Rationalizing the Value Premium under Economic Fundamentals and Political Patronage

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Abstract: This paper studies the value anomaly in the context of Malaysia, an emerging economy with a top heavy, closely held, and state-owned institutional setting. We attribute the anomaly to the investment pattern of growth firms. Our empirical analysis illustrates that growth firms have a tendency to hoard cash, delaying the undertaking of their growth options, especially in poor economic environments. This mitigates their business risk, but lowers their market valuation, driving down their returns. Our hypothesis also reconciles the diverging views stemming from both the neoclassical and behavioural perspectives.

JEL Classification: G110 (Portfolio Choice; Investment Decisions), G120 (Asset Pricing).

Keywords: Asset Pricing, Growth (i.e., Glamour) Stocks, Multifactor Models, Real Options, Value (i.e., Unspectacular) Stocks.

I. Introduction

"Growth stocks, which derive market values more from growth options, must therefore be riskier than value stocks, which derive market values more from assets in place. Yet, historically, growth stocks earn lower average returns than value stocks." (Lu Zhang, 2005, pp 67)

In the last three decades, an extensive amount of finance literature has documented the value premium anomaly. That is, portfolios formed on the basis of high book-to-market (BE/ME), cash flow-to-price (C/P) and earnings-to-price (E/P) have been found to earn significantly higher risk-adjusted returns compared to portfolios with the opposite characteristics. The evidence for this value premium seems to permeate across the globe. Fama and French (1998) document the presence of a value premium in twelve of the thirteen major markets they studied.[1] However, despite the compelling evidence of the presence of value premiums, the source for them remains undetermined.

At a cursory glance, finance literature suggests four possible explanations for the sources of value premium. First, the advocates of rational pricing attribute the outperformance of high BE/ME portfolios over low BE/ME to an additional risk factor. For instance, Fama and French (1995) illustrate that high BE/ME is typical of firms that are approaching a distressed state and therefore at risk of going out of business. Second, the behavioural perspective, Lakonishok et al., (1994) and Haugen (1995) assert that the cognitive biases of investors in undervaluing distress stocks and overvaluing the growth (i.e., glamour) stocks leads to the premium in value stocks. The third approach, by Daniel and Titman (1997), claim that the value premium is due to a firm’s characteristics, not their risk levels. Finally, Kothari et al. (1995), Black (1993) and MacKinlay (1995) contest the presence of value premium and claim it is a ‘false’ result caused by methodological issues in

1 In addition to Fama and French (1998), studies such Rosenberg et al. (1985); Brown et al. (1983), Chan et al. (1991) also find value premium in United States, Australia and Japan respectively.

the studies involved. Kothari et al (1995) argues that value premium is due to survivorship bias, while Black (1993) and MacKinlay (1995) claim that this is due to data-snooping.

This paper aims to rationalize the value premium using economic fundamentals. We demonstrate that it occurs because of the investment pattern of glamour firms. That is, these firms have a tendency to hoard cash and delay the undertaking of their growth options; especially in uncertain economic environments (see Titman, 1985; McDonald and Siegel, 1986; and Ingersoll and Ross, 1992). We assert that this hoarding behaviour significantly impacts on the return of these stocks, although it alleviates the firm's business risk. Our argument is based on the fact that glamour stocks derive their market value from embedded growth (i.e., real) options (see Zhang, 2005). The low market valuation of these stocks is caused by the cash-drag; these firms prefer to have some slack, which mutes their returns. This clarifies the value anomaly.

Our hypothesis is similar to that of Fama and French (FF-1995) and Daniel and Titman (DT-1997). FF argue that distress risk is the main factor for the wide spread in expected return between value and growth stocks. They demonstrate that glamour stocks generate lower returns due to their lower distress risk. In their three factor model they show that the coefficient of HML, which mimics distress risk, is lower for glamour than for value stocks. However, studies by Dichev (1998) and Griffin and Lemmon (2002) claim that distress risk does not contribute to value premiums. We extend this view point even further, arguing that both the cash-drag factor and a firm's unique characteristics need to be taken into consideration.

We demonstrate that glamour firms have the unique characteristics of being endowed with real options, which entail capital outlay resulting in business risk. Nevertheless, as mentioned earlier, they also have the flexibility in undertaking these options. Thus, they have the choice of not aggravating their business risk, especially in a poor economic environment.

In contrast, value firms are predominantly firms in mature and/or declining markets. They have assets in place which are used as collateral to lever up and boost their earnings, resulting in financial risk. However, unlike glamour firms, value firms have less flexibility in terms of risk management due to the costly reversibility of their assets, (see Zhang, 2005). In a nutshell, our explanation is consistent with neoclassical framework in which a lower risk yields a lower market value, translating in a lower return and vice versa.

To test our hypothesis we use data taken from the financial markets of Malaysia. Most studies on the value premium have only been concerned with developed economies – this may in part contribute to the criticism of Black (1993), Campbell (2000) and MacKinlay (1995) that the value premium is sample-specific. We hope to refute that by proving the existence of the value premium in an emerging economy. We chose Malaysia for several good reasons: firstly, it is not a developed market but rather an emerging economy, with a period of remarkable growth around the early 1990s. It has also recently weathered a severe financial crisis, from mid of 1997 to the end 1998. Finally, as a small open economy and trade reliant nation, it is highly exposed to the economic health of its major trading partners. A classic example is the impact of the recession in the United States (in early 2000), which caused Malaysia to go through a period of sluggish economic growth.

Malaysia also presents an interesting case study for several other reasons. The institutional setting of Malaysian market is not similar to the developed markets like the United States, United Kingdom or Japan, as it is top heavy. The top 50 or 60 stocks, by market capitalisation, account for most of the traded volume and index movement on any given day. Furthermore, most of the stocks in the category are also state owned and closely held. As a result, the volatility of the market is low, as compared to other regional markets. In addition, Malaysia has achieved a remarkable growth in managed fund size in the last ten years. According to the Security Commission of Malaysia, the total Net Asset Value (NAV) of investment companies nearly doubled from RM 87.385 billion (USD 22.996 billion) in 2004 to RM 198.217 billion (USD 59.51billion) in 2010. This value represents 20 percent of the Kuala Lumpur Stock Exchange (KLSE) market capitalization. Moreover, there is an ongoing liberalization of the financial markets. This is attracting significant interest from foreign fund managers and has further increased the managed fund size in Malaysia. Therefore, the results of this study have a direct implication for local and foreign fund managers.

In addition, unlike other regional emerging markets, Malaysia is the only country to have capital control for a significant amount of time during our study period. Finally, Malaysia is one of many rising emerging markets with Gross Domestic Product (GDP) per capita higher than China and India.[2]

Our research is influenced by two papers Chou et al. (2010) and Chen et al. (2010), who contrast the performance of FF with DT. Chou et al. (2010) investigates the two models in the context of the Japanese market. Their finding is consistent with Davis et al. (2000) that the choice of the models depends on the duration of the sample. The second paper, by Chen et al. (2010), proposes a new three-factor model incorporating characteristics similar to that of DT. They show that this new model goes a long way towards explaining many patterns in cross-sectional returns, which the FF model cannot. We hope to take their findings further by conducting research that it is not sample specific (in contrast to Chou et al. (2010) and employs the rationale of real options, where the investment perspective (based on Net Present Value in Chen et al., 2010) fails to hold.[3] This paper is also among the few which goes

[2] There is anecdotal evidence that Malaysian economic system is established on a relationship based system (see Gomez and Jomo, 1997); a system that exhibits political patronage, cronyism and low levels of transparency. Fraser et al. (2006) find that larger and more profitable Malaysian firms with political patronage carry more leverage than the firms with less political patronage. We do not fully investigate that in this paper but it might be something worth further study in the future.

[3] Ingersoll and Ross explain this as follows:

beyond reconciling not only the diverging views within the neoclassical asset pricing literature (like FF and DT) but also the diverging neoclassical and behavioural literature in this area.

Within this paper we specifically address two issues: (i) is there a statistically significant value premium in the Malaysian market?; and (ii) does our hypothesis rationalize the presence of the value premium and reconcile the apparently conflicting views in the literature? The sample period covered in this study is from 1990 to 2008 and the relevant variables are taken from the DataStream Database. This sample period includes a sub-period with rapid economic growth (1990-1996), followed by one with severe financial crisis (1997-1998), and one with a post crisis recovery (1999-2008).

First, we demonstrate that a significant value premium does exist in the Malaysian markets. Second, our analysis, based on the well-known Altman Z score model, demonstrates that value firms are no more prone to distress than glamour ones. However, we find that value firms do have more leverage than glamour firms. Third, we find evidence suggesting that the source of the value premium is in the investment pattern of glamour firms. We observe that the coefficients (HML) of growth portfolios are generally lower during the crisis and early recovery period, but increase significantly during the expansion period. This shows that glamour firms delay the realizing of their real options in periods of high economic uncertainty, to reduce their business risk. Finally, our regression analysis shows the

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" If in making the investment today we lose the opportunity to take on the same project in the future, then the project competes with itself delayed in time. In deciding to take an investment by looking at only its NPV, the standard textbook solution tacitly assumes that doing so will in no way affect other investment opportunities. Since a project generally competes with itself when delayed, the textbook assumption is generally false. Notice, too, that the usual intuition concerning the "time value of money" can be quite misleading in such situations. While it is true NPV postponing the project delays the receipt of its positive NPV, it is not true that we are better off taking the project now rather than delaying it since delaying postpones the investment commitment as well."

"Of course, with a flat, non-stochastic yield curve we would indeed be better off taking the project now, and this sort of paradox could not occur. But that brings up the even more interesting phenomenon that is central focus of this article, the effect of interest-rate uncertainty on the timing of investment." (Ingersoll and Ross, 1992, pp. 2)

coefficients (HML) of glamour portfolios are sensitive to the changes in total assets. This suggests that the increment in total assets, which in the context of our study is the proxy for undertaking growth options, explains the changes in business risk of glamour firms. This finding reaffirms our hypothesis that the investment pattern of glamour firms has a significant impact on their risk and return.

Our results, therefore, reconcile the previously diverging views in other studies and literature as follows. First, DT's observation of the unique characteristics of firms can be attributed to the growth options endowed to glamour firms. This hoarding of cash by the glamour firms drags down their returns. This is what FF saw as evidence of distress risk. This result reconciles FF with DT – they were both observing the same result but calling it different things. Second, we see that the embedded real options in glamour firms are providing utility in itself, in addition to yielding monetary benefits (in terms of capital gains and dividends). This fascination of investing in glamour firms in the context of Sargent (1987), constitutes a premium in price (and hence a discount in returns). This reconciles the neoclassical and behavioral perspectives. Finally, the over-reaction hypothesis of DeBondt and Thaler (1985, 1987) can be reconciled with the volatile nature of the leveraged equity of value firms which resembles financial options (see Merton, 1974). This financial option aspect of leveraged equity is aggravated in a poor economic environment, leading to a rebound in prices with an improving economic environment.

This paper is structured as follows: Section II reviews relevant literature, Section III presents our research questions and outlines the methodology used. Section IV presents the results and analysis, while Section V concludes.

II. Literature Review

Sharpe (1964), Lintner (1965, a and b) and Mossin (1966) shaped the notion of the Capital Asset Pricing Model (CAPM) where they demonstrate that the risk of an asset in terms of beta can sufficiently describe the cross-section of expected stock returns. Since then, a number of studies have empirically tested this model on the basis that beta is the sole explanatory variable with positive and linear relation to asset return. The results, however, are inconclusive. The early empirical studies (see Black et al., 1972; Blume and Friend, 1973 and Fama and McBeth, 1973)) offered a reasonable support for CAPM. However, later studies became critical because of the continuous evidence of anomalies and the questionable validity of certain assumptions (see Roll, 1977; Basu, 1977, 1983; Banz, 1981; Bhandari, 1988; Stattman, 1980; Rosernberg et al., 1985; DeBondt and Thaler, 1985; Jegadeesh and Titman, 1993; Cohen et al., 2002; and Titman et al., 2004)).

The findings of these later studies led Fama and French (1992) to conclude that CAPM with single beta does not adequately explain cross sectional differences in stock returns. They show that beta has only a weak, if at all, relation to the stock return. Moreover, they argue that CAPM is not sufficient to price all the risks. This, in turn, led to the development of the three factor model that consists of : (i) an overall market factor (R_{M}-R_{f}); (ii) a size premium (SMB), i.e., the return on a portfolio of small stocks minus the return on a portfolio of large stock; and (iii) a value premium (HML), i.e., the return on a portfolio of value stocks (high BE/ME) minus the return on a portfolio of glamour stocks (low BE/ME); to explain cross-section of returns on US stocks. Their model is derived from Merton's (1973) intertemporal CAPM and Ross's (1976) arbitrage pricing theory (APT), which states that risks must be multidimensional if stocks are to be priced rationally. Fama and French (1993, 1996) illustrate that SMB and HML are related to risk factors in returns, due to the existence of covariance between them, and that these risk factors contribute significantly to the variation in stock returns.

Interestingly, the development of this model has attracted a great deal of attention in academia. Much of it centers on the source of the value premium. Fama and French (1993) and Chen and Zhang (1998) argue that value firms are riskier, as they are more likely to be subject to financial distress than glamour firms, complying with the hypothesis of rational pricing. In their latter paper, Fama and French (1995) demonstrate that value [glamour] stocks are normally associated with firms that have persistently low [strong] earnings. In light of this evidence, they suggest that value [glamour] firms have positive [negative] loading on HML, implying higher [lower] distress. Zhang (2005), however, claims that value firms are riskier because they have more assets than glamour firms. He conjectures that assets in place are much riskier than growth options because in poor economic environments value firms are burdened with more unproductive capital and face higher cost in cutting them down.

An alternative explanation of the value premium revolves around investor sentiment and trading strategies. Lakonishok et al. (1994) and Haugen (1995) demonstrate that value (i.e., unspectacular) firms produced superior returns because of the investors' overreaction to the firms' performance. That is, investors extrapolate the past strong [weak] performance of glamour [value] firms too far into future. Investors then irrationally overbuy [oversell] glamour [value] firms' stocks. However, when the market realizes that the actual performance for glamour [value] firms is lower (higher) than initially expected, the glamour [value] firm's stocks end up with low [high] returns.[4] This finding is similar to the observation of De Bondt and Thaler (1985, 1987) that poorly performing stocks over the past

[4] La Porta et al. (1997) find that value firms have systematically positive earnings surprise and conversely for glamour firms.

three-to-five years (i.e., losers) outperform prior-period winners during the subsequent three-to-five years.

Daniel and Titman (1997) provide another alternative explanation for the value premium. Unlike Fama and French (1995), they claim that it is a firm's characteristics, rather than covariance risk, that offers an explanation for the value premium. That is, the presence of high covariance between the value stocks is not due to a distress factor but rather to their common characteristics. For instance, value stocks might be categorized in a similar line of business or comparable industries. To further corroborate their claim, they show that the presence of high covariance between value stocks has no significant relationship with the distress factor, i.e., high covariance exists even before the value firms become distressed. Similarly, Lee et al., (2007) find that stock characteristics better explain the UK value premiums.

Last but not least, there is one more potential explanation for the value premium. That is, the prevalence of the value premium is due to methodological issues. Banz and Breen (1986) and Kothari, et al., (1995) suggest that the selected sample is more likely to include firms that have since survived a period of distress compared to those that failed and went under. This is commonly known as survivor bias theory. However, some later studies have refuted these claims (see Davis (1994); Chan et al., (1995); and Cohen and Polk (1995)). Another view put forward by Lo and MacKinlay (1988); Black (1993); MacKinlay (1995) and Conrad et al., (2003) is that the value premium is due to data snooping. That is, continuous testing using the same data set would naturally show patterns in average returns. Barber and Lyon (1997) propose that using, for example, samples from different time periods or different countries would test this data-snooping hypothesis.

Looking at the emerging market, little, if any, has been published on the source of the value premium. Many, however, have documented the presence of value premiums (see

Geert, 1999; Drew and Veeraraghavan, 2002 and 2003). The only paper so far to investigate this issue is Yen et al., (2004). They find that the presence of the value premium in Singapore is due to the one-way overreaction of value firms. Since this is the only research so far in the context of emerging markets, it is obvious that many questions surrounding the controversy of value premium remain unanswered.

III. Data and Methodology

Given the objective of this study we collected our sample from all listed firms from three main boards of KLSE. The relevant data were extracted from DataStream database from 1990 to 2008. The firms included in the data fulfil the standard criteria employed in the literature i.e. they all have DataStream stock prices for December of year t-1 and June of year t and DataStream book value for year t-1. In addition, each firm has at least two years data on DataStream.[5]

In order to address our first research question (described on Page 5), we employ the standard methodology proposed by Fama and French (1993). First, we formed six portfolios (S/L, S/M and S/H; B/L, B/M and B/H) by intersecting two groups sorted by the size of the firm (ME, stock price times shares outstanding) with three groups sorted by BE/ME (BE, net tangible assets (equity capital plus reserves)-minus intangibles). In the case of size, we used the median KLSE size for each year as the threshold point. Stocks with ME higher than the median are assigned as Big (B) and conversely stocks with a lower ME are assigned as small (S). Meanwhile, for BE/ME, we split the stocks into three groups based on the breakpoints for the bottom 30 percent (Low), middle 40 percent (Medium) and top 30 percent (High) of

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5 This criterion is required to address the issue of survival bias documented by Banz and Breen (1986) and Kothari, et al., (1995).

the ranked values of BE/ME for KLSE stocks.[6] Second, we compute the value-weight monthly returns on the six portfolios from July of year t to June of year t+1, and reform the portfolios in June of year t+1. We repeat the same process, but this time with the twenty-five size intersecting BE/ME portfolios. This is to check the robustness of the results and to deal with any in-sample portfolio issues inherent in the six size-BE/ME portfolios. However, there are two differences: the twenty five size-BE/ME portfolios are constructed using equally weighted and using quintile breakpoints for ME and BE/ME.

To address our second research question (described on Page 5), our analysis is divided into two phases. In the first phase, we use measures of bankruptcy risk proposed by Altman (1993) to investigate whether firms with a high likelihood of distress are also firms with high B/M (value).[7] The purpose of this analysis is to examine the relationship between Z-score and BE/ME ratio. If the relationship is negative, both BE/ME and Z-score capture the information related to a priced distress risk factor. However, if the relation is positive, then we can conclude that Z-score and BE/ME contain different information and that both variables are potentially related to differences in relative risk across firms (see Griffin and Lemmon, 2002). In the context of this paper, we argue that the relative risk is due to each unique firm's characteristics.

We form portfolios based on three independent rankings on BE/ME, five rankings on Z-score, and two rankings on ME (size).[8] We only report size-adjusted data, which are the simple average of the means of the small and large firm groups. Firms in the lowest quintile

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6 We do not use negative BE firms when forming the size-BE/ME portfolios, as they do not have a sensible explanation.

7 We use the model developed by Altman (1993), shown below:

$Z = 1.2X_1 + 1.4\ X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$

X_1 = Working Capital / Total Assets
X_2 = Retained Earnings / Total Assets
X_3 = Earnings Before Taxes + Interest / Total Assets
X_4 = Market value of equity / Total Liabilities
$X_{5=}$ Net Sales / Total Assets

8 The break points for BE/ME and size are similar to the formation of six size-BE/ME portfolios.

of Z-scores are firms with the highest probability of bankruptcy, the probability decreases as we move to the higher quintiles.

In the second phase, our main interest is the coefficient of HML, as our objective is to prove that its value is determined by the risk of a firms' characteristics rather than the distress risk. In pursuit of this objective, we undertake a two steps approach. In the first step, we employ the Fama and French three factor model (R_{pt}-R_{ft} = α + b (R_{mt}-R_{ft}) +s SMB + h HML +ε) to determine the coefficient of HML. Our preliminary analysis shows that this model is adequate to capture the portfolio return for the Malaysian market. Table 1a and 1b show that all alphas are not significant.

[Insert Tables 1a and 1b here]

However, unlike Fama and French (1995), we argue that HML is the proxy for the firm's characteristics and the changes in loading reflect the constant changes in business and financial risks. Therefore, in order to capture this dynamic attribute, we use rolling beta regression to estimate the time varying coefficient of HML (conditioning beta) rather than conventional static analysis. We regress the value and glamour portfolios' excess returns using the three factor model with a 36-month rolling window.[9]

In the second step, we regress the coefficient of HML (Y_{it}^{*}) for the i^{th} portfolio on the conditioning variable known at time t. We use the mean as the central tendency measure to convert the value of coefficients from monthly to annual. Our model is given as below:

$$Y_{it}^{*} = \alpha_o + \sum_{j}^{J} \beta_j X_{jit} + \eta_i + \eta_t + \varepsilon_{it} \tag{1}$$

where i= 1, … , N and t = 1,…,T. X stands for J variables capturing portfolio-specific characteristics which vary with time and across firms (panel data) and ε_{it} is the error term assumed to be independently and identically normally distributed with zero mean and

9 We use twenty-five intersecting portfolios rather than six to have a larger sample size.

constant variance, $\varepsilon_{it} \approx iidN(0,\sigma_{\varepsilon}^{2})$. The conditioning variables are the current and the lag of natural logarithm of total asset and total debt. Natural log of total asset measures the sensitivity of undertaking growth option, while natural log of total debt measures the sensitivity of undertaking leverage. We also add interaction variables to differentiate the coefficient for value and glamour firms, and gross domestic product (GDP) to reflect the economic condition at time t.

We estimate Equation 1 using the static panel data estimation technique. This is to address the need of a larger number of data points, as the number of portfolios in our sample is very small. Moreover, static panel data estimation has several advantages. First, it increases the degree of freedom and reduces the collinearity problem (see Hsiao, 2003). Second, panel data has the ability to control for the problem of endogeneity without the need for external instrument. The choice between random and fixed is determined by conducting the Hausman test.

IV. Empirical Results

Table 2a shows the average excess return on the six size-BE/ME equity sorted portfolios for the full sample. The results show that the value portfolios produced higher returns than the growth portfolios. For instance, BV portfolio generates returns twice as much as the BG portfolio. We can also observe similar differences in SV and SG portfolios. Meanwhile, Table 2b also demonstrates similar patterns in returns. The portfolios in the lowest size quintile and the highest in BE/ME quintile generate the highest return compared to other portfolios. These findings are consistent with many articles written on this issue which observe that small and high book-to-market equity stocks have higher returns than big and low book-to-market equity stocks. This clearly indicates the presence of the value premium in the Malaysian market. Table 2a and 2b also show the standard deviation for the respective portfolios. However, unlike the return there is no clear pattern in the standard deviations. Thus, any interpretation is meaningless.

[Insert Tables 2a and 2b here]

Table 3 presents summary statistics of the characteristics of the stocks in each group. Looking at all the five quintiles of Z-score, there seems to be no apparent difference between low BE/ME and high BE/ME stocks. For instance, the Z-score in the lowest quintile is 0.588 for low BE/ME stocks and 0.739 for high BE/ME stocks. Moreover, both types of stocks exhibit similar scores as we move to the higher quintile, with the exception of the highest quintile. These findings contradict the proposal of Fama and French (1995) that the presence of the value premium is due to distress risk. Meanwhile, Table 3 also shows that within the high BE/ME group, the average book-to-market ratio is higher for firms with a low Z-score than firms with a higher Z-score, and conversely for the low BE/ME group.

We also report summary statistics of a firm's size, total asset, market leverage, and profitability for the firms in each portfolio. This is to further examine our hypothesis that Z-score and BE/ME are both related to characteristics that are considered to reflect distress risk. We find a firm's size to be inversely related with BE/ME and positively related to Z-score. One might find this observation puzzling. However, when looking at Malaysia's economic structure, where most of the big and successful firms are either state owned or politically connected, our results then make more sense. This is due to the fact these firms have special privileges to capture government-created rents through privatisation, licences or contracts. For instance, Renong Bhd, a company with a direct link to the ruling party, emerged as one of Malaysia's largest conglomerates (see Gomez, 1994). Meanwhile, market leverage is negatively related to both Z-score and BE/ME. High BE/ME firms have higher leverage than low BE/ME in all Z-score quintiles. Profitability is positively related with Z-score and inversely related to BE/ME. Moreover, firms in low BE/ME have higher profitability than high BE/ME from the third to fifth quintile of Z-score.

[Insert Table 3 here]

The rolling regression estimates of the Fama-French three factor model for the full sample period are provided in Table 4a and 4b. In Table 4a, we report the mean regression parameters for the six size-BE/ME portfolios. Since we are only interested in the coefficient of HML (h), we choose not to discuss the estimated value of other parameters. The results show BG and SG portfolios have negative coefficients, while BV and SV have positive coefficients. We further test this model with the twenty five size-BE/ME portfolios. Table 4b illustrates pretty much the same pattern. Portfolios in the lowest quintile of BE/ME have either negative loading or small positive value. Meanwhile, portfolios in the higher quintile of BE/ME have higher positive loadings. This is consistent with FF's arguments that glamour stocks should have negative loadings and conversely for value stocks. Nevertheless, our explanation is rather different. Fama and French (1995) argue that value firms have positive loading because they have higher distress risk, and vice versa for glamour firms. However, our earlier analysis shows that the distress level is similar for both types of firms. Thus, we believe that glamour portfolios have lower loading because the choice of delaying growth options gives glamour firms the opportunity to reduce their risk. Moreover, by delaying the exercising of these options, glamour firms accumulate excess cash in their balance sheet, and conventional wisdom in finance tells us that cash generates very little return, if any. This, in turn, translates into lower returns for glamour portfolios.

[Insert Tables 4a and 4b here].

Investors are generally infatuated with glamour firms due to their potential growth opportunities stemming from the embedded real options. Glamour firms constitute an "alluring" asset in the Rational Expectations framework of Lucas (1978) as extended by

Sargent (1987). Their prices are bid up in contrast to the "unspectacular" value firms. This reconciles the neoclassical perspective with the behavioral one.

The leverage undertaken by value firms causes a drag on their performance in poor economic environments. This is especially true as leveraged equity displays the volatility associated with financial options (see Merton, 1974). Improvement of the economic scenario causes a bounce-back effect on value stocks, reconciling the neoclassical perspective with the behavioral one of DeBondt and Thaler (1985, 1987).

To provide further insight to our argument, we graph the coefficient of HML of our twenty five size-BE/ME portfolios. Figures 1-25 exhibit the pattern of time varying betas (coefficient of HML) for each portfolio. We notice that value portfolios have higher coefficients than glamour portfolios. In addition, the coefficients (HML) of value portfolios are more stable over time, except during the financial crisis period. In contrast, the coefficients (HML) of glamour portfolios are generally lower during the crisis and early recovery period. However the coefficients increase significantly during the expansion period. This is consistent with our hypothesis that glamour firms increase their business risk by undertaking the growth options.

[Insert Figures 1-25 here]

We further test this argument by estimating Equation 1 using the static panel data estimation technique. The Hausman test indicates that the fixed effect panel is more appropriate than the random. We hypothesize that value portfolios should be more sensitive to the natural logarithm of leverage, while glamour firms react to the natural logarithm of the total asset. Table 5 shows the estimation output for Equation 1. We notice the current variable has no significant effect on the coefficient of HML except GDP. This is expected, as the changes in the firm's policy are not immediate. Therefore, the interpretation of lag is more appropriate in the context of our study. We notice a significant difference between the coefficients for glamour and value portfolios. In the case of glamour portfolios, lag of natural logarithm of total asset has a positive impact on the coefficient of HML. A 1 percent increase in total asset is estimated to have the effect on the coefficient of HML by 0.22, which further strengthens our argument that glamour firms increase their business risk by undertaking growth options. However, we find the opposite impact for value portfolios. A 1 percent increase in total asset is estimated to reduce the coefficient by of HML by 0.01. We also find that the lag of natural logarithm of total debt has a positive impact on the coefficient of HML, but falls short of significance. The results from our estimation reveal that the changes in total asset are the key variables that differentiate the coefficient of HML between glamour and value portfolios. That is, glamour firms have lower risk because they choose not to aggravate their business risk by delaying the growth options. This finding further substantiates our intuition that the investment pattern of glamour firms explains why growth stocks generate lower returns than value stocks.

[Insert Table 5 here]

V Conclusion

A plethora of explanations have been put forward to rationalize the source of the value premium, but the issue still remains controversial. In this paper, we reassess this issue for the case of Malaysia, an emerging economy with a top heavy, closely held, state-owned institutional setting. The initial contribution of this paper is to rationalize the value premium to economic fundamentals, demonstrating that it occurs because of the investment pattern of the glamour firm. That is, glamour firms have a tendency to hoard cash and delay the undertaking of their growth options, especially in uncertain economic environments. This mitigates their business risk, but lowers their market valuation, driving down their returns.

Another contribution of our paper is in reconciling the diverging neoclassical views of FF and DT by linking the risk and characteristics based models. We explain that distress risk is *not* the main cause for the wide spread in expected return between value and growth stocks, but rather the risk of the unique firm's characteristics. To do so, we show that glamour firms have the unique characteristics of being endowed with growth options, which entail capital outlay resulting in business risk. In contrast, value firms have assets in place which are used as collateral to lever up and boost their earnings, resulting in financial risk. Our explanation is consistent with the view of Chen et al. (2010), which suggests that the interpretation of DT, that risk does not determine expected return, is too strong.

Still another contribution of our paper is in the reconciliation of the diverging neoclassical and behavioural perspectives. Here we resort to the Rational Expectations perspective of Lucas (1978) as extended by Sargent (1987). In our study, the real options endowed to glamour firms provide a utility, i.e., "an infatuation" in itself, in addition to the monetary returns in terms of capital gains and dividends. This inherent utility of glamour firms causes their price to be bid up in contrast to value firms, thereby reducing their returns.

Our empirical findings corroborate the hypothesis of this paper. First, our preliminary analysis shows that value portfolios outperform glamour portfolios regardless of the formation technique. This finding is consistent with several other studies on international markets (see Chan et al., 1991; Capaul et al., 1993; and Fama and French, 1998). Second, using the Altman Z-score, we find no evidence that value stocks have a greater distress risk than glamour stocks, concurring our differing view with FF. Nevertheless, we find evidence that value firms employ more leverage than glamour ones. This reconciles the behavioural perspective of DeBondt and Thaler (1985, 1987) with that of the neoclassical perspective of Merton (1974). That is, the leverage of value firms makes them behave like volatile financial options, plummeting very fast under economic downturns and rebounding equally fast under upturns. Third, expanding the perspective of DT, we observe that growth portfolios have a lower risk, particularly during the crisis and early recovery period. Our observation is based on the pattern of coefficients (HML) generated from rolling regression analysis. Finally, using static panel data analysis, we find that the coefficients (HML) are sensitive to the changes in total assets, reaffirming our intuition that the risk and return structure of growth firms are determined by their investment pattern. All these findings substantiate our proposal that the value premium can be accredited to economic fundamentals.

We believe our paper has provided further insight in understanding the source of the value premium, particularly in the context of emerging markets. Testing the same hypothesis on a developed market is an issue worthy of further investigation.

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Table 1a

Fama and French Three Factor (FFTFM) for Weighted Monthly Excess Returns on Six Portfolios formed on Size and BE/ME: 7/1990-6/2008, 228 Months.

$$\mathbf{R_{pt}\text{-}R_{ft} = \alpha + b\ (R_{mt}\text{-}R_{ft}) + s\ SMB + h\ HML + \varepsilon}$$

Portfolio	BG	BM	BV	SG	SM	SV
a	0.16	-0.48	-0.25	-0.30	-0.08	-0.05
t(a)	0.13	-0.25	-1.14	-1.20	-0.46	-0.33
b	0.88	0.98	0.97	1.01	0.88	1.05
t(b)	**11.06**	**36.04**	**21.57**	**28.92**	**33.10**	**44.06**
s	-0.20	-0.14	0.06	1.15	0.87	0.71
t(s)	**-6.08**	**-3.74**	**0.77**	**23.91**	**23.66**	**21.60**
h	-0.20	0.21	0.63	-0.54	0.25	0.58
t(h)	**-3.79**	**5.15**	**7.40**	**-10.22**	**6.41**	**16.34**
Adj R-squared	**0.75**	**0.87**	**0.87**	**0.91**	**0.77**	**0.91**

Notes:
B/G, big to growth; B/M, big to medium; B/V, big to value; S/G, small to growth; S/M, small to medium, S/G, small to growth. Bold (t) statistics indicates that the estimated coefficient is significant at 5%.

Table 1b

FFTFM for Simple Monthly Excess Returns on Twenty-five Portfolios formed on Size and BE/ME: 7/1990-6/2008, 228 Months

$$R_{pt}-R_{ft} = \alpha + b\,(R_{mt}-R_{ft}) + s\,SMB + h\,HML + \varepsilon$$

Size	*Low*	*2*	*3*	*4*	*High*	Low	2	3	4	High
			a					**t(a)**		
Small	*-0.63*	*-0.73*	*0.10*	*0.32*	*1.07*	*-1.64*	*-1.44*	*0.21*	0.35	1.07
2	*-1.41*	*-1.32*	*-1.00*	*-0.74*	*-0.58*	*-2.80*	*-4.61*	*-3.32*	-2.13	-1.12
3	*-1.92*	*-1.40*	*-1.04*	*-0.78*	*-0.77*	*-4.50*	*-4.00*	*-3.86*	-2.45	-3.43
4	*-1.97*	*-1.06*	*-1.24*	*-0.76*	*-1.12*	*-4.84*	*-3.38*	*-4.35*	-2.47	-3.97
Big	*-0.71*	*-0.70*	*-0.89*	*-0.30*	*-1.26*	*-2.00*	*-3.30*	*-2.65*	-1.06	-3.23
			b					**t(b)**		
Small	0.96	0.98	0.79	0.90	1.09	**17.99**	**13.84**	**13.90**	**6.91**	**7.81**
2	0.87	0.88	0.80	0.89	0.82	**12.42**	**15.03**	**18.94**	**18.57**	**11.20**
3	1.06	0.99	0.94	0.99	1.02	**18.23**	**20.16**	**16.38**	**22.35**	**15.81**
4	0.91	0.91	0.92	0.93	1.02	**16.47**	**20.67**	**21.13**	**21.65**	**18.02**
Big	0.89	0.98	1.00	1.04	1.06	**10.33**	**33.24**	**12.42**	**26.63**	**19.57**
			s					**t(s)**		
Small	*1.29*	*1.11*	*0.78*	*0.99*	*0.91*	***17.46***	***11.41***	***6.85***	**5.51**	**4.72**
2	0.80	0.74	0.84	0.91	0.71	**8.29**	**9.43**	**14.51**	**13.71**	**6.99**
3	0.78	0.58	0.51	0.47	0.52	**9.76**	**8.69**	**5.78**	**7.66**	**6.00**
4	0.18	0.18	0.27	0.33	0.36	**1.79**	**3.12**	**4.37**	**5.57**	**4.07**
Big	0.08	-0.15	-0.09	-0.98	0.04	0.90	-3.77	-1.25	-1.83	0.50
			h					**t(h)**		
Small	-0.41	-0.15	-0.21	0.21	0.23	**-5.04**	-1.39	-2.46	1.09	**1.10**
2	-0.37	0.06	0.32	0.49	0.20	-3.57	0.62	**4.97**	**6.88**	**1.83**
3	-0.18	0.25	0.21	0.39	0.45	-0.28	**3.40**	**1.68**	**5.95**	**4.75**
4	0.28	0.16	0.27	0.42	0.60	**1.62**	**2.39**	**4.36**	**6.57**	**5.26**
Big	-0.13	0.15	0.17	0.36	0.51	-2.20	**3.34**	**2.14**	**6.17**	**6.26**

Notes:
S refers to size and L to BE/ME. For instance S1L1 refers to lowest quintile in size and BE/ME. Bold (t) statistics indicates that the estimated coefficient is significant at 5%.

Table 2a

Summary Statistics for Weighted Monthly Percent Excess Returns on Six Portfolios formed on Size and BE/ME: 7/1990-6/2008, 228 Months

Portfolio	RPTRFT	Portfolio	RPTRFT
BG	0.65	SG	1.06
	(7.44)		(12.58)
BM	1.07	SM	1.64
	(8.34)		(11.40)
BV	1.34	SV	2.03
	(9.98)		(12.66)

Notes:
B/G, big to growth; B/M, big to medium; B/V, big to value; S/G, small to growth; S/M, small to medium, S/G, small to growth; RPTRFT, return of a certain portfolio minus risk free rate. Standard deviation in parentheses.

Table 2b

Summary Statistics for Simple Monthly Percent Excess Returns on Twenty-five Portfolios formed on Size and BE/ME: 7/1990-6/2008, 228 Months

PT	RPTRFT	PT	RPTRFT	PT	RPTRFT	PT	RPTRFT	PT	RPTRFT
S1L1	0.89	**S2L1**	-0.28	**S3L1**	-0.28	**S4L1**	-0.65	**S5L1**	0.16
	(13.75)		(12.15)		(12.90)		(9.90)		(8.59)
S1L2	0.92	**S2L2**	0.14	**S3L2**	0.24	**S4L2**	0.15	**S5L2**	0.35
	(14.25)		(11.34)		(11.71)		(9.33)		(8.26)
S1L3	1.29	**S2L3**	0.67	**S3L3**	0.46	**S4L3**	0.14	**S5L3**	0.25
	(11.26)		(11.38)		(10.51)		(9.62)		(9.45)
S1L4	2.11	**S2L4**	1.24	**S3L4**	0.93	**S4L4**	0.79	**S5L4**	1.03
	(18.06)		(12.98)		(11.44)		(10.39)		(9.67)
S1L5	3.02	**S2L5**	.918	**S3L5**	1.03	**S4L5**	0.70	**S5L5**	0.47
	(19.44)		(12.38)		(11.70)		(11.73)		(11.22)

Notes:
S refers to size and L to BE/ME. For instance S1L1 refers to lowest quintile in size and BE/ME. RPTRFT, return of a certain portfolio minus risk free rate. Standard deviation in parentheses.

Table 3

Summary Statistics of Firm Characteristics for Portfolios Sorted on BE/ME and the Probability of Financial Distress.

Portfolio	***L***	***M***	***H***	***Portfolio***	***L***	***M***	***H***
Z-score				***ROA***			
1	0.588	1.044	0.739	**1**	-0.039	0.003	0.021
2	2.404	2.384	2.453	**2**	0.013	0.051	0.037
3	4.438	4.175	4.133	**3**	0.056	0.070	0.054
4	9.705	9.976	12.536	**4**	0.091	0.079	0.084
5	36.995	34.459	27.248	**5**	0.071	0.109	0.061
BE/ME				***Leverage***			
1	0.309	0.852	2.111	**1**	1.814	1.773	2.219
2	0.372	0.824	1.884	**2**	0.908	0.896	1.102
3	0.392	0.822	1.771	**3**	0.366	0.473	0.572
4	0.357	0.796	1.651	**4**	0.162	0.194	0.293
5	0.368	0.835	1.865	**5**	0.068	0.081	0.116
Size				***Asset***			
1	707.81	569.46	610.97	**1**	1775.10	1533.66	1837.17
2	1234.57	400.93	451.71	**2**	2276.29	651.94	820.48
3	1645.31	613.41	730.51	**3**	1757.35	811.74	536.43
4	2339.92	1786.47	448.58	**4**	1810.52	1104.11	585.87
5	1342.18	530.58	596.07	**5**	589.68	521.31	530.02

Notes:
KLSE firms from July 1991 to June 2008 are ranked independently every June based on their values of the probability of financial distress (Z-Score) calculated using Altman (1993) model. Leverage the ratio of total book assets less book equity to market equity. Return on assets is the ratio of income before extraordinary items to total book assets. Size is the market value of equity while asset is the total asset. Both size and total assets are in million.

Table 4a

Mean coefficient of rolling regression for six size-BE/ME portfolios

	BG	BM	BV	SG	SM	SV
constant	0.033125	0.03137	-0.42815	-0.42815	-0.15097	-0.15097
Rm-Rf	0.873151	1.005195	0.973935	1.058644	0.907441	1.066236
SMB	-0.10504	-0.13366	0.130523	1.227393	0.888369	0.795085
HML	**-0.21266**	**0.206796**	**0.583823**	**-0.55531**	**0.211459**	**0.637569**

Note:
The coefficients are generated from rolling regression (36-month rolling window) using FFTFM.

Table 4b

Mean coefficient of rolling regression for twenty-five size-BE/ME portfolios

	L1	L2	L3	L4	L5	L1	L2	L3	L4	L5
	Constant					*Market*				
S1	-0.79	-0.76	0.41	-0.26	0.40	1.04	1.09	0.85	0.85	1.47
S2	-1.45	-1.37	-1.09	-0.49	-1.54	0.86	0.92	0.86	0.89	0.88
S3	-1.62	-1.28	-1.13	-0.77	-0.80	1.05	1.03	1.01	0.99	1.09
S4	-2.09	-1.10	-1.23	-0.72	-1.04	0.93	0.88	0.93	0.85	1.07
S5	-0.75	-0.81	-0.74	-0.29	-1.56	0.89	0.98	1.02	1.03	1.04
	SMB					*HML*				
S1	1.34	1.22	0.71	0.85	1.44	-0.43	-0.21	-0.10	0.20	0.15
S2	0.99	0.78	0.79	0.74	0.72	-0.25	0.07	0.29	0.40	0.21
S3	0.70	0.54	0.45	0.46	0.53	-0.08	0.29	0.27	0.47	0.47
S4	0.29	0.19	0.29	0.25	0.36	0.38	0.25	0.28	0.44	0.64
S5	**0.26**	**-0.05**	**-0.05**	**-0.06**	**0.14**	**-0.08**	**0.17**	**0.15**	**0.35**	**0.46**

Note:
The coefficients are generated from rolling regression (36-month rolling window) using FFTFM.

Table 5

Estimation output for Equation 1

Dependent Variables:	**HML**	
Independent Variables	Coefficient	t
Constant	-0.0113	-0.02
		(0.986)
Total Assets	-0.1695	-1.91
		(0.057)
Total Assets (-1)	0.2222	2.49
		(0.013)**
Total Debt	0.0630	1.52
		(0.129)
Total Debt (-1)	0.0099	0.26
		(0.798)
Total Assets*Dummy	0.0433	0.34
		(0.734)
Total Assets*Dummy (-1)	-0.2348	-1.90
		(0.059)*
Total Debt*Dummy	-0.0312	-0.52
		(0.607)
Total Debt*Dummy (-1)	0.0431	0.77
		(0.443)
GDP	-0.0119	-2.94
		(0.004)**

Notes:
HML= $\alpha + \beta_0$ *Total Asset*$_{it}$ $+ \beta_1$ *Total Asset*$_{it-1}$ $+ \beta_2$*Total Debt*$_{it}$ $+ \beta_3$*Total Debt*$_{it-1}$ $+ \beta_4$ *Total Asset*Dummy*$_{it}$ $+ \beta_5$ *Total Asset*Dummy*$_{it-1}$ $+ \beta_6$ *Total Debt*Dummy*$_{it}$ $+ \beta_7$ *Total Debt*Dummy*$_{it-1}$ $+ \beta_8$ *GDP*$_t$ $+ \eta_i + \eta_t + \varepsilon_{it}$ *where* η_i *is an unobserved firm-specific effect and* η_t *captures any common period-specific effects.* ε_{it} *is the error term, which represents measurement errors in the independent variable, and other explanatory variables that have been omitted. It is assumed to be independently identical normally distributed with zero mean and constant variance. A dummy variable taking the value 1 if the portfolio is value and 0 if the portfolio is growth. The numbers in brackets are p-values. * indicate significance at 10% while ** at 5%.*

Figures 1-25 Graphs Illustrating the Pattern of Coefficients (HML) for 25 Portfolios formed on Size and BE/ME.

Figure 1: Portfolio S1L1

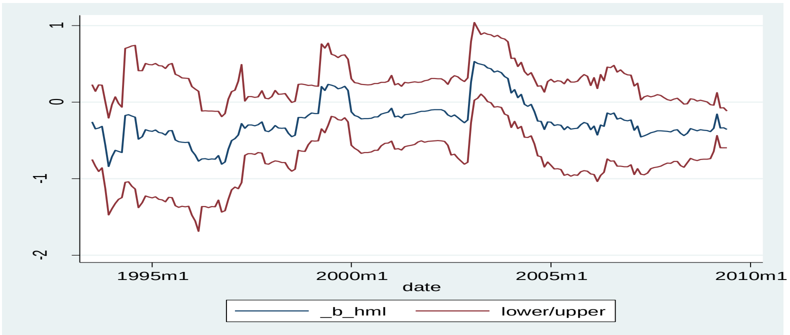

Figure 2: Portfolio S2L1

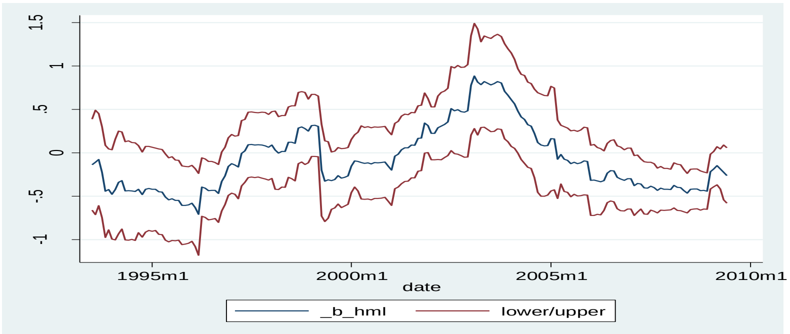

Figure 3: Portfolio S3L1

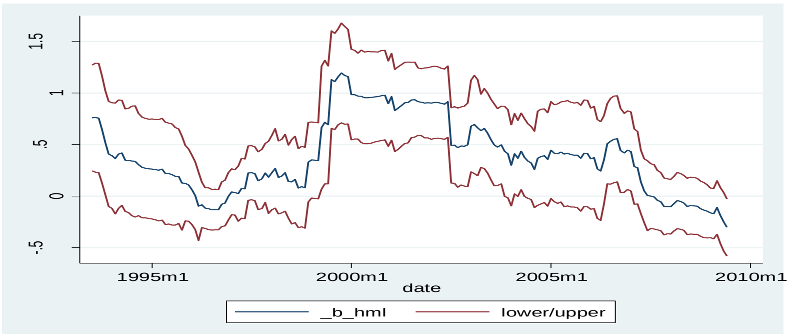

Figure 4: Portfolio S4L1

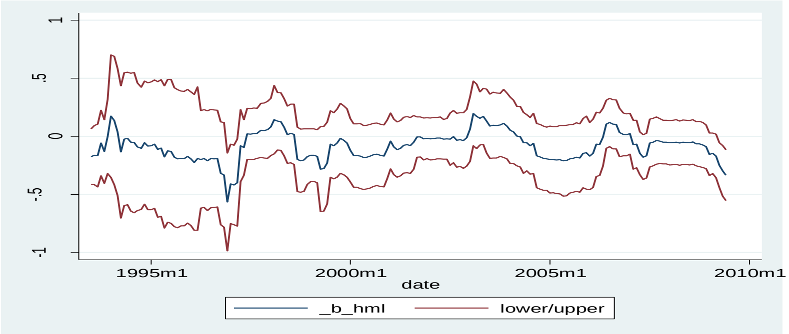

Figure 5: Portfolio S5L1

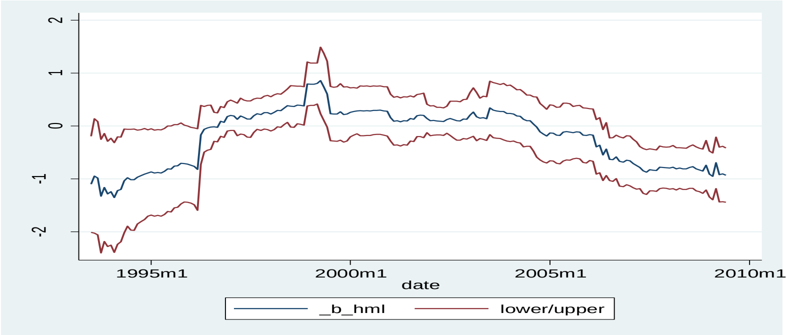

Figure 6: Portfolio S1L2

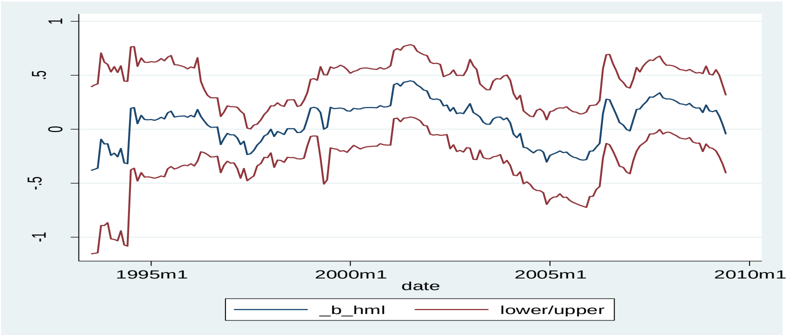

Figure 7: Portfolio S2L2

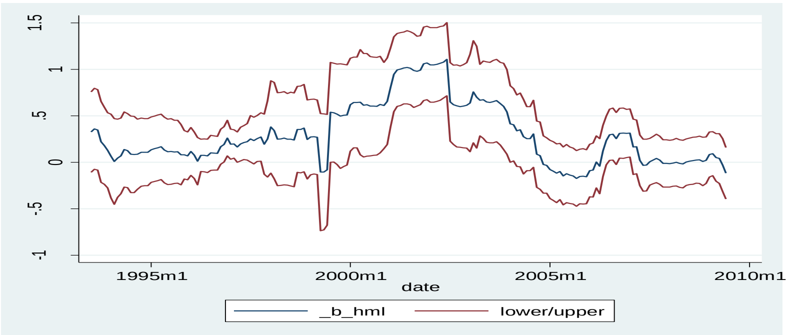

Figure 8: Portfolio S3L2

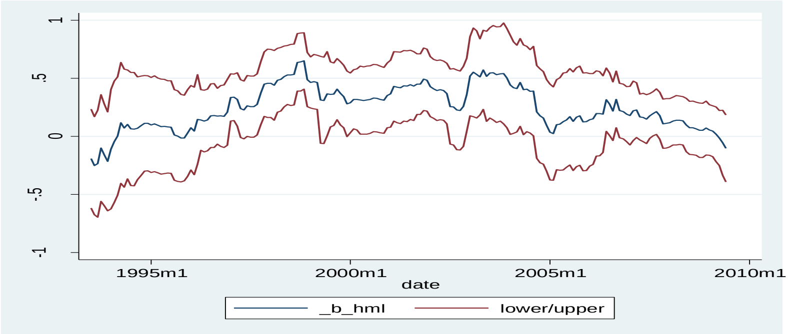

Figure 9: Portfolio S4L2

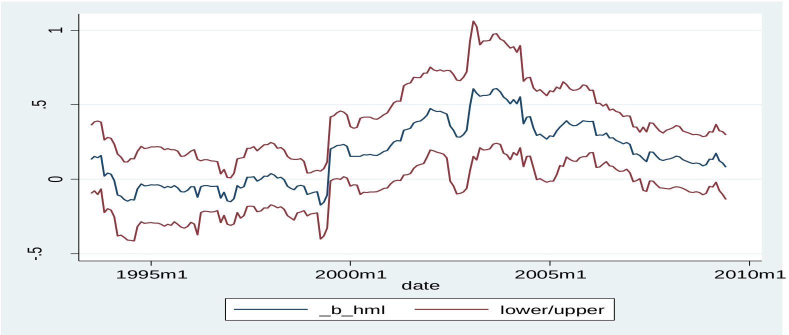

Figure 10: Portfolio S5L2

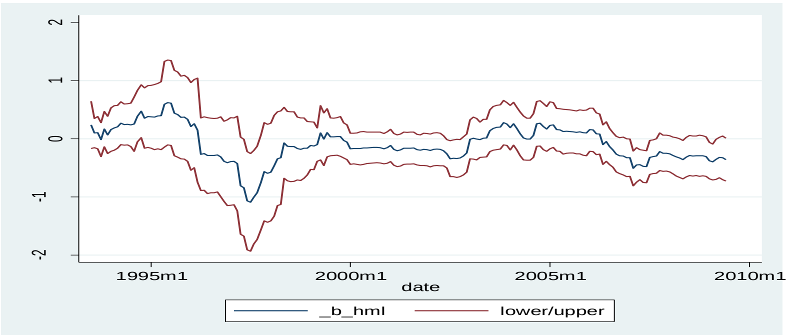

Figure 11: Portfolio S1L3

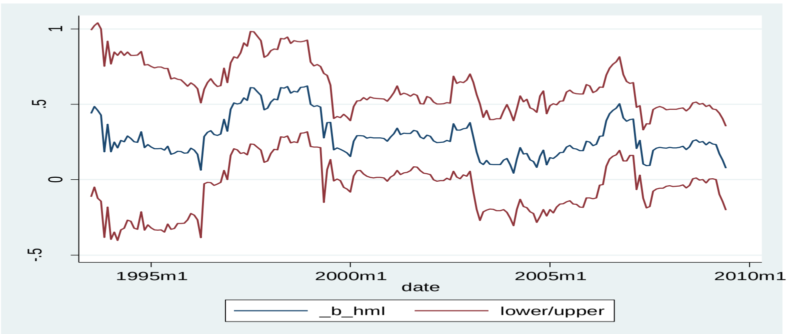

Figure 12: Portfolio S2L3

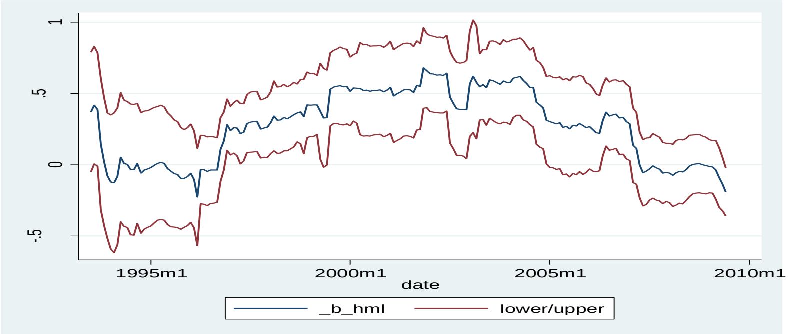

Figure 13: Portfolio S3L3

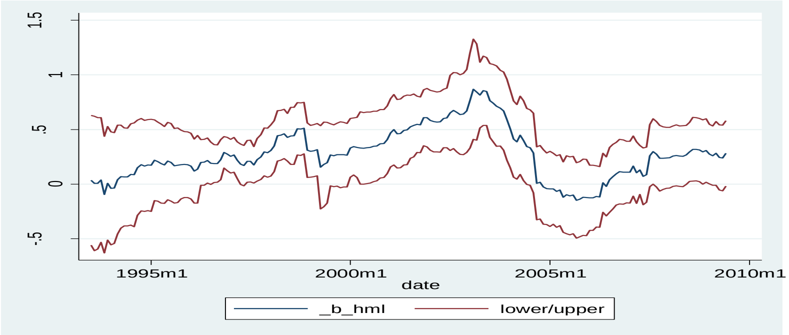

Figure 14: Portfolio S4L3

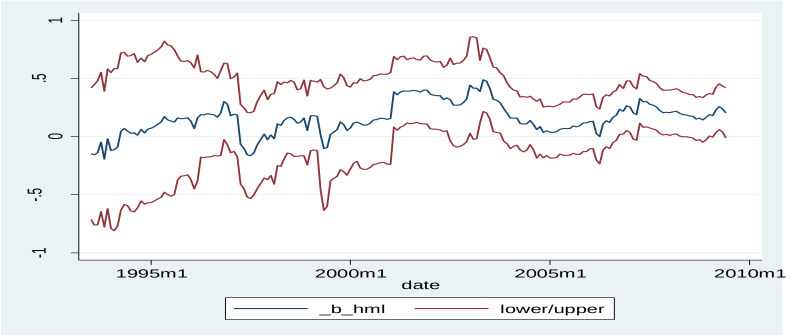

Figure 15: Portfolio S5L3

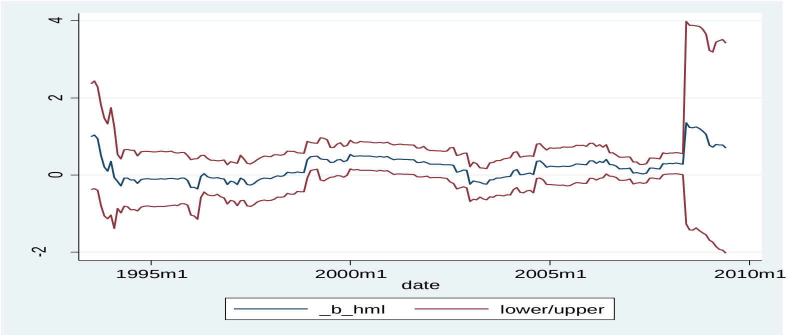

Figure 16: Portfolio S1L4

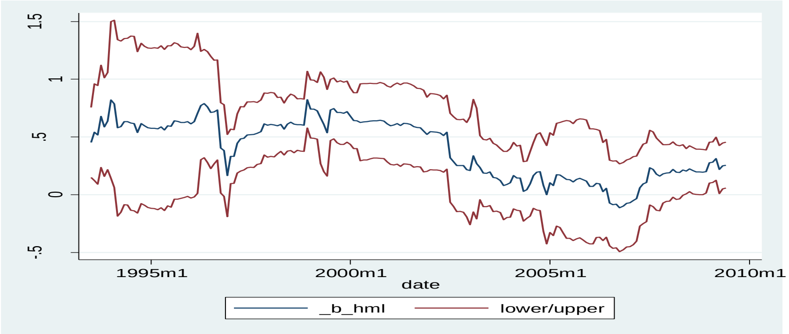

Figure 17: Portfolio S2L4

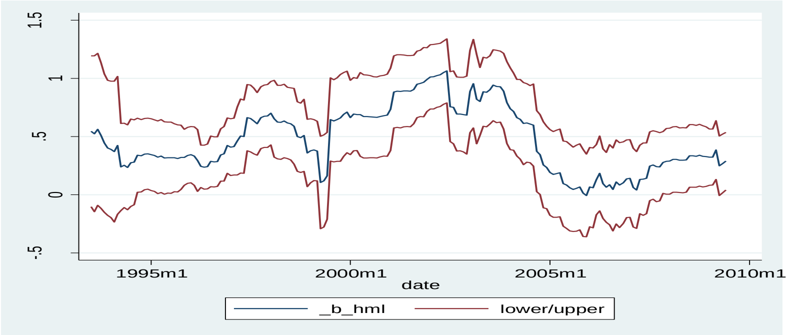

Figure 18: Portfolio S3L4

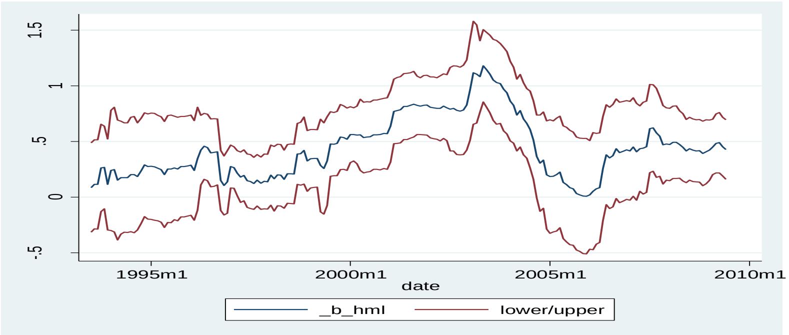

Figure 19: Portfolio S4L4

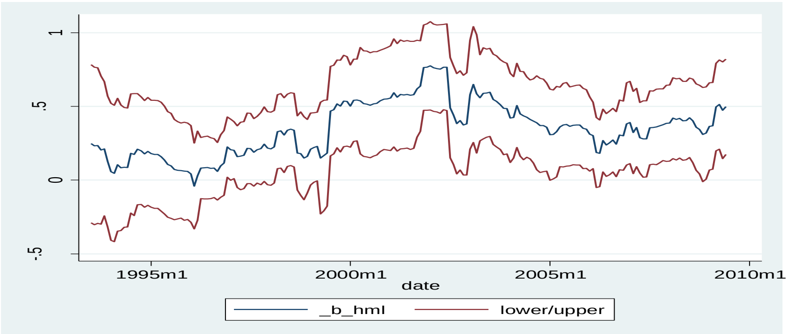

Figure 20: Portfolio S5L4

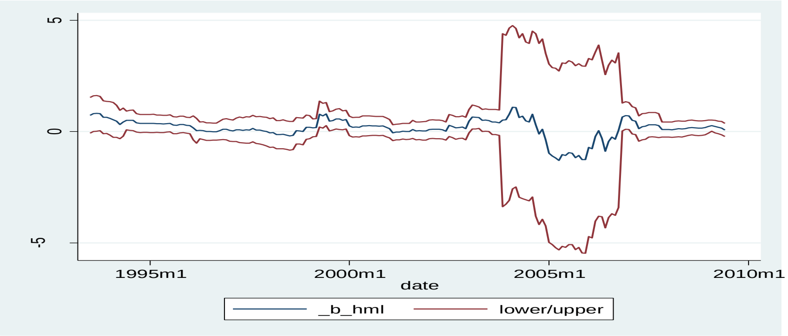

Figure 21: Portfolio S1L5

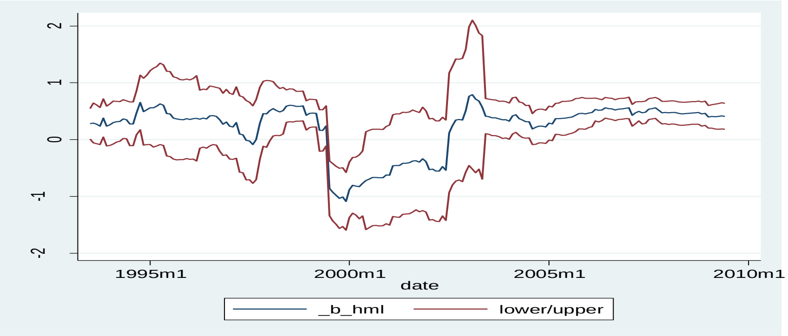

Figure 22: Portfolio S2L5

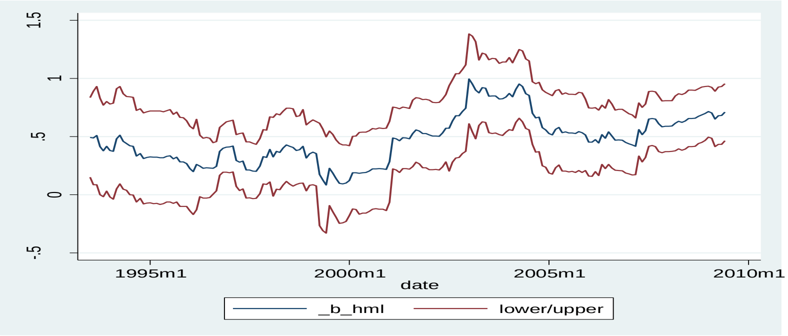

Figure 23: Portfolio S3L5

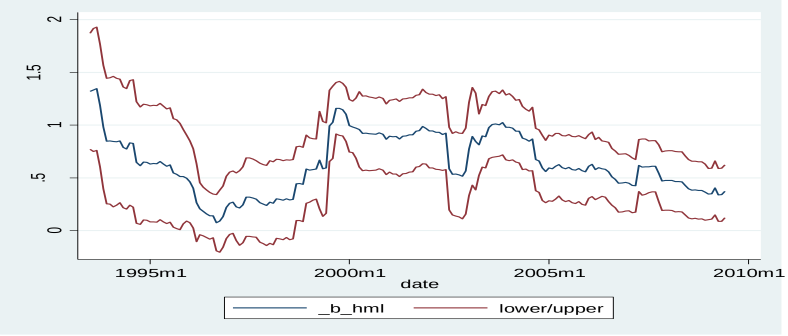

Figure 24: Portfolio S4L5

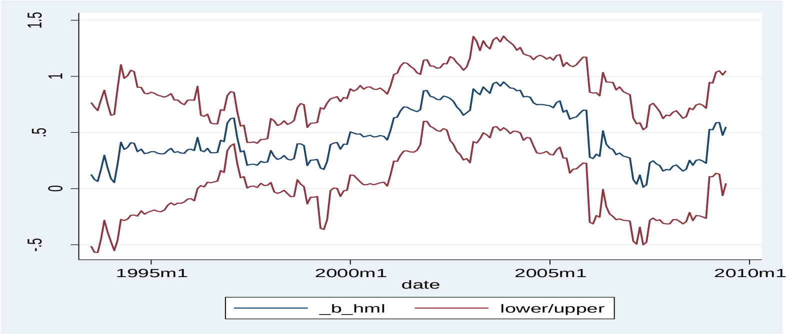

Figure 25: Portfolio S5L5