African Journal of Business Management Vol. 5(7), pp. 3012-3018, 4 April, 2011
Available online at http://www.academicjournals.org/AJBM
DOI: 10.5897/AJBM10.1190
ISSN 1993-8233 ©2011 Academic Journals

Full Length Research Paper

Company performance in Malaysia after the 1997 economic crisis: Using Economic Value Added (EVA) as a predictor

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Accepted 15 December, 2010

Malaysia was hit by an economic crisis in 1997, and the entire Southeast Asia was also gripped by an economic crisis of formidable proportions. At first, it was limited to Thailand's financial sector, but it quickly grew to engulf Malaysia, Indonesia and South Korea as well. This study evaluated the post-economic crisis period and whether or not EVA, as a measurement tool, had a relationship with company performance and whether or not EVA developed a relationship with stock return better than the traditional performance tools. The panel pool single and multiple regression, together with the common and period specific coefficients least squares analysis and White's heteroskedasticity-consistent (corrected) variances and standard errors were used in this study. With the help of the data collected after the economic crisis in Malaysia, the study found that EVA per share could predict company performance better than traditional tools.

Key words: Economic Value Added (EVA), economic crisis, quantitative performance, stock return, traditional tool.

INTRODUCTION

It was amazing that the economic outlook from 1980s until the early 1990s has shown that the Asian economies were booming and growing at a rate more than 8% per annum. The rate was faster as compared to any other industrialized nation, such as the U.S. and Europe. This "miracle" was accompanied by very little unemployment and virtually lower wealth gap between the rich and poor, which was considered as extraordinary.

However, in July 1997, Southeast Asia has been gripped by an economic crisis of formidable proportions. At first, the economic crisis was limited to Thailand's financial sector, but it quickly grew to engulf Malaysia, Indonesia and South Korea as well. The currencies of the countries were immediately devalued, thus eroding the worth of the currency, making it much more difficult for Asian businesses and banks to pay back debts that they owed in foreign denominations, such as in U.S. dollars. As a result, high loan defaults and bankruptcy occurred.

Several Asian governments were forced to ask for international help, such as from the International Monetary Fund (IMF), which is a worldwide organization that seeks to maintain financial stability in the global economy. Malaysia has not sought any aid from IMF, though its economy has been significantly impacted by Asia's economic crisis as was its neighbors. By December 1997, the Malaysian currency, the ringgit, had lost 35% of its value and the country's stock market had declined with more than 70%, in terms of dollar, from the beginning of the year. The government has announced a series of measures, including a cut in public spending, limits on further construction and banking reform. The previous Prime Minister, Mahathir bin Mohamad, at first denounced currency speculators for the country's financial turmoil, but later modified his remarks and acknowledged that deep reforms were needed in the country's financial sector. The Malaysian government has announced a series of austerity measures, including a cut in public spending, limits on further construction and banking reform. However, analysts predicted a wave of bankruptcies, higher inflation, an increase in unemployment and a rise in interest rates over the next year.

Jomo (2001) has stated that Malaysia is a country with a very high level of general indebtedness, which made it vulnerable to a panic by investors. Part of Malaysia's

Table 1. Panel pool multiple regressions with common coefficients between EVA per share and traditional tools with stock return for the year 1997 to 2002 for 245 Main Board companies.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.836812	0.012323	67.90481	0.0000
EVA	0.066917	0.015793	4.237027	0.0000
EPS	-0.023494	0.015087	-1.557195	0.1196
DPS	0.280108	0.030263	9.255887	0.0000
NOPAT	2.02E-11	4.30E-11	0.470284	0.6382

Dependent variable: Return; White cross-section standard errors and covariance (d.f. corrected). R^2 = 0.133753; Adjusted R^2 = 0.128301; F-statistic = 24.53319; Prob (F-statistic) = 0.000000.

problem stemmed from excessive credit creation based partly on very high equity prices. In particular, Malaysia had the world's highest stock market capitalization ratio (310%) of gross domestic product (GDP), when compared to the United States (11.6%) and Korea (29%). The result showed that Malaysia in the mid-1997 had a domestic debt--GDP ratio (170%) that was among the highest in the world (Perkins and Woo, 2000).

Following the aforementioned, some questions may arise, such as: What happened to all the traditional measures? Can it measure or predict that the Malaysian economy came out from the spectacular high growth state of the economy? This study evaluated the post period of economic crisis and whether or not EVA, as a measurement, had a better relationship with the stock return. Moreover, the post crisis period is the stage where Malaysia is on the track of recovery.

Economic Value Added (EVA)

It is believed that for a new tool to be adopted after the economic crisis, it must have more elements in its calculation as compared to current performance tools, such as Earning Per Share (EPS). Malaysians need a tool that could assist them in explaining company performance or assist investors in making decision to buy or sell shares in Bursa Malaysia. The tool should combine factors such as economy, accounting and market information in its assessment consideration.

From the review of performance measurement literature, Economic Value Added (EVA) has gained attention as a tool that took into consideration many factors which were discussed earlier. EVA incorporates more information as Stern Stewart Company advocated that an Economic Value Added (EVA™) should be used instead of earnings or cash from operations as a measure of both internal and external performance. McClenahen (1998) observes that traditional corporate performance measures are being relegated to second-class status as metrics. However, EVA became the management's primary tool, although Herzberg (1998) said that there has been widespread adoption of EVA by security analysts. Isa and Lo (2001) said EVA has gained significant attention as an alternative to the traditional accounting measures for assessing corporate performance due to its transparency and capacity to provide more vital information. It is hoped that the introduction of EVA will help investors in Malaysia make better investment and allocation of resources' decisions.

METHODOLOGY

This study attempts to identify EVA as either a performance tool or a tool that can develop a relationship with stock return after the economic crisis in Malaysia better than traditional tools, that is, Earning Per Share (EPS), Dividend Per Share (DPS) and Net Operating Profit After Tax (NOPAT). The panel pool single and multiple regression, together with the common and period specific coefficients least squares analysis and White's heteroskedasticity-consistent (corrected) variances and standard errors were used in this identification. White (1980) has derived a heteroskedasticity consistent covariance matrix estimator, which provides correct estimates of the coefficient covariances in the presence of the heteroskedasticity of the unknown form. The panel data regression assumes that slope coefficients are constant, but the intercept varies across individuals. It assumes that time or yearly slopes are constant, but companies intercept varies across each company. However, the statistical inference is conditional on the observed cross-sectional units in the sample (Gujarati, 2003).

In exploring the relationship between EVA and the traditional tools, the exploratory designs and correlational method have been chosen. Panel pool regression, which uses time series and cross section analysis simultaneously, has been used. The panel pool regression with the common coefficients means show that for one period of the study, all the different years have the same value or common coefficient. Conversely, the panel pool regression shows that for the period specific coefficients, the values of coefficients are different for each year. Nonetheless, even for the same period of the study, it has period specific coefficients. For this study, both techniques were used in studying the ability of performance tools in explaining the dependent variable (company performance, that is, stock return). The data from the Main Board and Second Board companies listed in Bursa Malaysia for the period of 1997 to 2002 will be used as the sample of the study.

RESULTS

The six-year (1997 to 2002) period analysis: Main Board

Based on Table 1, the panel pool multiple regression analysis with the common coefficients for the period of

Table 2. Panel pool single regressions with common coefficients between EVA per share and stock return for the year 1997 to 2002 for 245 Main Board companies.

Variable	Coefficient	Std. error	t-Statistic	Prob.
C	0.856009	0.011847	72.25721	0.0000
EVA	0.061214	0.014305	4.279148	0.0000

Dependent variable: Return; White cross-section standard errors and covariance (d.f. corrected). R^2 = 0.131194; Adjusted R^2 = 0.127557; F-statistic = 36.06511; Prob (F-statistic) = 0.000000.

Table 3. Panel pool single regressions with common coefficients between EPS and stock return for the year 1997 to 2002 for 245 Main Board companies.

Variable	Coefficient	Std. error	t-Statistic	Prob.
C	0.842237	0.012183	69.13193	0.0000
EPS	0.050168	0.015026	3.338812	0.0009

Dependent variable: Return; White cross-section standard errors and covariance (d.f. corrected). R^2 = 0.127024; Adjusted R^2 = 0.123369; F-statistic = 34.75188; Prob (F-statistic) = 0.000000.

Table 4. Panel pool regressions with common coefficients between DPS and stock return for the year 1997 to 2002 for 245 Main Board companies.

Variable	Coefficient	Std. error	t-Statistic	Prob.
C	0.827763	0.011945	69.29707	0.0000
DPS	0.273597	0.033040	8.280706	0.0000

Dependent variable: Return; White cross-section standard errors and covariance (d.f. corrected). R^2 = 0.125344; Adjusted R^2 = 0.121682; F-statistic = 34.22642; Prob (F-statistic) = 0.000000.

Table 5. Panel pool regressions with common coefficients between NOPAT and stock return for the year 1997 to 2002 for 245 Main Board companies.

Variable	Coefficient	Std. error	t-Statistic	Prob.
C	0.843553	0.012122	69.58840	0.0000
NOPAT	1.17E-10	3.73E-11	3.128923	0.0018

Dependent variable: Return; White cross-section standard errors and covariance (d.f. corrected). R^2 = 0.124474; Adjusted R^2 = 0.120808; F-statistic = 33.95516; Prob (F-statistic) = 0.000000.

1997 to 2002 (that is, 6 years), amid 1440 observations, show that only EVA per share and DPS are statistically significant at *p*-value (10%), while EPS and NOPAT are not significant. EVA per share produced a positive coefficient correlation β of 0.067, while DPS has a positive coefficient correlation of 0.28. Based on Table 2, the single panel pool regression with the common coefficients analysis for the period of 1997 to 2002 (that is, 6 years), showed that EVA per share had a better relationship with stock return and higher adjusted R^2 of 12.76% when compared to EPS (Table 3), DPS (Table 4) and NOPAT (Table 5) R^2 of 12.33, 12.16 and 12.08%, respectively.

Based on Table 6, the single panel pool regression with period specific coefficients analysis for the period of 1997 to 2002 (that is, 6 years), showed that EVA per share had a better relationship with the stock return than EPS (Table 7), DPS (Table 8) and NOPAT (Table 9) because 13.71% of the variation in stock returns can be explained by the variability in EVA per share, while EPS, DPS and NOPAT can only explain 12.39, 13.14 and 11.96%, respectively.

Thus, the study found in the period of 1997 to 2002 for 245 main board companies, that EVA had a better relationship with the stock return than traditional tools for the analysis of the common and period specific coefficients.

The six-year (1997 to 2002) period analysis: Second Board

The next panel pool multiple regressions with common

Table 6. Panel pool single regressions with period specific coefficients between EVA per share and stock return for the year 1997 to 2002 for 245 Main Board companies.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.022996	0.248787	4.111940	0.0000
1997--EVA_1997	0.063756	0.035579	1.791972	0.0733
1998--EVA_1998	0.072111	0.021606	3.337580	0.0009
1999--EVA_1999	-0.101878	0.079567	-1.280401	0.2006
2000--EVA_2000	-0.062108	0.060073	-1.033867	0.3014
2001--EVA_2001	0.089996	0.026610	3.382077	0.0007
2002--EVA_2002	4.621192	5.522278	0.836827	0.4028

Dependent variable: Return; White cross-section standard errors and covariance (d.f. corrected). R^2 = 0.143741; Adjusted R^2 = 0.137145; F-statistic = 21.79266; Prob (F-statistic) = 0.000000.

Table 7. Panel pool single regressions with period specific coefficients between EPS and stock return for the year 1997 to 2002 for 245 Main Board companies.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.813569	0.053114	15.31742	0.0000
1997--EPS_1997	0.027694	0.031292	0.885006	0.3763
1998--EPS_1998	0.051208	0.021799	2.349138	0.0190
1999--EPS_1999	-0.070399	0.072521	-0.970737	0.3318
2000--EPS_2000	0.039282	0.043328	0.906637	0.3648
2001--EPS_2001	0.085698	0.038915	2.202168	0.0278
2002--EPS_2002	1.320177	1.851542	0.713015	0.4760

Dependent variable: Return; White cross-section standard errors and covariance (d.f. corrected). R^2 = 0.130587; Adjusted R^2 = 0.123890; F-statistic = 19.49886; Prob (F-statistic) = 0.000000.

Table 8. Panel pool single regressions with period specific coefficients between DPS and stock return for the year 1997 to 2002 for 245 Main Board companies.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.909350	0.085775	10.60155	0.0000
1997--DPS_1997	0.337534	0.127703	2.643105	0.0083
1998--DPS_1998	0.033547	0.195274	0.171796	0.8636
1999--DPS_1999	0.385839	0.215824	1.787750	0.0740
2000--DPS_2000	-0.100748	0.150069	-0.671342	0.5021
2001--DPS_2001	0.296878	0.062097	4.780883	0.0000
2002--DPS_2002	-5.877418	6.695607	-0.877802	0.3802

Dependent variable: Return; White cross-section standard errors and covariance (d.f. corrected). R^2 = 0.138023; Adjusted R^2 = 0.131383; F-statistic = 20.78690; Prob (F-statistic) = 0.000000.

coefficients, for the data of the second board listed companies in the year 1997 to 2002, consisted of 69 companies. The 404 observations over a six year period are used in the panel pool regression analysis. Based on Table 10, EVA per share, DPS and EPS are not statistically significant at *p*-value (10%). As such, none of the performance indicators can predict company performance.

Based on Table 11, the single panel pool regression with common coefficients analysis for the period of 1997 to 2002 (that is, 6 years), for the second board companies, showed that EVA per share had a better relationship with the stock return than EPS (Table 12) and DPS (Table 13), because 20.88% of the variation in stock returns can be explained by the variability in EVA per share, while the correlation coefficient for EPS and DPS is not statistically significant at *p*-value (10%).

Based on Table 14, the single panel pool regression with period specific coefficients for the period of 1997 to 2002 (that is, 6 years), showed that EVA per share had a

Table 9. Panel pool single regressions with period specific coefficients between NOPAT and stock return for the year 1997 To 2002 for 245 Main Board companies.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.884933	0.036593	24.18289	0.0000
1997--NOPAT_1997	1.91E-10	1.07E-10	1.786864	0.0742
1998--NOPAT_1998	1.22E-10	8.75E-11	1.396364	0.1628
1999--NOPAT_1999	-2.78E-10	6.61E-10	-0.420247	0.6744
2000--NOPAT_2000	1.64E-10	1.34E-10	1.224492	0.2210
2001--NOPAT_2001	1.20E-10	5.72E-11	2.093951	0.0364
2002--NOPAT_2002	-3.66E-09	3.26E-09	-1.120332	0.2628

Dependent Variable: Return; White cross-section standard errors and covariance (d.f. corrected).
R^2=0.126301; Adjusted R^2=0.119571; F-statistic=18.76641; Prob (F-statistic) = 0.000000

Table 10. Panel pool multiple regressions with common coefficients between EVA per share and traditional tools with stock return for the year 1997 To 2002 for 69 Second Board companies.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.311842	0.025174	12.38765	0.0000
EVA	0.083218	0.082722	1.005994	0.3150
EPS	0.003658	0.124540	0.029369	0.9766
DPS	0.591750	0.637111	0.928802	0.3536

Dependent Variable: Return; White cross-section standard errors and covariance (d.f. corrected).
R^2=0.202210; Adjusted R^2=0.186052; F-statistic=12.51470; Prob (F-statistic) = 0.000000

Table 11. Panel pool single regressions with common coefficients between EVA per share and stock return for the year 1997 to 2002 for 69 Second Board companies.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.325887	0.019923	16.35746	0.0000
EVA	0.103046	0.038629	2.667574	0.0080

Dependent Variable: Return; White cross-section standard errors and covariance (d.f. corrected).
R^2=0.220550; Adjusted R^2=0.208770; F-statistic=18.72229; Prob (F-statistic) = 0.000000

Table 12. Panel pool single regressions with common coefficients between DPS and stock return for the year 1997 to 2002 for 69 Second Board companies.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.293326	0.027389	10.70945	0.0000
DPS	1.107691	0.692324	1.599961	0.1104

Dependent Variable: Return; White cross-section standard errors and covariance (d.f. corrected).
R^2=0.204755; Adjusted R^2=0.192736; F-statistic=17.03623; Prob (F-statistic) = 0.000000

better relationship with the stock return than DPS and EPS, because 21.74% of the variation in stock returns can be explained by the variability in EVA per share, while EPS (Table 15) and DPS (Table 16) can only explain 19.92 and 20.55%, respectively.

Thus, the study found that for the period of 1997 to 2002, for the 69 second board companies, EVA had a better relationship with the stock return of the common and period specific coefficients analysis than traditional tools.

DISCUSSION

With the help of the data collected after the economic crisis in Malaysia, the study found that EVA per share

Table 13. Panel pool single regressions with common coefficients between EPS and stock return for the year 1997 to 2002 for 69 Second Board companies.

Variable	Coefficient	Std. error	t-Statistic	Prob.
C	0.320956	0.019504	16.45602	0.0000
EPS	0.095705	0.062094	1.541289	0.1240

Dependent variable: Return; White cross-section standard errors and covariance (d.f. corrected). R^2 = 0.213326; Adjusted R^2 = 0.201437; F-statistic = 17.94274; Prob (F-statistic) = 0.000000.

Table 14. Panel pool single regressions with period specific coefficients between EVA per share and stock return for the year 1997 to 2002 for 69 Second Board companies.

Variable	Coefficient	Std. error	t-Statistic	Prob.
C	0.319494	0.046432	6.880887	0.0000
1997--EVA_1997	0.154219	0.131284	1.174701	0.2408
1998--EVA_1998	-0.140132	0.377166	-0.371540	0.7104
1999--EVA_1999	-0.030600	0.105972	-0.288761	0.7729
2000--EVA_2000	0.178635	0.130565	1.368166	0.1720
2001--EVA_2001	0.287282	0.090176	3.185799	0.0016
2002--EVA_2002	0.000867	0.060457	0.014341	0.9886

Dependent variable: Return; White cross-section standard errors and covariance (d.f. corrected). R^2 = 0.238751; Adjusted R^2 = 0.217389; F-statistic = 11.17
664; Prob (F-statistic) = 0.000000.

Table 15. Panel pool single regressions with period specific coefficients between EPS and stock return for the year 1997 to 2002 for 69 Second Board companies.

Variable	Coefficient	Std. error	t-Statistic	Prob.
C	0.327088	0.055827	5.858919	0.0000
1997--EPS_1997	0.014919	0.062149	0.240050	0.8104
1998--EPS_1998	0.065076	1.601152	0.040643	0.9676
1999--EPS_1999	0.040537	0.155396	0.260863	0.7943
2000--EPS_2000	0.383255	0.145371	2.636389	0.0087
2001--EPS_2001	0.219598	0.171890	1.277549	0.2022
2002--EPS_2002	0.121069	0.081650	1.482778	0.1389

Dependent variable: Return; White cross-section standard errors and covariance (d.f. corrected). R^2 = 0.221023; Adjusted R^2 = 0.199164; F-statistic = 10.11129; Prob (F-statistic) = 0.000000.

Table 16. Panel pool single regressions with period specific coefficients between DPS and stock return for the year 1997 to 2002 for 69 Second Board companies.

Variable	Coefficient	Std. error	t-Statistic	Prob.
C	0.457418	0.161732	2.828249	0.0049
1997--DPS_1997	1.991094	1.808107	1.101203	0.2715
1998--DPS_1998	-49.11848	47.49326	-1.034220	0.3017
1999--DPS_1999	-1.279366	1.671447	-0.765425	0.4445
2000--DPS_2000	5.926678	2.958110	2.003535	0.0458
2001--DPS_2001	1.002541	1.762236	0.568903	0.5697
2002--DPS_2002	0.248952	1.790234	0.139061	0.8895

Dependent variable: Return; White cross-section standard errors and covariance (d.f. corrected).
R^2 = 0.227152; Adjusted R^2 = 0.205465; F-statistic = 10.47409; Prob (F-statistic) = 0.000000.

Could predict company performance better than traditional tools. As such, the results were similar with the findings of Milunovich and Tsuei (1996), Turvey et al. (2000), Biddle et al. (1997), West and Worthington (2000), Eljelly and Alghurair (2001) and Isa and Lo (2001).

It was proven that EVA had a better relationship with the stock return than traditional tools for the Main Board Companies listed in Bursa Malaysia for the period of 1997 to 2002, covering a sample of 245 Main Board companies, listed in Bursa Malaysia, and 1440 observations. Also, for the period of 1997 to 2002, EVA covered different board structures of the 69 Second Board companies listed in Bursa Malaysia with 404 observations. However, the study generally agreed that EVA had a better relationship with the stock return than traditional tools for the Main and Second Board companies listed in Bursa Malaysia.

In conclusion, EVA had a better relationship with company's performance than traditional tools for the period after the economic crisis in Malaysia. The findings have given new direction towards measuring company performance in Malaysia. In the future, the Malaysian government should establish new measurement tools in predicting company performance, that is, EVA.

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