assets}$ (Hovakimian, 2006; Reddy & Tran, 2015)
Firm Size	FS	Logarithm of sales
Profitability	PROF	$\frac{EBITDA}{Total\ Assets}$ (ROA is the proxy)
Asset Tangibility	TANG	$\frac{Fixed\ Assets}{Total\ Assets}$ (Hovakimian, 2006; Mahajan & Tartaroglu, 2008)

4 Results

4.1 Testing the Normality of Data

The form of the data distribution for an individual matric variable and its relationship to the normal distribution, the baseline for statistical approaches, is the most fundamental assumption in multivariate analysis (Hair et al., 2010). Graphs and statistics can determine

data distribution. Skewness measures a random variable's probability distribution's asymmetry about its mean, whereas Kurtosis measures the central peak's height and sharpness relative to a standard bell curve (Field, 2000). Table 3 (Appendix 1) shows the Skewness and Kurtosis results. Skewness above 3 and kurtosis above 10 indicate outliers (Kline, 2011). For all the time periods and for all the variables skewness was less than 3 and kurtosis value were less than 8. Therefore, values are normally distributed.

4.2 Testing Linearity of Data

Testing for linearity is the next stage in verifying the parametric assumption. This is an implicit assumption of all multivariate techniques based on correlation measures of association. The linearity test should be carried out as an implicit assumption (Hair et al., 2010). The scatter plot is the most typical linearity test, they say. Thus, the current study analyzed scatter plots to test variable linearity (Appendix B). All data were dispersed closer to the regression line, according to the results. Thus, linear relationships between variables prove that the data set meets the linearity condition.

4.3 Reliability and Validity of Data

Secondary data comes from CSE-listed companies Audited Financial Statements. These statistics are reliable for the study. While scanning secondary sources, data was checked and cross checked. These were done to provide validity data for this study. Thus, content validity was established.

4.4 Descriptive Statistics

The below table provides descriptive statistics for a sample of companies over a period of ten years following their IPO. The table includes information on the market leverage, net debt issues, net equity issues, and newly retained earnings for each year.

Table 3. Summary Statistics of Capital Structure and Financing Decisions

Year	**N**	**Market Leverage**		**Net Debt issues**		**Net Equity issues**		**Newly Retained Earnings**	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
IPO	48	0.22	0.03	-0.09	0.18	0.17	0.04	0.02	0.02
IPO+1	48	0.23	0.20	0.01	0.20	0.08	0.15	0.03	0.12
IPO+2	46	0.33	0.27	0.07	0.21	0.01	0.03	0.02	0.10

IPO+3	44	0.34	0.28	0.06	0.19	0.02	0.07	0.01	0.13
IPO+4	44	0.36	0.27	0.04	0.19	0.01	0.03	0.05	0.34
IPO+5	40	0.33	0.24	0.02	0.13	0.03	0.10	0.05	0.52
IPO+6	38	0.33	0.28	0.06	0.21	0.01	0.04	0.01	0.05
IPO+7	35	0.37	0.29	0.06	0.16	0.02	0.04	0.03	0.07
IPO+8	36	0.33	0.25	0.03	0.09	0.01	0.04	0.01	0.13
IPO+9	42	0.38	0.33	0.02	0.12	(0.01)	0.14	0.05	0.16
IPO+10	45	0.37	0.33	0.02	0.11	0.01	0.07	0.05	0.09

The first row, IPO, represents the year of the initial public offering, and it shows that on average, companies had a market leverage of 0.22 and net debt issues of -0.09, indicating that they had more equity issues than debt issues. The mean value for net equity issues is 0.17, suggesting that newly issued equity played a significant role in their financing, while newly retained earnings had a small contribution of 0.02.

For the following years, the mean and standard deviation values for market leverage, net debt issues, net equity issues, and newly retained earnings are shown. For example, in IPO+1, the mean market leverage was 0.23, and the standard deviation was 0.20. This indicates that the average company increased its market leverage slightly in the year after their IPO.

In general, the descriptive statistics show that market leverage increased over time, while net debt issues remained relatively stable. Net equity issues decreased, indicating a shift towards debt financing, while newly retained earnings increased significantly over the ten-year period, suggesting that companies were retaining more earnings to fund their operations.

4.5 Determinants of Leverage

Table 4. Determinants of annual changes in Leverage and its components using EFWAMB ratio

Year	**$EFWAMB_{t-1}$**		**FS_{t-1}**		**$PROF_{t-1}$**		**$TANG_{t-1}$**	
	c	p	C	p	c	P	c	P
Panel A: Change in Leverage								
IPO+1	0.0035	0.12	-0.0052	0.45	0.4273	0.19	0.0590	0.51
IPO+2	0.0003	0.79	0.0039	0.61	0.2705	0.37	-0.0783	0.48
IPO+3	-0.0007	0.62	-0.0035	0.68	-0.0584	0.87	0.0369	0.51
IPO+4	0.0011	0.51	0.0242	0.16	-0.1235	0.61	-0.1098	0.22

IPO+5	0.0006	0.37	-0.0055	0.59	0.2833	0.45	-0.0511	0.43
IPO+6	-0.0005	0.70	0.0019	0.93	0.3032	0.56	0.0735	0.51
IPO+7	-0.0006	0.92	0.0116	0.53	0.5293	0.22	0.1235	0.14
IPO+8	0.0009	0.80	0.0038	0.73	-0.1257	0.43	-0.0048	0.87
IPO+9	-0.0001	0.65	0.0033	0.72	0.2263	0.29	-0.0241	0.61
IPO+10	-0.0006	0.80	-0.0010	0.87	0.2615	0.15	-0.0638	0.17
Panel B: Change in Equity								
IPO+1	-0.0015	0.39	0.0024	0.65	0.1521	0.54	0.0036	0.96
IPO+2	-0.0001	0.36	-0.0038	0.00	0.0178	0.59	0.0218	0.07
IPO+3	0.0002	0.65	0.0035	0.30	-0.0029	0.98	-0.0033	0.88
IPO+4	-0.0009	0.71	-0.0021	0.46	-0.0243	0.55	0.0007	0.96
IPO+5	-0.0001	0.97	0.0021	0.79	-0.5462	0.06	0.0013	0.97
IPO+6	-0.0001	0.51	-0.0021	0.58	0.1693	0.06	0.0189	0.32
IPO+7	0.0006	0.71	0.0019	0.66	0.2359	0.02	-0.0056	0.77
IPO+8	-0.0003	0.98	-0.0004	0.34	-0.0276	0.76	-0.0020	0.87
IPO+9	-0.0009	0.97	0.0139	0.20	0.0408	0.86	0.0402	0.45
IPO+10	0.0004	0.00	-0.0033	0.36	-0.1197	0.22	-0.0197	0.43
Panel C: Change in Retained Earnings								
IPO+1	0.0003	0.83	0.0039	0.35	0.3986	0.04	-0.0416	0.43
IPO+2	0.0002	0.68	-0.0034	0.31	0.2856	0.04	-0.0149	0.76
IPO+3	0.0003	0.70	-0.0038	0.48	0.6505	0.00	-0.0366	0.31
IPO+4	0.0007	0.78	0.0021	0.94	0.0787	0.85	-0.1183	0.45
IPO+5	0.0002	0.93	-0.0162	0.70	-0.1701	0.91	0.2930	0.26
IPO+6	-0.0001	0.71	0.0009	0.82	0.3933	0.00	0.0254	0.26
IPO+7	0.0005	0.88	0.0100	0.24	-0.0173	0.92	-0.0043	0.91
IPO+8	-0.0001	0.74	0.0456	0.00	-0.2366	0.28	0.0350	0.26
IPO+9	-0.0002	0.50	0.0045	0.71	0.1322	0.62	-0.0787	0.19
IPO+10	-0.0001	0.61	-0.0009	0.86	0.1452	0.33	-0.0502	0.19

Panel A of the table examines at the change in leverage. Leverage refers to how much a company deploys debt in its capital structure. The variables $EFWAMB_{t-1}$, FS_{t-1}, $PROF_{t-1}$, and $TANG_{t-1}$ indicate the lagging values of external financing needs, firm size, profitability, and tangibility, respectively. Long-term impacts on the equity market can be measured by using the EFWAMB variable, which has been shown to have high explanatory power (Baker & Wurgler, 2002). The composition was taken to test for individual impact through market

timing, as the EFWAMB variable is comprised of the average of the net debt issues, net equity issues, and the interaction with the current market-to-book ratio for each firm. The variables with "c" show how they have changed, while the variables with "p" show their p-values.

By looking at the data, it is visible that in the first year after the IPO (IPO+1), there is a positive change in leverage (0.0035), which means that the company is using more debt. This difference is statistically significant (p = 0.12). In IPO+2 and IPO+3, there are smaller changes in leverage, but they are not statistically significant. At IPO+4 and IPO+5, there are small changes in leverage that are positive, but at IPO+6, there is a change that is negative. However, none of these improvements is statistically significant.

Moving on to Panel B, change in equity can be identified. Equity is a company's shares portion and one part of its capital structure. In IPO+1, there is a negative change in equity (-0.0015), which suggests a decline in equity financing. However, this change isn't statistically important. IPO+2 to IPO+4 show mixed changes in stock, while IPO+5 shows hardly any change. IPO+6 to IPO+10 show different changes in equity, but none of them are statistically meaningful.

Finally, Panel C explores the change in retained earnings, which is the part of a company's net income that is reinvested in the firm rather than paid to shareholders as dividends. In IPO+1, there is a positive change in retained earnings of 0.0003, but it is not statistically significant. IPO+2 and IPO+3 show similar changes, but IPO+4 shows a slightly bigger positive change, which is still not statistically significant. IPO+5 shows a negative change in retained earnings (-0.0162), but it is not statistically significant. From IPO+6 to IPO+10, there are different changes, but no statistically significant effects.

4.6 Regression Analysis

Table 5. Summary Statistics of long term impact on market leverage

Year	**N**	**EFWAMB $_{it\ -1}$**		**FS_{it-1}**		**$PROF_{it-1}$**		**$TANG_{it-1}$**	
		C	P	C	P	C	P	C	P
IPO+1	48	-0.003	0.20	0.012	0.00	-0.351	0.29	0.109	0.24
IPO+2	46	-0.002	0.40	0.020	0.00	-0.283	0.46	0.085	0.55
IPO+3	44	-0.002	0.27	0.021	0.00	-0.923	0.08	0.052	0.51
IPO+4	44	-0.002	0.25	0.020	0.00	-0.814	0.01	0.019	0.86

IPO+5	40	-0.002	0.16	0.021	0.00	-0.562	0.42	0.102	0.38
IPO+6	38	-0.002	0.15	0.018	0.00	-0.001	0.99	0.072	0.58
IPO+7	35	-0.003	0.02	0.012	0.00	-0.009	0.97	0.009	0.99
IPO+8	36	-0.002	0.02	0.017	0.00	-0.298	0.53	0.047	0.52
IPO+9	42	-0.002	0.03	0.018	0.00	-0.148	0.78	0.075	0.54
IPO+10	45	-0.002	0.05	0.018	0.00	-0.038	0.94	0.044	0.74

EFWAMB is a commonly used measure of market timing in the literature. It captures the extent to which market conditions influence firms' financing decisions. It measures the ratio of external financing to total financing, weighted by the market-to-book ratio of the firms in the sample (Baker & Wurgler, 2002). The study used ten regression outputs from IPO+1 to IPO+10 to capture the persistent effect of the EFWAMB ratio on market leverage.

Based on the regression outputs, EFWAMB is not significantly related to market leverage. The coefficients are negative but not statistically significant at conventional levels ($p > 0.05$) in all ten years of the sample. This finding is somewhat unexpected, given previous research that has found a negative relationship between EFWAMB and leverage (Baker &Wurgler, 2002; Huang & Ritter, 2005). Other factors not captured in this study, such as firm-specific characteristics or macroeconomic conditions, affect the relationship between EFWAMB and leverage. The coefficient for the EFWAMB ratio was negative and statistically significant in all periods after IPO+7. This finding supports the hypothesis that the EFWAMB ratio has a negative relationship with market leverage, meaning that firms with higher EFWAMB ratios tend to have lower market leverage.

The control variables also have significant effects on market leverage. Firm size has a positive effect on market leverage, consistent with previous literature suggesting larger firms have greater access to capital markets and are more likely to use debt financing. Profitability has a negative effect on market leverage, which is also consistent with the pecking order theory, where profitable firms are more likely to use internal financing rather than debt financing. Tangibility positively affects market leverage, indicating that firms with greater tangible assets are more likely to use debt financing.

When considering the suitability of the pecking order theory, trade-off theory, and market timing theory in explaining the results, it is essential to note that the pecking order theory and trade-off theory both focus on the firm's financing behaviour in the short run. In contrast, market timing theory considers the firm's financing behaviour in the long run.

4.7 Developments of the variables across the time

The aim of this study is to investigate the impact of market timing on the capital structure of companies listed on the CSE, specifically during the ten-year period following their IPO. The graphs presented below outlines the changes in various factors over time.

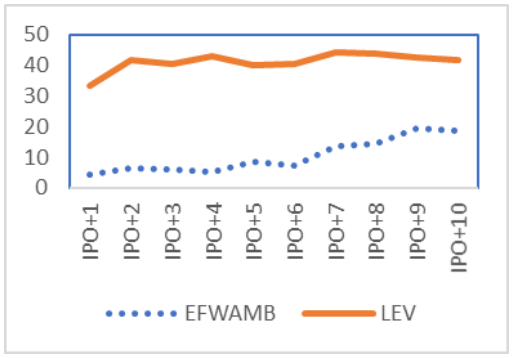

Figure 12: EFWAMB Ratio

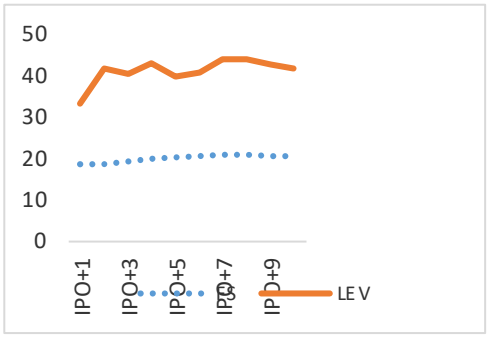

Figure 15: Firm Size

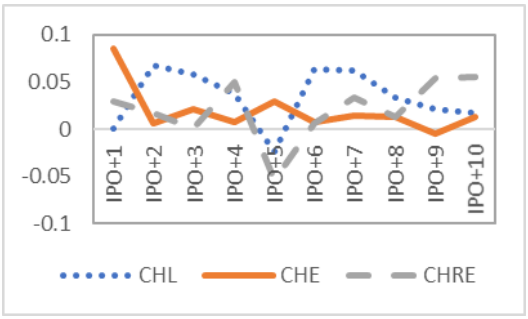

Figure 13: Change in leverage, equity and retained earnings

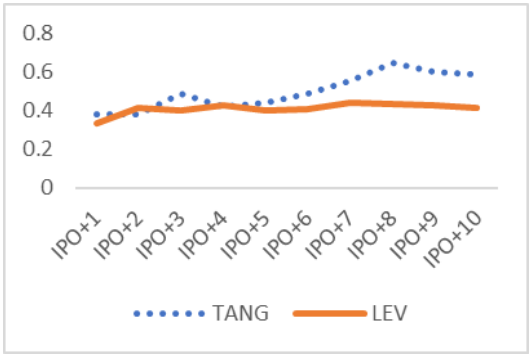

Figure 16: Tangibility

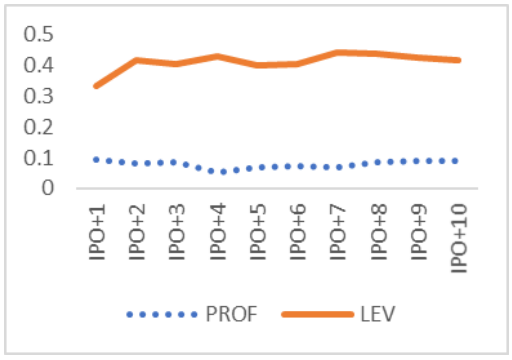

Figure 14: Profitability

Using the IPO year as a starting point, the EFWAMB ratio analyses, the lasting influence that market timing has. The variable has been computed over time taking into account both the net

wealth and net debt amounts. In the past ten years, there has been an increase in the EFWAMB ratio. The contribution of the high MB ratio impact to the increase effect of EFWAMB is presented here.

During the course of the years, related to the variance in leverage levels, there has been a small adjustment made to the size of the CSE listed firms. Throughout the span of 10 years, each of the companies has experienced peaks and valleys in terms of their profitability. During the course of 10 years after the IPO, the percentage of firms' fixed assets as a proportion of their total leverage value has climbed.

Throughout the course of ten years, there has been fluctuation in the amount of leverage. When looking at the IPO plus eight years, however, the change in leverage has begun to reduce. When compared to the IPO+1 year, the change in equity clearly shows a downward trend when compared to the IPO+2 year. Over the course of several years, there has been a gradual but noticeable increase in leverage by a smaller amount. From the first public offering plus eight years, the change in retained earnings has begun to climb in comparison to the change in leverage and the change in equity.

Based on the results of a regression comparing market leverage to changes in equity, retained earnings, and leverage, it is clear that Sri Lankan listed firms on the CSE are less sensitive when it comes to market timing. Since the results show a marked likelihood for debt. Most Sri Lankan businesses are heavily dependent on short-term financing and have a modest level of leverage (Manawaduge et al., 2011).

Given that market timing has a poor long-term impact on the capital structure of listed companies in Sri Lanka, the aforementioned findings cast doubt on the theory's applicability. Some earlier findings of experts are congruent with this seemingly conflicting discovery. Both European and Asian research (Mahajan & Tartaroglu, 2007; Nguyen & Boubaker, 2009; Nyangoro, 2003) confirmed this finding. When equity prices are high, European companies are more likely to issue debt. In order to lower their weighted average cost of capital, European corporations are said to take advantage of the high value of their stock and issue debt in order to do so at a cheaper cost. The positive correlation between MB, EFWAMB, and leverage in Europe can be attributed to the region's high tax levels, flexible financial markets, generally interconnected capital markets, and the availability of cheap loan rates throughout the past decade (Mahajan & Tartaroglu, 2007; Nguyen & Boubaker, 2009). Some academics (Myers & Majluf, 1984; Hovakimian, 2006) also argued that the MB ratio reflected prospects for advancement within the pecking order. Evidence from both Asia and

Europe suggests that companies with promising expansion prospects are more likely to use debt financing.

Previous research has shown that while deciding on a capital structure, Sri Lankan companies care more about issues like agency cost, financial distress, and tax savings than they do about interest cost. Corporations strike a balance between agency expenses, financial stress, and the tax advantages of debt financing through interest deductions (Senaratne, 1998). Financial flexibility, interest payment capacity, interest tax savings, debt holder constraints, issue cost, dilution of earnings per share, and stock market conditions are the primary considerations for Sri Lankan enterprises when deciding on capital structure (Senaratne, 1998).

5 Conclusion

This study aimed to explore the long-term impact of market timing on the capital structure of companies listed on the CSE. Guided by the market timing theory, which suggests that a firm's capital structure is influenced by its attempts to forecast market movements, the research findings shed light on the relationship between long term impact of market timing and leverage over a ten-year period following the IPO of firms.

To examine the influence of leverage on the capital structure over time, the year of the initial public offering served as a benchmark for this study. The original proponents of the market timing hypothesis, Baker and Wurgler (2002), identified a lasting effect of historical market-to-book ratios on firms' leverage. Changes in the capital structure were evaluated for a duration of ten years after the IPO. According to the market timing theory, there is an inverse correlation between the EFWAMB and the level of leverage in companies (Baker & Wurgler, 2002; Bougatef & Chichti, 2010; Elliot et al., 2006). Even if the evidence from the United States supported the market timing theory, its power cannot be generalized into other environments till further research is conducted (Alti, 2006; Mahajan & Tartaroglu, 2008; Mendes et al., 2005).

With the IPO, Sri Lankan companies who are listed on the CSE began to enhance their market leverage. When the initial public offering had been going on for two years, the average leverage values started to go up. A higher amount of net debt issuance compared to net equity issues caused this outcome. Concerning the distribution of net equity, there was no predetermined pattern to adhere to. According to the idea, the sign between EFWAMB and leverage ought to be negative, and this is emphasized. The negative correlation is present

because firms tend to time their share offerings to align with periods of elevated market-to-book ratios, leading to a pronounced inclination towards a negative association.

The study results corroborate the market timing hypothesis proposed by Baker and Wurgler (2002), which asserts that firms tend to issue equity during periods when their market values exceed their book values and prior market values. Managers' efforts to time the market to release equity shape a firm's capital structure. The negative association between market leverage and EFWAMB becomes significant after 8 years since the initial public offering when market leverage is applied. The key driver behind the promising results of market leverage is the market valuation, which is the primary component in the calculation of market leverage. This is because the market value inherently captures market sentiment. These observations are consistent with prior studies conducted by Saad (2011) and Setyawan (2015).

Even if the results portrait the negative relationship between MKTLEV and EFWAMB ratio result is not strong as the market timing theory predicts. The results are not consistent throughout the 10-year period. To begin, when compared to other major markets throughout the world, Sri Lanka's stock exchange is somewhat of a minor player. Investors' ability to successfully time market entry and exit may be hampered by the market's weak depth and liquidity. Because of this, it may be more expensive to make transactions and harder to benefit from temporary shifts in the market.

Second, the stock market in Sri Lanka is susceptible to unusual economic and political circumstances. Political upheaval, ethnic strife, and catastrophic weather have all plagued the country at various times. Investors already face difficulties in trying to predict the market, and these uncertainties only make things worse. Furthermore, there is a sizable number of individual investors in the Sri Lankan market, and the latter are prone to being swayed by speculation, rumors, and emotional considerations. Because of this kind of behaviour, market timing methods may not work as well as they otherwise would.

In addition, the Sri Lankan regulatory environment may make market timing less possible. Several rules have been put in place by the Securities and Exchange Commission of Sri Lanka to safeguard investors' money and keep markets stable.

Overall, market timing theory may have difficulty in direct application in Sri Lanka due to the market's size, limited liquidity, economic and political risks, individual investor behaviour, and regulatory framework. To fully understand the elements that influence market timing in Sri Lanka, more research tailored to the local setting is required.

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Appendices

Appendix 1

Table 1. Skewness and Kurtosis Summary

Time	Variable	Skewness Value	Kurtosis Value
IPO+1	MKTLEV	1.4139	2.2797
	EFWAMB	0.9661	5.8669
IPO+2	MKTLEV	1.1002	4.2435
	EFWAMB	1.2751	4.1113
IPO+3	MKTLEV	0.8023	3.0586
	EFWAMB	1.7921	5.9394
IPO+4	MKTLEV	0.2548	1.8436
	EFWAMB	1.8797	7.3306
IPO+5	MKTLEV	0.3849	1.9869
	EFWAMB	2.0020	6.5720
IPO+6	MKTLEV	0.5713	2.1038
	EFWAMB	1.2408	3.8783
IPO+7	MKTLEV	0.2064	1.6236
	EFWAMB	1.2937	6.8087

IPO+8	MKTLEV	2.0893	1.9041
	EFWAMB	2.0322	5.7942
IPO+9	MKTLEV	1.4675	7.1987
	EFWAMB	1.7972	5.0649
IPO+10	MKTLEV	0.4091	4.2384
	EFWAMB	1.8362	5.3927

Source: EViews Output

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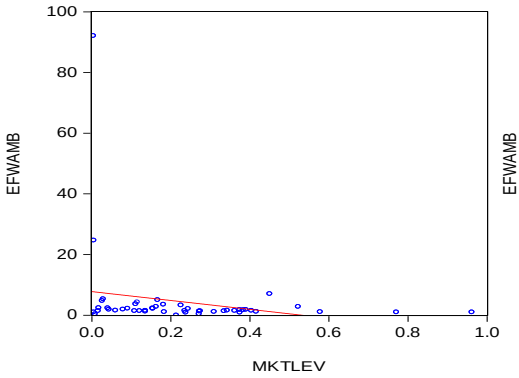

Figure 2 : IPO+1 MKTLEV and EFWAMB

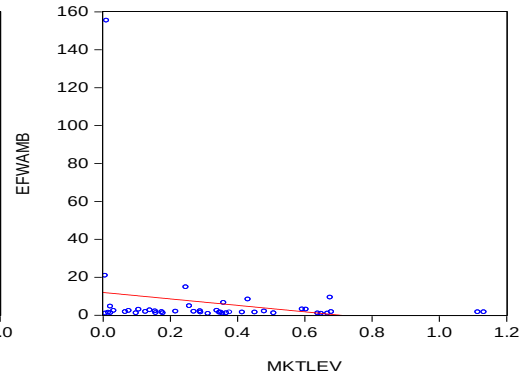

Figure 3: IPO+2 MKTLEV and EFWAMB

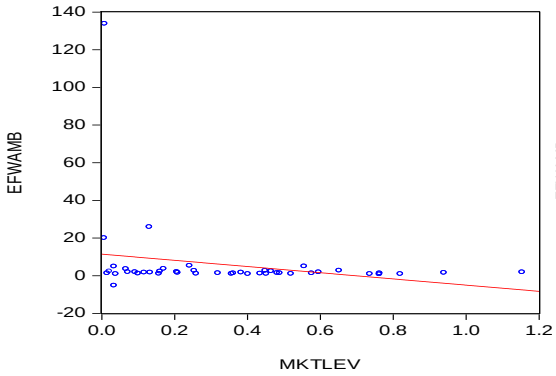

Figure 4 : IPO+3 MKTLEV and EFWAMB

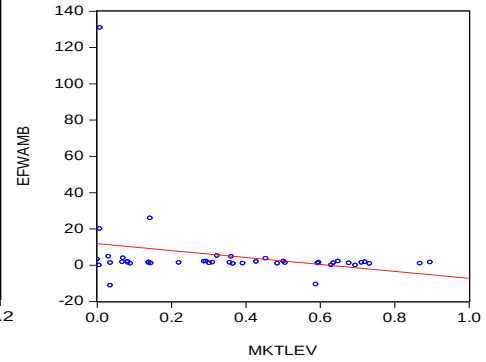

Figure 5 : IPO+4 MKTLEV and EFWAMB

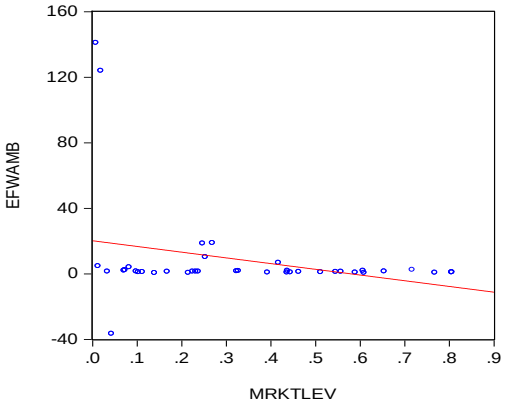

Figure 6 : IPO+5 MKTLEV and EFWAMB

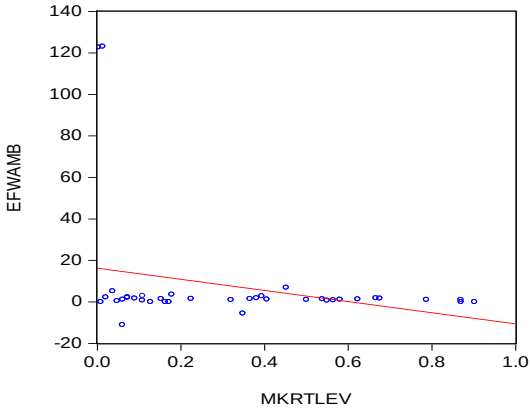

Figure 7: IPO+6 MKTLEV and EFWAMB

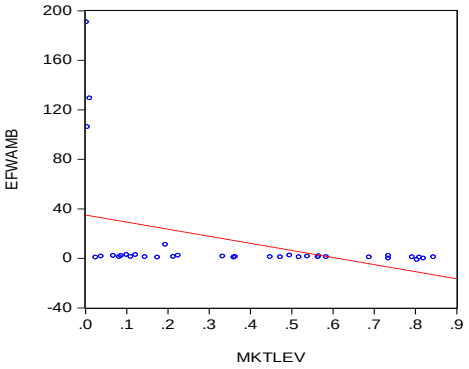

Figure 8: IPO+7 MKTLEV and EFWAMB

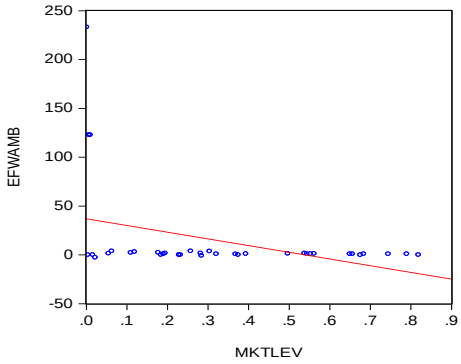

Figure 9 :IPO+8 MKTLEV and EFWAMB

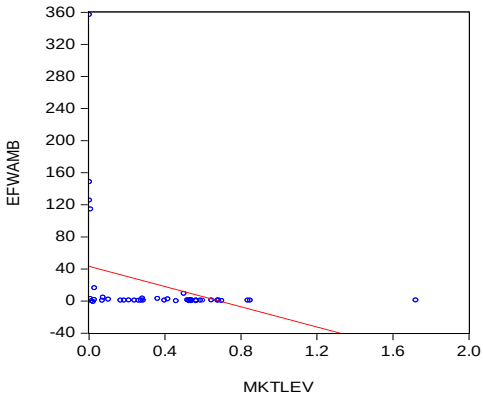

Figure 10: IPO+9 MKTLEV and EFWAMB

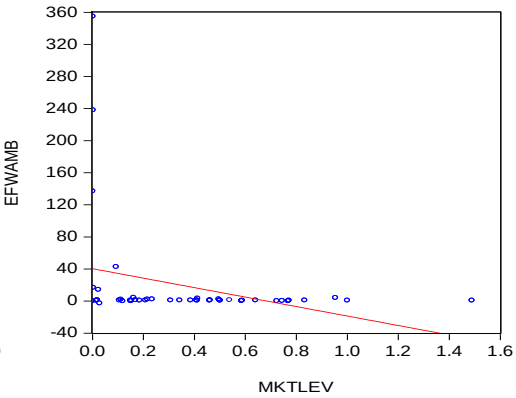

Figure 11: IPO+10MKTLEV and EFWAMB