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INFLUENCE OF BEHAVIOURAL ELEMENT ON STOCK RISK: EVIDENCE FROM MALAYSIAN LISTED COMPANIES

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ABSTRACT
This paper examined the influence of behavioural element on stock risk of Malaysian listed companies. There were 90 firms consisting of 30 large capitalizations, 30 middle capitalization and 30 small capitalization firms. The time frame for this research is 5 years ranging from 2012 to 2016. The dependent variable, stock risk, is represented by two proxies, Beta and Standard Deviation. The independent variables of this research are liquidity, profitability, gearing and behavioural element. The non-behavioural factors were added to examine if those factors also play a part in determining stock risk. By employing an Ordinary Least Square regression, the results showed that when the stock risk is proxied by systematic risk or Beta, the behavioural factor is significant while all the other non-behavioural factors are found not. However, if the stock risk is unsystematic risk or Standard Deviation, the behavioural factor is not significant while the liquidity and gearing variables are significant.

***JEL classification**: G12, G13*
***Keywords**: Stock risk, behavioral finance, Malaysian listed companies*

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1. INTRODUCTION
Stock risk plays a vital role in making investment decisions. Although stock return has been given more emphasis, as proven by the large amount of literature available, stock risk is even more important as it inherently influences stock return. Malaysia has been experiencing a bull run since as far back as 2009 and there is much debate on how to access the stock risk under current market conditions. Despite underlying weaknesses in the economy due to lower commodity prices and lower growth environment, the stock market continues to push forward (Yoke, 2017). This in its own right could be considered a market anomaly and may mean that are behavioural factors at play here.

The havoc brought about by the global financial crisis in 2008 has put into question the theory of efficient markets. The irrefutable assumption that investors are rational agents seeking to maximize their wealth has been called in to question as

many investors decided against rational decision-making in the midst of the crisis. In the face of immense uncertainty and levels of risk since the great depression, investors buckled under pressure and capital markets went into a free fall. Since then, the call to readdress the assumptions surrounding investor decision making and how they measure risk in equity markets have came into place.

Traditional financial theories have always held that financial markets and the decision made by its participants can only be accurately quantified if these agents are assumed to be "rational". Fama (2000) suggests that rationality is a very useful and simple assumption, which means that when agents receive new information, they update their beliefs and preferences instantaneously in a coherent and normative way such that they are consistent in making decision, which maximize their expected utility. A study by Zhang et al. (2019) mentioned that traditional finance theory asserts that, only systematic risk (as initially proposed in Capital Asset Pricing Model) is compensated with risk premium while unsystematic risk will not be compensated with risk premium. Even so, not all investors are able to obtain information at low or zero cost and diversified the risk. Meaning that, this fact, combined with the uncertainty of investment units, the total risk is still related to stock return. In the context of this study, the investors are able to identify the behavioral elements on stock risk not only through Beta but also standard deviation to manage the risk.

On the other hand, behavioral finance argues that the drive to make investment decision must also include the psychological factors that are faced by investors and that is inherently flawed to solely base investor decision making on the premise that the investors and the market behave in an efficient manner. In their ground breaking work Kahneman and Tversky (1979) argue that two different approaches are being used to understand and forecast human behavior in terms of the decision making process, applied to economy and other social sciences: the traditional rational approach and behavioral theories. The behavioral theories support the idea of the adaptable market hypothesis as an alternative to the inadequacies of the efficient market hypothesis.

Adaptable market hypothesis asserts that instead of being inherently rational in their approach to security selection, investors then to depend more on overall market conditions and market psychology before making investment decisions. In their defense of the adaptable market hypothesis, Urquhart and McGoarty (2016) argued that the level of predictability of stock returns may depend on certain market conditions since market conditions can have strong consequences on the psychology of market participants and the way the market participants analyze information. The same assumption can be made for decision making when assessing stock risk. Assumptions made by traditional finance have also been empirically rejected in explaining several financial phenomena as the growing behavioral finance literature shows.

The main goal of this thesis is to analyze risk taking by individual investors in the Malaysian stock exchange and how behavioral element influence how investors perceive stock risk. It is important to note that not all investors are irrational but as humans we are bound to make emotional decisions from time to time. In the current market today, financial managers ascertain stock risk by using a mix of fundamental analysis and technical analysis. The latter is often used as a way to determine the sentiment of investors in the market or what can also be identified as their behavior.

Technical indicators such as moving averages give investors insight into short-term attitude towards the stock. Although there is less extensive literature on how long term behavioural finance impacts stock selection, as it is more difficult to determine long term behavioural patterns, there have been a number of studies that emphasise short term behaviour and how investors tend to forgo more in depth fundamental analysis, to make short term gains if the prevailing market sentiment is positive. However, since behavioural finance is a relatively new field as a whole, there is significantly less literature done by Malaysian researchers, especially in the area of stock risk. Therefore, this research would like to aid in developing more insight into the influence of behavioural factors on the determination of stock risk for public listed companies in Malaysia.

Tuyon and Ahmad (2016) argue that behavioural finance provide an alternative perspective of how investors digest information and act upon it, thereby providing an alternative insight into investor behaviour compared to the efficient market hypothesis. Efficient market theories cannot explain why market anomalies exist in the market. Fama (1997) explains that anomalies occur by chance and that in the long run such anomalies will be normalised by the market.

From the past studies, the researches tend to focus more on determining the factors that drive stock return instead of stock risk, especially on the Kuala Lumpur Composite Index (KLCI). There have been few researches that have focused on the entire stock market and there has been even less researches into stock risk. Besides that, previous researches have not focused on medium trends that are currently affecting the stock market. Hence, this study covers the years 2012 to 2016, where the stock market faced a fair amount of uncertainty due to the end of the commodity super cycle and the decline in the currency's value. It is worth noting that the KLCI is on a 7-year bull run and is currently the longest bull-run in the world.

The remaining sections of this paper continues with Section 2; Literature review. Section 3 describes the data and methodology used in this study. Section 4 presents and discusses the empirical results while Section 5 concludes the findings.

2. LITERATURE REVIEW

2.1 Neoclassical finance and behavioural finance

The two prevalent theories in modern finance are the traditional or neoclassical theories and the behavioural finance theory. Both schools of thought are for decision-making under uncertain. According to Ramiah et al. (2015), the tenents of neoclassical finance are the market value of an asset reflects its fundamentals, financial markets react quickly to information, prices follow the random walk process and investors cannot consistently earn above average returns. In his research, Shiller (2006) stated that neoclassical revolution in finance began in the 1960's with the introduction of the Efficient Market Hypothesis and Capital Asset Pricing Model. Eugene Fama first introduced the Efficient Market Hypothesis or EMH in 1969. Fama (2000) stated that the current price of a stock is fully reflected by the amount of information available in the market, meaning that investors can never earn super normal returns. He further argues that any short-term anomalies that occur are considered to be chance and will eventually normalise in the long run. Although Ritter (2003) noted that the EMH assumes that the market is rational but does not say the same about investors. Besides the EMH another famous neoclassical theory is the capital asset pricing model or CAPM. Sharpe (1964) along with Litner (1965) and Mossin (1966) were responsible

for the development of CAPM. According to Smart, Gitman, and Joehnk (2014), CAPM theorizes that that the expected return that can be derived from an investment is equal to the prevalent risk-free rate (usually the yield on treasury bills) plus a risk premium that has a value contingent on the amount of un-diversifiable risk the asset is exposed to.

Criticism of neoclassical finance in neoclassical finance has been extensive. Riley and Brown (2012) have criticised CAPM and have characterized it as an incomplete explanation for the relationship between risk and return as it is always assumed that investors hold on to fully diversified portfolios. This in turn, means that risk return trade-off for individual assets cannot be fully explained as the standard deviation of each security will contain inherent amount of risk unique to the individual asset. Neoclassical theory states that the composition of ownership does not affect the future return and risk of a stock. Greenwood and Thesmar (2011) pointed out that the investor demands unrelated to stock fundamentals can still have an impact on stock prices. Demands for a stock could be related to other factors such as the addition of stock to the stock index, retail investor demand and retail demand for options. Greenwood and Thesmar (2011) also found that the fragility of a stock price could increase as when it is exposed to high non-fundamental risk, underscoring the influence of behavioral elements in influencing stock price. Nawrocki and Viole (2014) also criticized neoclassical theories dependence on linear or risk-neutral utilities as an unrealistic assumption.

According to Shiller (2006), the rise of behavioural finance began in the 1980's. Kahneman's and Tversky's empirical study the 1970's energy crisis triggered interest into the causes of volatility in the market and the inadequacies of neoclassical financial theories in explaining this volatility. Behavioural finance emerged as a combination of behavioural and psychological aspects that influence financial decision-making. Since than, there has been an increase in the amount of research done in the field of behavioural finance. Behavioural finance has developed a large body of literature and several theories to address neoclassical finance such as the prospect theory, bounded rationality theory and adaptive market hypothesis. As noted by Ritter (2003) it is important to remember that behavioural finance not only includes behavioural biases but also limits to arbitrage or times when the market is inefficient. According to Kahneman and Tversky (1979), individuals tend to make decisions based on a limited number of heuristics that are at their disposal. Heuristics are simple, efficient rules that people use to form judgements and make decisions. Supporting this is Nofsinger (2014) who argued that the selection of stock is tedious, as an investor must select between various alternative stocks based on the information gathered and analysed. Since investment decisions are driven by the investment goals of an investor, investors may not necessarily depend on rationality alone to achieve their goals. Investors may use their heuristic bias to make judgement without depending on the financial facts that are present before them.

Besides the heuristic bias, limits to arbitrage also play a vital role in influencing behavioural finance. According to Ritter (2003) limits to arbitrage are moments in the market when investors may earn abnormal profits or losses, contrary to the claim of neoclassical finance. A limit to arbitrage is split into two which are recurrent short term anomalies and long term non-repeating anomalies. It is long term non-repeating anomalies that behavioural finance makes its case. Behavioural finance has also helped in identifying market participants that are irrational in nature. One such

discovery is the 'noise trader'. According to Ramiah et al. (2015) noise traders are market participants who make poor investment decisions, disregard the use of fundamental analysis, have poor market timing, follow trends and strongly overreact or underreact to good and bad news. Ramiah et al. (2015) also added that neoclassical finance does not acknowledge the existence of noise traders in the market, as they are deemed to be trivial in nature. Ramiah et al. (2015) points out there has been much empirical research in this field in western countries and perhaps research can be done to examine the influence of noise traders in Malaysia.

Criticism in behavioural have been many with Ross (as cited in Shiller, 2006) believes that currently behavioural finance is merely highlighting the inadequacies of neoclassical finance rather than introducing any alternatives in itself. Besides that, in his critique of behavioural finance Fama (1998) noted that anomalies occur due to overreaction and under reaction of market participants to the information available in the market and in the long run, these overreactions and under reactions will normalise. He believes behavioural theories are good at explaining past anomalies with unique circumstances but may not be affective in explaining the future anomalies. Worth noting is that Fama and French (2015, 2017) have also introduced a new theory called the five-factor asset-pricing model that also deals with investor behaviour but in an efficient market environment. Nawrocki and Viole (2014) believe that the current major challenge facing behavioural finance is evolving towards an integrated theory on how financial markets operate. Without this, they suggest, there will continue to questions over the credibility of behavioural theories.

Extensive review of the literature has shown that there the studies of behavioural finance in Malaysia has been limited but is growing at an exciting rate. Since Malaysia, Issues that have been explored, issues that this research exploring and how do it add to the mix. Tuyon and Ahmad (2016) have explored the influence of behavioural finance on stock market efficiency. Khan, Naz, Qureshi, and Ghafoor (2017) explored the influence of heuristics and stock buying decisions in the Malaysian and Pakistan stock market. Lai and Windawati (2017) explored the risk, return and liquidity of the Malaysian and Indonesian stock markets during the fasting month of Ramadan. Jaiyeoba and Haron (2016) conducted a study into the investment decisions of Malaysian retail investors. They found that Malaysian retail investors are patriotic by nature and make their investment decisions based on feeling, comfort, convention, third party's views, personal experience and an understanding of the nation's politics and economics instead of basing decisions on quantitative analysis. The focus of this research will be on individual investors and how individual investors deal with stock risk. According to Kumar (2009), when stocks become increasing difficult to value, individual investors make larger investment mistakes and exhibit stronger behavioural biases. By focusing on individual investors, this research hopes to establish how behavioural biases influence how investors perceive stock risk. This research has been unable to find any literature that deals with the relationship between behavioural finance and stock risk in Malaysia. Research conducted by Fernandes (2007) is the closest literature this research could find. He examined risk taking in financial markets, specifically in the construction of portfolios in both active and passive funds, from a behavioural standpoint.

The first theory to characterise investor behaviour is the prospect theory. The prospect theory is the theory that has laid the foundation for modern behavioural finance. Since then, the literature on behavioural finance has grown rapidly and the

latest theory to emerge is the Adaptive Market Hypothesis, which attempts to reconcile certain assumptions made in the Efficient Market Hypothesis with behavioural finance. For the purpose of increasing the readers understanding of behavioural finance, this research has added these two theories to the literature review.

2.1.1 Prospect theory

There is a large consensus in the literature of behavioral finance that the prospect theory is considered of the most important theories in behavioral economics and finance (Chan et al., 2004; Frankfurter et al., 2004; Marchand, 2012; Ramiah et al, 2015; Stracca, 2004; Tuyon & Ahmad, 2016). According to Marchand (2012), Kahneman and Tversky first introduced the prospect theory in 1979 as a critique of the expected utility theory. The expected utility theory is considered as the theory that forms the foundation for neoclassical finance (Nowrockim & Viole, 2014). The theory states the market participants make investment decisions based on their own valuations on potential losses and gains rather than the final outcome of the investment. According to Alam and Tang (2012), the most important part of the prospect theory is the proposal of the value function. The value function is how investors define value in terms of the gains and losses they face instead of calculating the final asset value. This contradicts the utility theory, which proposes that investors perceive gains in terms of the final value of the asset when they sell. The value function also proposes that investors use reference points in evaluating their risk appetite. Investors may not necessarily be risk averse by nature and will seek to engage in risk-seeking behavior if their investment decisions are below the mental target level they have imposed on themselves. Ritter (2003) stated in his research that the prospect theory is essentially descriptive choices made by investors, which is in contrast to expected utility theory, which is normative rather than descriptive. Prospect theory focuses on changes in wealth, whereas expected utility theory focuses on the level of wealth.

2.1.2 Adaptive market hypothesis

The Adaptive Market Hypothesis or AMH is a theory proposed by Andrew Lo that seeks to reconcile behavioural finance and neoclassical finance. According to Lo (2005), based on evolutionary principles, the Adaptive Markets Hypothesis implies that the level of market efficiency is influenced by the environmental factors that shape the market environment; these factors could include the interest rate levels or the number of companies listed on the stock exchange. Besides that, the efficiency of the markets also depends on the adaptability of market participants when facing changes in the market environment. When the adaptability of the market and its participants are taken together, the adaptive efficient market is formed. Lo (2005) also argues that while markets may be efficient in the long run, the market is still subject to cyclical fluctuations. Pirie & To Chan (2014) argue that the EMH is not wrong but it is incomplete and that AMH will develop cover in the deficiencies which exist EMH literature. According to Nawrocki and Viole (2014), despite the fact that AMH is still in its infancy stage compared to other theories, the theory's validity is greatly supported with empirical research from developed and emerging financial markets. These empirical studies include but are not limited to Charles et al. (2017) have found evidence of the AMH on the Dow Jones Islamic Market index. Beisdes that, Urquhart

and McGroarty (2016) found evidence of the Adaptive Market Hypothesis on the S&P500, FTSE100, NIKKEI225 and EURO STOXX 50.

2.2 Behavioural biases

The two theories above prove the growing influence of behavioural finance on the formation of modern financial theories. This research also reviews two behavioural biases expected to prove exists in the valuation of stock risk of Malaysian listed companies.

2.2.1 Disposition effect

According to Goyal and Kumar (2015), the disposition effect is defined as the tendency of investors to sell the asset that has gained in value and to hold on to the asset that is loss making. The disposition effect is considered an important behavioural bias as it empirically proves the existence of the prospect theory proposed by Kahneman and Tversky. Since Kahneman and Tversky first proposed the theory, there has been a large body of research into it. Garling et al. (2017) created an affect account to show how the disposition effect affects stock prices. Feldman and Lepori (2016) the disposition effect amongst investors on the S&P 500. Kong et al. (2015) proved the disposition effect and its relationship with momentum on the Chinese stock market. Kuo and Chen (2012) proved the existence of disposition patterns amongst Taiwanese Investors.

2.2.2 Herding bias

According to Subash (2012), the herding bias is the most common mistake that investors make. Herding bias is the when individual investors make decisions based on the decision made by the majority of investors. Previously it was thought that herding bias only affects individual investors but a review of the literature by Spyrou (2013) argues that herding bias also affects institutional investors as well. Vo and Phan (2017) found that herding behaviour is significant on the Vietnam stock exchange, especially in a down market. Besides that, Shah and Shah (2017) found that herding in Pakistan occurs during upswings of 5% or more. Moreover, Economou et al. (2011) analyzed daily stock prices and volume from Greek, Italian, Portuguese and Spanish stock markets for the years 1998- 2008. They found that the herd behavior was prevalent in all stock markets during periods of growth in the stock market.

3. METHODOLOGY

For the purpose of this research, the targeted sample comes from companies that are listed on the Malaysian stock exchange. According to Bursa Malaysia (2017), there are 806 companies listed on the stock exchange. Due to the data limitation, the research selected 90 companies that represented each market size within the stock market. 30 large cap companies were selected from the FBM Kuala Lumpur Composite Index, 30 middle cap companies were selected from the FBM Middle Cap 70 Index and 30 small cap companies were selected from the FBM Small Cap Index. The sample designs captures data of companies beginning from 2012 to 2016. The data is annualized and is secondary in nature. The data was collected from the Bloomberg Terminal and Reuters Eikon.

3.1 Dependent variables – stock risk

The dependent variable is stock risk which will be measured by beta and standard deviation. Beta represents systematic risk and standard deviation represents unsystematic risk. Both are regressed in two separate models.

3.2 Independent variables

This research examined four independent variables that are liquidity measured by the liquidity ratio, profitability measured by the profitability ratio, gearing measured by the debt to equity ratio and behavior element measured by the price to book ratio of the company. Both dependent variable and independent variables were employed in 5 yearly data and were then averaged to come out with a single digit for regression purpose.

3.3 Estimation model

The following multiple regression equation is applied to examine the influence of behavioural element on stock risk of Malaysian listed companies.

$$(\text{BETA or SD}) = \alpha + \beta 1(CR_t) + \beta 2(ROE_t) + \beta 3(DER_t) + \beta 4(BMR) + ut$$

Where:

BETA or SD	= Stock Risk
CR	= Liquidity
ROE	= Profitability
DER	= Gearing
BMR	= Behavioral element
α	= constant term
ut	= disturbance term

4. EMPIRICAL RESULT AND ANALYSIS

4.1 Preliminary results

In descriptive analysis, the data presents the N, mean, median, standard deviation, skewness, kurtosis, minimum and maximum statistics of dependent and independent variables. For this research, five variables were used. Risk, the dependent variable, is represented twice in this research through Beta (BETA) and Standard Deviation (SD). Meanwhile, the independent variables are liquidity represented by the current ratio (CR), profitability represented by the return on equity (ROE), gearing represented by the debt to equity ratio (DER) and behavior element represented by the book to market ratio (BMR). The descriptive statistics for all the variables are reported in Table 1.

Table 1: Profile of sample.

Statistics	BETA	SD	CR	DER	ROE (%)	BMR
N	90	90	90	90	90	90
Mean	1.2152	30.7951	2.1075	65.3146	16.7022	0.7960
Median	1.105	23.0854	1.6270	43.6680	11.1850	0.6053
Std. Deviation	0.7026	26.9012	1.7274	82.2070	34.3911	0.7381
Minimum	-0.4	1.15	0	0	-12.478	0.1139
Maximum	3.13	158.5099	9.754	600.318	283.156	4.3860
Skewness	0.6453	2.2195	1.1873	3.5907	6.1754	2.3396
Kurtosis	3.2387	9.6588	7.3606	21.7197	44.7713	9.6343

Table 2 presents correlations among independent variables which are below 0.90 cut-off point (Asteriou & Hall, 2007) for any severe threat of multicollinearity. The highest correlation of 0.3733 is reported between ROE and DER.

Table 2: Correlation matrix.

Variables	CR	DER	ROE	BMR
CR	-	-0.3296	-0.1075	-0.0576
DER	-0.3296	-	0.3733	-0.0616
ROE	-0.1075	0.3733	-	-0.3035
BMR	-0.0576	-0.0616	-0.3035	-

4.2 Main empirical results

Once the research data has been cleaned, this research found that the data in the research is non-normally distributed. Besides that, the data for the BETA model has a significant p-value in the White Test, which may indicate the presence of heteroscedasticity. Whether or not the significant p-value is an indicator of heteroscedasticity cannot be ascertained for sure, as it could also be a product of selection bias. However to avoid any problems with the data, this research uses a coefficient covariance matrix in the BETA model regression to remove heteroscedasticity from the standard error. Besides, the White test for the BETA model, all other test yielded the predict results. To regress the data, this research used Ordinary Linear Square (OLS) regression. Table 3 shows the summary of results for the BETA model OLS regression while Table 4 shows the summary of results for the SD models OLS regression.

Table 3: OLS regression results for BETA.

Variables	Coefficients	Standard Errors	T- Stat	P- Value
(Constant)	0.8246	0.1711	4.8206	0.0000
BMR	0.2321	0.0687	3.6582	0.0004
DER	0.0004	0.0007	0.5269	0.5597
ROE	0.0004	0.0013	0.2830	0.7779
CR	0.0836	0.0667	1.2177	0.2267
Statistics	R^2	0.08725		
	Adjusted R^2	0.0443		
	F-stat	2.0312		

Note: BMR is book to market ratio, DER is debt to equity ratio, ROE is return on equity and CR is current ratio.

The first variable is BMR that has a p-value of 0.0004, making it very significant. The coefficient value for this variable is 0.2321, which indicates for every 1.0 increase in BETA, there will be a 0.23 increase in the BMR, with other variables constant. BMR represents the behavioural element of this research and is also the primary point of interest. It proves that behavioural finance has an influence on systematic risk with regards to Malaysian listed companies. A higher BMR means that a company is undervalued; this may indicate due to uncertain market conditions, investors are deliberately investing in certain stocks that guarantee return instead of risking an

investment in an overvalued company. This investment behaviour is further proof of the prospect theory, in which investors do not mind forsaking higher risk for higher returns. This behaviour is also reflective of the uncertain market conditions that have characterised the length of the research due to the end of the commodities super cycle and the subsequent depreciation in currency faced by the country. This result is consistent with Kumar (2009) but different in relationship. Kumar, using panel data, found that there was a negative relationship between the BMR and BETA.

For the variable DER, the p value for the variable is 0.5997, which means the variable has an insignificant relationship with BETA. The coefficient score for the variable stood at 0.0004, indicative of a positive relationship between the two variables. It also means for every 1.0 increase in BETA there is an increase of 0.004% in the DER, while other variables are constant. The high p-value and low coefficient score means that DER does not have a strong impact on the BETA of a Malaysian Listed Company. For the variable ROE, the p-value of the variable is 0.7779 and the coefficient score is 0.0004. The coefficient value is indicative of a positive relationship that means for every 1.0 increase in BETA there is a 0.004% increase in ROE, while other variables are constant. The high p-value and low coefficient score means that ROE does not have a strong impact on the BETA of a Malaysian Listed Company. The result is however inconsistent with Zhang et al. (2019). Using panel data, Zhang et al. (2019) found a negative relationship between ROE and CAPM Beta. The inconsistent result could be due to the different sample used as Zhang et al. (2019) focuses on a sample of life insurers.

Finally for the variable CR, the p-value of the variable is 0.2267 and has a coefficient of 0.083618. The coefficient value is indicative of a positive relationship between the variables that means for every 1.0 increase in BETA there is a 0.08 increase in the current ratio of a firm. However the p-value of the variable is 0.2267, slightly above the significance threshold of 0.1, hence the variable cannot be considered as having a strong impact on BETA of a Malaysian Listed Company. The positive relationship between CR and CAPM Beta is also found in Zhang et al. (2019), which studied on US insurers. Based on the regression results all t-statistics showed positive values with the highest value being BMR with a value of 3.6582 followed by CR with 1.2177, DER with 0.5269 and ROE with 0.2829.The R square for this model is 0.8725, meaning the model explained 8.725% of the variance in BETA. The adjusted R-Square stands lower at 0.04430 indicating that a predictor improves the model by less than expected by chance.

Table 4: OLS regression results for standard deviation.

Variables	Coefficients	Standard Errors	T- Stat	P- Value
(Constant)	0.2434	0.055	4.3461	0.0000
BMR	0.0499	0.0537	0.9536	0.3430
DER	-0.0005	0.0002	-1.9255	0.0575
ROE	8.27E1	0.0004	0.1858	0.8530
CR	0.0258	0.0113	2.280	0.0251
Statistics	R^2	0.0805		
	Adjusted R^2	0.0372		
	F-stat	1.8605		

Note: BMR is book to market ratio, DER is debt to equity ratio, ROE is return on equity and CR is current ratio.

Table 4 shows the relationship between SD with the respective independent variables which are BMR, DER, ROE and CR. The regression shows that SD is equal to 0.24346 (Constant) + 0.0499 (BMR) -0.0005 (DER) + 8.27E1 (ROE) + 0.0258 (CR). It is worth noting that the constant value of the regression coefficient is represented by a positive value. This proves that the dependent variable will have a positive value, greater than zero, whenever the independent variables are above the value of zero. The first variable is BMR that has a p value of 0.3430, which means the variable has an insignificant. The coefficient value for this variable is 0.0499, which indicates for every 1.0 increase in SD, there will be a 0.0499 increase in the BMR, with other variables constant. BMR represents the behavioural factor of this research. The regression means that the behavioural factor is successful in explaining systematic risk and not unsystematic risk.

For the variable DER, the p value for the variable is 0.0575, which means the variable has a significant relationship with SD. The coefficient score for the variable stood at -0.0004, indicative of a negative relationship between the two variables. It also means for every 1.0 increase in SD there is an decrease of 0.004% in the DER, while other variables are constant. This is an interesting development. For the variable ROE, the p-value of the variable is 0.8530 and the coefficient score is 8.27E01. The coefficient value is indicative of a positive relationship that means for every 1.0 increase in SD there is an 8% increase in ROE, while other variables are constant. The high p-value and low coefficient score means that ROE does not have a strong impact on the SD of a Malaysian Listed Company.

Finally for the variable CR, the p-value of the variable is 0.0251 and has a coefficient of 0.0258. The coefficient value is indicative of a positive relationship between the variables that means for every 1.0 increase in SD there is a 0.0258 increase in the current ratio of a firm. A significant relationship is proven. The t-statistic result for the model was obtained by dividing the coefficient of the variable by the standard error. Again it is worth noting this research used a robust OLS to mitigate the effect of outliers in the data on the standard error. The t-value is critical in showing the importance of the variables to the model. Based on the regression results all t-statistics showed positive values with the highest value being CR with a value of 2.28 followed by BMR with 0.95356, ROE with 0.1858 and DER with -1.9255. The R square for this model is 0.80506, meaning the model explained 8.725% of the variance in SD. The adjusted R-Square stands lower at 0.0372 indicating that a predictor improves the model by less than expected by chance.

5. CONCLUSION AND IMPLICATIONS

This research sought to prove the influence of behavioural element on stock risk of Malaysian listed companies. This research also included three conventional financial variables to represent factors that may influence stock risk which are liquidity, profitability and gearing. This research had its main objective at the start of this research which to examine the relationship between liquidity, profitability, gearing and behavioral factor in determining stock risk.

The results for this research are as follows: It must be noted that despite having a relationship with the independent variables, BETA and SD largely have an insignificant relationship with the independent variables. It is also worth noting that the relationship between BMR and BETA is very significant which supports the research conducted by Kumar (2009). The strong positive relationship between BMR

and Beta proves that behavioural finance can be used to determine the systematic risk of a stock. This research would also like to note that the previous literature by Kumar (2009) found that the BMR and Beta had a negative significant relationship. Here is how this research's model differs from his:

a) Kumar (2009) used a panel data series compared to this research's cross sectional data. This may have resulted in difference in results.
b) Kumar (2009) measured the risk exposure an investor faces at an end-of-month portfolio position while this research measured outright stock risk based on systematic and unsystematic risk of a stock.

This research believes that the positive relationship between BMR and Beta proves the existence of the behavioural theories mentioned above. Here's how:

a) Prospect theory
   The prospect theory states that investors tend to value loss more than gains while the disposition effect states that investors tend to hold on to loss making assets and sell high performing assets. Considering the macroeconomic circumstances (lower currency value and low commodity prices) that are faced, it may be safe to say that investors are avoiding small capitalization stocks and investing more in strong, established blue chip stocks. This research wishes to note that the average BMR for the 30 largest companies is 0.5 while the average BMR for the 30 middle size companies and the 30 small companies are 0.7 and 1.2 respectively. This clearly shows how, on average, large companies are considerably overvalued compared to smaller companies. According to Kumar (2009) this should be the opposite. This research believes due to the ongoing uncertainty facing the national economy, investors are flocking to larger companies, thereby overvaluing the stocks while avoiding smaller, unproven companies. This proves that investors value loss more than gain and may prove the existence of the prospect theory on the local market.

b) Herding bias
   Building on the prospect theory, this research also believes that, due to the uncertain market conditions, most investors may be resisting the urge to invest in smaller unproven companies. This is proved by how low the BETA for large companies is compared to middle size and small companies. The average BETA for the largest companies stands at 0.9 while the middle size and small companies have a BETA of 1.17 and 1.6 respectively. This research also believes that many retail investors are currently following institutional investors as this may allow them to lower their risk. If this is true, it comes as no surprise as it has already been proven by Jaiyeobi and Haron (2016). However this is only a knowledgable assumption this research can make and understanding the how the behaviour of institutional investors affects the behaviour of retail investors may be a new angle to measure the influence of behavioural finance in future research.

From this study, the researcher has helped shed some light on a topic with very limited literature in Malaysia. The field of behavioural finance in Malaysia is growing

rapidly and there is much interest to see how the field of literature expands further in the future. Below are several recommendations that the researcher would like to make to increase the quality of researcher in the future. Future research should cover a larger sample size, as there are more than 800 companies on the stock exchange. The R-squared for both models is very low, indicating how little this research managed to cover. However it is also worth noting that for cross sectional data, a low R-squared can also be expected. If a future researcher is unable to increase the sample size, the researcher should narrow it further to a particular industry or a particular firm size. A particular industry might render more meaningful data, as it could examine how investors treat certain stock in certain industries.

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