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WHAT DRIVES THE SHAREHOLDER VALUE?*

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ABSTRACT

In the strategy literature a lot of emphasis is placed on growth as a dominant business strategy. Is growth always desirable? The finance literature, on the other hand, focuses more on economic profitability and value. This study empirically explores the significance of profitability and growth as drivers of shareholder value, measured by the market-to-book value (M/B) ratio. Profitability is defined as economic profitability; that is, the spread between return on equity and the risk-adjusted cost of equity. Using panel data and employing the Generalized Method of Moments (GMM) estimator, our findings show a strong positive relationship between economic profitability and M/B ratio. Growth, on the other hand, is negatively related to M/B ratio. However, the economic profitability-growth interaction variable has a positive coefficient indicating that growth associated with economic profitability influences shareholder value positively. This finding is further supported when we analyse the relationships separately for the positive-spread firms and negative-spread firms. Our results also indicate negative relationship between M/B ratio and firm size and positive relation with business risk, financial risk and capital intensity.

Keywords: shareholder value, economic profitability, EVA, spread, GMM

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INTRODUCTION

In the recent years, there has been considerable managerial interest in shareholder value and its management. One reason for this increased interest is the shift in focus from accounting profitability to economic profitability. The most popular measure of accounting profitability is return on equity (ROE). Economic profitability, on the other hand, also considers the cost of equity (k_e); it is a *spread* between ROE and k_e. The concept of economic profitability is equivalent to the concept of economic value added (EVA). The spread between ROE and k_e multiplied by equity capital gives total EVA amount.

In strategic management literature growth is considered a most desirable strategy. Growth is considered necessary as it makes a firm big, opens up managerial opportunities for career advancements and gives pride to managers. Growth for the sake of becoming big has been questioned by many in academics and practice as well. In the quest for becoming big, firms may compromise profitability. There are, therefore, practitioners who aim at making their companies more profitable than bigger. The pursuit for growth perhaps implicitly assumes that it drives a firm's profitability and value. But this is an empirical question.

In this article, we explore two issues which are of considerable theoretical and practical interest. Does growth enhance the value creating potential of a firm? Does economic profitability help in creating shareholder value? To explore these questions, we start with an approach similar in nature with the study of Varaiya, Kerin and Weeks (1987) in the U.S. context. However, our study differs in many major ways. First, we use panel data of 220 firms over nine year period from an emerging market. Second, we employ an improved model specification and introduce a number of control variables which influence shareholder value. Third, our findings are based on the robust Generalized Method of Moments (GMM) estimator.

SHAREHOLDER VALUE MODEL

A most common measure of the shareholder value creation is the comparison between the market value and book value per share. When the market value exceeds the book value, the shareholder value is created and when the book value exceeds the market value, the shareholder value is destroyed.

A simple valuation model that can be used to make predictions about the relationship between profitability and growth and shareholder value is the

constant-growth model. The market value of a share (M) is given as follows (Brealey & Myers, 2003):

$$M = \frac{DPS}{k_e - g} = \frac{EPS(1-b)}{k_e - g} \tag{1}$$

This model assumes that dividends grow at a constant rate in perpetuity. Dividend per share (DPS) is equal to earnings per share (EPS) multiplied by one minus retention ratio (b). EPS depends on the firm's return on equity (ROE) and the equity investment, expressed as book value of per equity share (B). Eq. (1) can be rewritten as follows:

$$M = \frac{B \times ROE(1-b)}{k_e - g} = \frac{B(ROE - b \times ROE)}{k_e - g}$$

$$\frac{M}{B} = \frac{ROE - g}{k_e - g} \tag{2}$$

Eq. (2) implies that shareholder value will be created when market-to-book (M/B) ratio is greater than 1, and value will be destroyed if it is less than 1. We may further rewrite Eq. (2) as follows (Varaiya et al., 1987):

$$\frac{M}{B} = 1 + \frac{ROE - k_e}{k_e - g} \tag{3}$$

Eq. (3) indicates that M/B will be greater than 1 if ROE exceeds k_e; that is, the spread, ROE – k_e, is positive. Both Eq. (2) and (3) assume that in equilibrium k_e is greater than g. However, this is not a necessary condition to empirically test the effect of g on M/B ratio. The cost of equity is the risk-adjusted return that shareholders require on their investment. Hence, a firm will be creating value for its shareholders when it undertakes investments that generate positive spread; which is, return on equity exceeding the cost of equity (ROE > k_e). It should be clear from this reasoning that a positive ROE alone is not enough for creating shareholder value. A number of firms providing positive ROE may in reality be destroying value if their cost of equity exceeds ROE. The approach of focusing on the spread considers the quality of earnings – earnings after adjusting for the risk-adjusted cost of equity.

Many researchers have argued that the appropriate measure of a firm's profitability is the spread between ROE and k_e, which may be referred to as *economic profitability* (Hax & Majluf, 1984). We may notice from Eq. (3) that

growth resulting from earnings reinvestment may affect shareholder value depending on whether ROE is greater than or lower than k_e. Thus, an interaction between profitability and growth is indicated.

There are a number of studies on the relationship between growth, profitability and value in the context of U.S.A. In a study of the U.S. companies, Varaiya et al. (1987) find that both profitability and growth influence shareholder value, but profitability has a greater impact. However, their results in case of negative-spread earning firms are not very strong. This study omitted several other variables that are expected to influence shareholder value, and hence it is suspected that the results of the study may be biased. In an earlier study, Woo (1984) finds similar results. More recently, Ramezani, Soenen and Jung (2002) explore the relationship between growth (earnings or sales) and profitability (measured as economic value added, EVA) and between profitability and shareholder value. They use Jensen's alpha as a measure of shareholder value and include several control variables in their estimation. They find that beyond a point, growth adversely affects profitability and destroys shareholder value.

DATA AND METHODOLOGY

We use data of companies listed on Bursa Malaysia (formerly known as the Kuala Lumpur Stock Exchange) for the period from 1994 to 2002. Companies with missing data are excluded from the study. We also exclude the financial and securities sector companies as their financial characteristics and use of leverage is substantially different from other companies. We also drop companies with negative equity. Our final sample size is 220 companies for each period. We adjust data of those companies, which change their financial year. Such changes result in one year with missing data and the subsequent year data of more than 12 months. We first annualise the subsequent year data, and then substitute missing data by the mean value.

Our estimation model uses panel data. Panel data, unlike cross-section data, allows controlling for unobservable heterogeneity through individual (firm) effect – η_i (Baltagi, 2005). We also include dummies for time variable to measure temporal effect (γ_t). This helps in controlling the effect of macro-economic variables on the shareholder value. Thus, we use a two-way effects model as follows:

$$\begin{aligned}(M/B)_{it} = {} & \beta_0 + \beta_1 (ROE - k_e)_{it} + \beta_2 g_{it} + \beta_3 (ROE - k_e)_{it}\, g_{it} + \beta_4 \text{Ln TA}_{it} \\ & + \beta_5 (TD/TA)_{it} + \beta_6 \text{Beta}_{it} + \beta_7 (FA/TA)_{it} + \eta_i + \gamma_t + \varepsilon_{it}\end{aligned} \quad (4)$$

Given that the growth rate, g, is held constant, a higher spread, (ROE – k_e), implies a higher M/B ratio. Hence, the sign of β_1 is expected to be positive. However, the sign of β_2 is unspecified.

VARIABLES

Three variables of direct interest in this study are market-to-book (M/B) ratio, economic profitability or spread (ROE – k_e) and growth (g). From Eq. (2) and (3), we can predict that economic profitability, (ROE – k_e), has a positive effect on M/B ratio. It may be observed from Eq. (2) that g is subtracted from ROE in numerator and from k_e in denominator. If we consider numerator, M/B ratio should decrease when g increases, other things remaining the same. On the other hand, if we consider denominator, M/B ratio should increase if g increases. We do not make any prediction about growth (g) variable. We can, however, predict that, other things remaining the same, a combination of higher profitability and growth should increase value. Hence, we may hypothesise that the interaction between economic profitability and growth will have a positive effect on M/B ratio. The dependent variable and three regressors in our estimation Eq. (4) are defined below:

- **Market-to-book (M/B) ratio** is the year-end closing market value of a share divided by the closing book value of the share. This is the dependable variable in our model.

- **Growth (g)** is the sustainable growth based on a firm's financial policies. The sustainable growth for each year is calculated ad follows:

$$g = \left[\text{ROA} + (\text{ROA} - i)D/E\right](1 - \text{payout})$$

  ROA = after-tax return on assets; i = after-tax interest rate on debt; D/E = debt-equity ratio and (1 – payout) = retention ratio. Simplifying the equation, the sustainable growth is equal to return on equity (ROE) multiplied by retention ratio, that is: g = ROE × (1 – payout).

  Hence, it is a proxy for the expected growth in the future. Sustainable growth, rather than the growth based on past earnings data, is considered a good proxy of the future growth potential of a firm.

- **Economic profitability (spread)** is defined as the difference between return on equity and cost of equity (ROE – k_e). ROE is calculated as profit net of all expenses and taxes and excluding all extra-ordinary items

divided by the net worth (book value equity). Cost of equity (k_e) is calculated using the capital assets pricing model (CAPM). The estimation of the equity beta is based on the daily closing share prices. The risk-free rate is the monthly T-bill rate of the year under consideration. The risk premium is calculated as the difference between average annual market return and the average annual T-bill rate based on the monthly data from the period January 1978 to December 2002.

- **Economic profitability-growth interaction** variable is used in our model to capture the joint effect of economic profitability and growth.

In practice, M/B ratio may be affected by several other factors. In a number of studies of firm performance and value, a number of control variables have been used and found significant (Ramezani et al., 2002; Perez-Quiros & Timmerman, 2000; Opler, Pinkowitz, Stulz & Williamson, 1999; Philips, 1999; Campbell & Shiller, 1998; Woo, 1984). Our model may suffer from misspecification if we omit known observable regressors. The control variables used in this study are defined as follows:

- **Size** is measured as log of total assets (Ln TA). Total assets are used as the measure of size as they reflect the firm's competitive strength and staying power in the market.

- **Business risk** measured by asset beta is used to account for the volatility in a firm's earnings and value. Asset beta is calculated as the equity beta of a firm multiplied by total assets, that is $\beta_E \times TA/E$. Total assets are used as proxy for the firm's value.

- **Leverage** is calculated as the book value of total debt divided by total assets (which is equal to the book value of equity plus total debt (TD/TA). It is used as a proxy for the financial risk.

- **Free cash flows ratio** measured as free cash flows divided by total assets (FCF/TA) captures the influence of cash flows on a firm's value. Free cash flows include net profit (excluding extra-ordinary items) plus depreciation.

- **Capital intensity (FA/TA)** is defined as fixed assets divided by total assets (FA/TA). This variable is used as a proxy for a firm's operational flexibility.

MODEL SPECIFICATION

We have panel data; hence, our model can be estimated in several ways. These methods are: (1) the ordinary least square (OLS); (2) the fixed effects models; and (3) the random effects models. The fixed or random effects models may be used with firm effects, or with time effects or with both firm and time effects. The appropriate technique depends upon the structure of the error term, ε_{it}, and the correlation between the components of the error term and the observed determinants of the dependent variable (Baltagi, 2005), which is M/B ratio in our study. If no firm- or no time-specific effects are anticipated, OLS is an appropriate method of estimation. However, we may expect that both unobservable firm-specific and unobservable time-specific factors may have an effect on our dependent variable – M/B ratio. Both the fixed and random effects models handle unobservable effects, but they adopt different assumptions and approaches. The random effects estimation includes unobservable effects in the error term. However, the results will be biased if the error term has correlation with one or many of the regressors. To deal with this problem, a dummy variable for each firm may be included in the estimation. This approach causes loss of degrees of freedom, and hence, it is considered less efficient.

The fixed or random effects models with firm or time or both effects can be estimated. We should first determine if there is any evidence of firm and/or time effects. For this purpose, we can test the joint significance of the firm and/or the time effects in the fixed effects models. If we find the evidence of these effects, we should determine if firm and/or time dummy variables are correlated with observable regressors. We can use the Hausman (1978) test for this purpose. This test will indicate the choice between fixed or random effects model.

The fixed effect models control for unobservable heterogeneity, but they give biased results if the models include endogenous variables. In order to resolve this problem, we use the GMM, which controls the endogeneity problem by using instrumental variables. In the model estimation, this study uses all regressors plus an exogenous variable – sales-to-total assets ratio – as instrumental variables. We use levels of all variables except the economic profitability (ROE – k_e) which is lagged t – 2. Further, to eliminate the individual effects, the study uses the cross-section first differences of variables in the model estimation.

RESULTS

Table 1 provides mean, median and standard deviation of the dependent and the independent variables for each year from 1994 to 2002. The average M/B value

TABLE 1
DESCRIPTIVE STATISTICS

Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	ALL
Market-book ratio (M/B)										
Mean	3.880	3.090	3.299	1.168	1.285	1.489	1.007	1.120	0.976	1.924
Median	2.975	2.312	2.459	0.655	0.787	0.986	0.712	0.728	0.629	1.187
Std. Dev.	3.677	3.242	2.812	2.025	2.333	1.948	1.357	1.710	1.382	2.633
Spread (ROE – k_e)										
Mean	–0.089	–0.063	–0.103	–0.029	–0.106	–0.137	–0.101	–0.138	–0.121	–0.099
Median	–0.104	–0.058	–0.110	–0.035	–0.079	–0.097	–0.066	–0.090	–0.077	–0.075
Std. Dev.	0.148	0.178	0.158	0.143	0.281	0.308	0.198	0.313	0.359	0.246
Growth (g)										
Mean	0.059	0.071	0.068	0.049	–0.022	–0.023	–0.015	–0.052	–0.042	0.010
Median	0.053	0.069	0.059	0.052	0.017	0.018	0.012	0.004	0.011	0.034
Std. Dev.	0.110	0.110	0.074	0.112	0.225	0.263	0.177	0.279	0.349	0.214
Size (log TA)										
Mean	12.823	13.048	13.284	13.539	13.602	13.618	13.633	13.608	13.621	13.420
Median	12.812	13.058	13.310	13.532	13.625	13.628	13.715	13.629	13.680	13.417
Std. Dev.	1.250	1.271	1.283	1.265	1.275	1.242	1.229	1.248	1.265	1.288
Leverage (TD/TA)										
Mean	0.153	0.161	0.170	0.201	0.228	0.222	0.226	0.225	0.219	0.201
Median	0.116	0.129	0.158	0.185	0.238	0.205	0.223	0.198	0.204	0.176
Std. Dev.	0.148	0.153	0.151	0.164	0.177	0.184	0.187	0.196	0.186	0.175
Asset beta (Beta)										
Mean	0.978	0.874	1.093	0.637	0.646	0.706	0.551	0.610	0.596	0.743
Median	0.988	0.870	1.081	0.599	0.626	0.632	0.498	0.515	0.510	0.671
Std. Dev.	0.418	0.417	0.602	0.343	0.344	0.378	0.320	0.423	0.431	0.452
Free cash flow ratio (FCF/TA)										
Mean	0.079	0.084	0.081	0.068	0.027	0.044	0.050	0.024	0.034	0.055
Median	0.070	0.081	0.072	0.071	0.044	0.049	0.045	0.038	0.042	0.058
Std. Dev.	0.132	0.054	0.051	0.075	0.109	0.104	0.079	0.155	0.092	0.102
Capital intensity (FA/TA)										
Mean	0.360	0.361	0.358	0.351	0.365	0.355	0.355	0.364	0.363	0.359
Median	0.348	0.330	0.341	0.325	0.333	0.324	0.327	0.341	0.344	0.333
Std. Dev.	0.240	0.242	0.236	0.231	0.232	0.232	0.234	0.244	0.246	0.237

for the year 1994 is 3.88 and for 2002, it is 0.98. M/B ratio has shown continuous decline over years. It is noticeable that the average economic profitability or (ROE – k_e) spread is negative for all years from 1994 to 2002, and this negative spread was larger post 1998. Growth rate (g) and ROE have shown fluctuations during the 1994–2002 period. Like M/B ratio, they have generally

been lower after 1997, corresponding with the financial and stock market crisis in Malaysia. Beta and cost of equity declined over years while leverage (TD/TA) showed some increase. Average capital intensity (FA/TA) remained remarkably more or less at the same level through out the period of 1994–2002. Like ROE, free cash flow as a percentage of total assets showed a declining trend.

Table 1 also shows average value of variables over the 9-year period. The average M/B ratio for the entire 9-year period was 1.92, indicating value creation over and above the book value. The average spread or economic profitability has been negative since average cost of equity (k_e) was about 14% and average ROE only 4%. The average sustainable growth was 1%, debt ratio (leverage) 20%, asset beta 0.74, fixed assets-to-total assets ratio 0.36 and FCF-to-total assets ratio of 5.5%.

Our concern in this study is on the relationship of spread and growth with shareholder value as reflected by M/B ratio. Our data show a consistent pattern of a high proportion of firms with negative economic profitability (spread) – almost 80% in each year from 1994 to 2002. Other studies have also found a high proportion of negative spread firm (Varaiya et al., 1987; Fruhan, 1984). In Table 2, Panels (A) and (B), we report mean and median values for M/B ratio and growth separately for the group of firms with positive spread and those with negative spread. In Table 2, Panel (A), mean values of growth and M/B ratio show a distinct pattern. For the group of positive-spread firms, the average annual growth rates and M/B ratios are higher than the group of negative-spread firms. Noticeably, average M/B ratios are 2 and more in all years. This implies that high-growth coupled with high-spread leads to higher shareholder value. For negative-spread firms, average annual growth rates are low and negative after 1998. The average M/B ratios in combination with negative spread but positive, though low, growth rates are more than 2 for the period 1994–1997. For the period from 1999 to 2002, the annual growth rates are negative. The negative spread and negative growth rates cause erosion in shareholder value during this period; the average annual M/B ratios are less than 1 during the 1999–2002 period. Similar conclusions emerge from median values of M/B ratios, growth and spread in Table 2, Panel (B). It is also noticeable that the number of negative spread firms has not varied significantly over years. Thus, it seems that it is quite difficult for these firms to move from negative to positive spread group.

TABLE 2
MEAN AND MEDIAN VALUES FOR NEGATIVE AND POSITIVE SPREAD SAMPLES OF FIRMS

Year	Obs.	($R < k_e$)	g	M/B	Obs.	($ROE > k_e$)	g	M/B
Mean value								
1994	170	–0.144	0.039	3.641	50	0.096	0.125	4.690
1995	160	–0.122	0.045	2.659	60	0.094	0.141	4.241
1996	173	–0.157	0.052	2.887	47	0.098	0.126	4.815
1997	155	–0.157	0.052	2.887	65	0.098	0.126	4.815
1998	172	–0.081	0.020	0.740	48	0.095	0.116	2.188
1999	180	–0.186	–0.050	1.178	40	0.086	0.098	2.888
2000	177	–0.144	–0.044	0.736	43	0.077	0.102	2.119
2001	186	–0.183	–0.077	0.913	34	0.106	0.083	2.254
2002	175	–0.176	–0.079	0.701	45	0.096	0.100	2.047
Median value								
1994	170	–0.130	0.038	2.734	50	0.060	0.141	3.826
1995	160	–0.104	0.048	2.020	60	0.064	0.131	3.186
1996	173	–0.150	0.049	2.207	47	0.062	0.112	3.467
1997	155	–0.062	0.035	0.525	65	0.052	0.109	1.191
1998	172	–0.107	0.006	0.703	48	0.032	0.097	1.341
1999	180	–0.129	0.006	0.918	40	0.038	0.108	1.835
2000	177	–0.093	0.005	0.593	43	0.034	0.093	1.396
2001	186	–0.106	0.000	0.643	34	0.049	0.090	1.396
2002	175	–0.104	0.002	0.525	45	0.043	0.085	1.324

Table 3 provides correlation matrix for the pooled sample of 1880 firms/years observations.[1] We notice that none of the pairs of variables has a very high correlation except economic profitability and growth. M/B ratio is negatively correlated with size, leverage and capital intensity and positively with economic profitability and beta; all pair correlation coefficients are small. Economic profitability has positive correlation with growth, size, and capital intensity; it has negative correlation with leverage and beta. Growth has positive correlation with economic profitability and free cash flow ratio. The negative relationship between risk (beta) and size implies that the large firms, being more diversified, have lower risk. Generally low correlations among variables indicate that the estimation equation may not have a serious problem of multi-colinearity.

[1] Correlation coefficients, based on pooled OLS, do not control for firm and time effects.

TABLE 3
CORRELATION MATRIX

	M/B	(ROE – k_e)	g	Ln TA	TD/TA	Beta	FCF/TA	FA/TA
M/B	**1.000**							
(ROE – k_e)	0.177	**1.000**						
g	0.010	0.846	**1.000**					
Ln TA	–0.237	0.091	0.021	**1.000**				
TD/TA	–0.080	–0.272	–0.247	0.233	**1.000**			
Beta	0.127	–0.231	0.045	–0.274	–0.304	**1.000**		
FCF/TA	0.054	0.450	0.521	0.041	–0.197	–0.010	**1.000**	
FA/TA	–0.039	0.023	0.031	0.022	0.037	–0.022	0.125	**1.000**

As stated earlier, we have used the GMM as the estimation method in this study. We shall discuss findings based on this method. Table 4 presents results of the GMM estimation. The main concern here is to test the specification about the relationship between M/B ratio and economic profitability (ROE – k_e). As predicted, the study finds that the coefficient of economic profitability variable (ROE – k_e) is positive and significant at 1% level. This evidence is consistent with the constant-growth model that states that firms that have higher economic profitability will be able to create higher value for their shareholders. We had not made any prediction with regard to the coefficient of growth variable. These results are consistent with the findings of Varaiya et al. (1987). We find a negative coefficient for growth variable which is significant at 1% level. The negative and significant growth coefficient indicates that the higher expected earnings growth rate is associated on average with lower M/B ratios. Contrary to our findings, results of the study by Varaiya et al. (1987) show that growth generally has a positive relationship with M/B ratio. On the other hand, Ramezani et al. (2002) find that growth ultimately destroys shareholder value. We have explained earlier that growth combined with economic profitability may help enhancing shareholder value. Our findings vindicate this. The economic profitability-growth interaction variable has a positive correlation coefficient, and it is significant at less than 5% level of significance.

It is noticeable that the positive coefficient of economic profitability is higher than the negative coefficient of growth. This finding suggests that the economic profitability has a far greater positive effect on value than the value erosion effect of growth. The positive effect of the economic profitability-growth interaction adds further to shareholder value.

TABLE 4
RESULTS OF GMM ESTIMATION (ALL FIRMS)

Dependent variable: M/B
Method: Panel Generalized Method of Moments
Transformation: First Differences
Cross-sections included: 220
Total panel (balanced) observations: 1540

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Economic profitability (ROE – k_e)	7.974	2.635	3.027	0.003
Growth (g)	–7.485	2.065	–3.624	0.000
Economic profitability*Growth [(ROE – k_e)*g]	0.468	0.220	2.130	0.033
Size (Ln TA)	–0.992	0.133	–7.444	0.000
Leverage (TD/TA)	3.657	0.589	6.214	0.000
Risk (Beta)	1.451	0.386	3.760	0.000
Free cash flow ratio (FFC/TA)	0.259	0.430	0.601	0.548
Capital Intensity (FA/TA)	0.729	0.420	1.737	0.083
Cross-section fixed (first differences)				
Period fixed (dummy variables)				
R-squared	0.286	Mean dependent variable		–0.302
Adjusted R-squared	0.279	S.D. dependent variable		1.641
S.E. of regression	1.394	Sum squared residuals		2,961.481
J-statistic	0.071	Instrument rank		16.000
p-value	0.789			

Most control variables have significant coefficients. Size has a significant negative coefficient indicating that small-size firms are better placed in creating shareholder value. Both leverage and risk (asset beta) are positively related to M/B ratio implying that higher business and financial risk increase shareholder value. Free cash flow-to-total assets ratio has a very weak link with M/B ratio. Capital intensity has a positive coefficient and it is significant at less than 10% level. The overall explanatory power of the regression equation, as the F-value indicates, is very high. The J-statistic has a p-value of 0.789 rejecting the null hypothesis of over-identification.

From Eq. (3), we also predict that a positive economic profitability (ROE – $k_e > 0$) is associated with a higher M/B ratio (where M/B ratio is expected to be greater than 1) and a negative economic profitability (ROE – $k_e < 0$) with a lower M/B ratio (where M/B ratio is expected to be less than 1). Following Varaiya et al. (1987), for testing this hypothesis, we divided our

sample into two groups – sample with firms that have positive economic profitability and sample with firms that have negative economic profitability. The results for the sample of positive-spread firms are given in Table 5. The findings provide strong support for the prediction for the positive-spread firms. The significant positive coefficient of spread (economic profitability) is much higher than in all-firms sample. Thus, it is implied that higher growth in case of a positive-spread firm is good from the shareholders' point of view as it leads to increase in the shareholder value. Further and more importantly, the economic profitability-growth interaction coefficient is high and supports the view that growth in positive-spread (economic profitability) firms leads to larger increase in M/B ratio. Table 6 provides results for the negative-spread firms. In fact, the negative-spread firms are destroyer of the shareholder value, and higher growth should lead greater dilution of the shareholder value.

TABLE 5
RESULTS OF GMM ESTIMATION (POSITIVE SPREAD FIRMS)

Dependent Variable: M/B
Method: Panel Generalized Method of Moments
Transformation: First Differences
Cross-sections included: 118
Total panel (balanced) observations: 322

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
Economic profitability (ROE – k_e)	11.635	3.912	2.974	0.003
Growth (g)	–5.773	1.869	–3.089	0.002
Economic profitability*Growth [(ROE – k_e)*g]	5.621	1.755	3.203	0.002
Size (Ln TA)	–1.544	0.351	–4.401	0.000
Leverage (TD/TA)	4.422	1.064	4.158	0.000
Risk (Beta)	1.842	0.500	3.686	0.000
Free cash flow ratio (FFC/TA)	–3.894	2.145	–1.816	0.070
Capital Intensity (FA/TA)	0.390	1.057	0.369	0.712
Cross-section fixed (first differences)				
Period fixed (dummy variables)				
R-squared	0.344	Mean dependent variable		–0.387
Adjusted R-squared	0.314	S.D. dependent variable		1.952
S.E. of regression	1.617	Sum squared residuals		802.309
J-statistic	0.874	Instrument rank		16
p-value	0.350			

In Table 6, results of the negative-spread firms provide an altogether different picture. The coefficients of economic profitability, growth and profitability-growth interactions are not different from zero. This finding is inexplicable in the context of the valuation model. It requires a further investigation. Hopefully future research will consider this issue.

TABLE 6
RESULTS OF GMM ESTIMATION (NEGATIVE SPREAD FIRMS)

Dependent Variable: M/B
Method: Panel Generalized Method of Moments
Transformation: First Differences
Cross-sections: 213
Total panel (unbalanced) observations: 1218

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Economic profitability (ROE – k_e)	–0.448	8.204	–0.055	0.956
Growth (g)	–0.528	7.734	–0.068	0.946
Economic profitability*Growth [(ROE – k_e)*g]	–0.038	0.191	–0.197	0.844
Size (Ln TA)	–0.913	0.119	–7.666	0.000
Leverage (TD/TA)	2.373	1.242	1.910	0.056
Risk (Beta)	0.417	1.103	0.378	0.705
Free cash flow ratio (FFC/TA)	0.700	0.422	1.659	0.097
Capital Intensity (FA/TA)	0.882	0.380	2.324	0.020
Cross-section fixed (first differences)				
Period fixed (dummy variables)				
R-squared	0.366	Mean dependent variable		–0.285
Adjusted R-squared	0.359	S.D. dependent variable		1.514
S.E. of regression	1.212	Sum squared residuals		1768.117
J-statistic	0.384	Instrument rank		16.000
p-value	0.535			

CONCLUSION

The objective of this study was to find whether profitability and growth have an effect on shareholder value measured by the M/B ratio. In view of the recent literature and financial valuation model, we defined profitability in terms of economic profitability or spread, which is a difference between ROE and k_e. Accounting profitability, defined in terms of ROE, does not consider cost and

risk dimensions. Economic profitability, on the other hand, subtracts the risk-adjusted cost of equity from ROE, and hence, it is a true measure of profitability. In the strategy literature a lot of emphasis is paid on growth as a dominant business strategy. The empirical question that was explored in this study was: Is growth always desirable?

Panel data of 220 Malaysian firms for nine years (from 1994 to 2002) was used to empirically explore the effects of profitability and growth on shareholder value. Employing the GMM estimation, the findings showed that there existed a strong positive relationship between economic profitability and M/B ratio. Growth was negatively related to M/B ratio. However, the economic profitability-growth interaction variable had a positive coefficient indicating that growth associated with profitability influences shareholder value positively. This finding was further supported when we analysed the relationships separately for the positive-spread firms and negative spread firms. Results also indicated negative relationship between M/B and firm size and positive relation with business risk, financial risk and capital intensity.

REFERENCES

Baltagi, Badi H. (2005). *Econometric analysis of panel data* (3rd ed.). England: John Wiley, 4–9.

Brealey, R. A. and Myers, S. C. (2003). *Principles of corporate finance.* New Delhi, India: Tata McGraw-Hill, 64.

Campbell and Shiller, R. J. (1998). Valuation ratios and the long-run stock market outlook. *Journal of Portfolio Management, 24(2),* (Winter), 11–26.

Fruhan, W. E., Jr. (1984). How fast should your company grow? *Harvard Business Review,* (January-February), 84–93.

Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica, 46,* 1251–1271.

Hax, A. and Majluf, N. (1984). *Strategic management: An integrative perspective.* Englewood Cliffs, NJ: Prentice-Hall, 209–242.

Opler, T., Pinkowitz, L., Stulz, R. and Williamson, R. (1999). The determinants and implications of corporate cash holdings. *Journal of Financial Economics, 52(1),* (April), 3–46.

Perez-Quiros, G. and Timmerman, A. (2000). Firm size and cyclical variations in stock returns. *Journal of Finance, 55(3),* (June), 1229–62.

Phillips, T. (1999). Why do valuation ratios forecast long-run equity returns? *Journal of Portfolio Management, 25(3),* (Spring), 38–44.

Ramezani, C. A., Soenen, L. and Jung, A. (2002). Growth, corporate profitablity, and value creation. *Financial Analysts Journal, 6,* (November/December), 56–67.

Varaiya, N., Kerin, R. and Weeks, D. (1987). The relationship between growth, profitability, and the firm value. *Strategic Management Journal, 8,* 487–497.
Woo, C. (1984). An empirical test of value-based planning models and implications. *Management Science,* (September), 1031–1050.