Can financial ratios predict the Malaysian stock return?

Lee, Chin and Lee, Weng Hong

Department of Economics, Faculty of Economics and Management,
Universiti Putra Malaysia, Serdang, 43400 UPM Selangor, Malaysia

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Introduction

The stock market is one of the most important sources for companies to raise money. This allows businesses to go public, or raise additional capital for expansion. The liquidity that an exchange provides affords investors the ability to quickly and easily sell securities. This is an attractive feature of investing in stocks, compared to other less liquid investments such as real estate. History has shown that the price of shares and other assets is an important part of the dynamics of economic activity, and can influence or be an indicator of social mood. Rising share prices, for instance, tend to be associated with increased business investment and vice versa. Share prices also affect the wealth of households and their consumption. Therefore, central banks tend to keep an eye on the control and behavior of the stock market and, in general, on the smooth operation of financial system functions. Investors usually invest in share traded on the stock market because they want to earn a positive return on their investment. The returns to an investment in shares trade on the stock market usually come from two main sources- capital gains and dividends. It has often been said that short term investor or speculators are in the market for capital gain and long-term investor for dividends. In stock market, a capital gain is profit that results from the appreciation of a capital asset over its purchase price. It can occur only when the investor sell the stock at the price that higher than the purchase price. However, if the price of the capital asset has declined instead of appreciated, this is called a capital loss. Dividend is defined as the distribution of a firm's income to its shareholders. Dividends are payments made by a company to its shareholders. When a company earns a profit, that money can be put to two uses: it can either be re-invested in the business as retained earnings, or it can be paid to the shareholders of the company as a dividend. Dividends are usually settled on a cash basis, as a payment from the company to the customer. They can also take the form of shares in the company, and many companies offer dividend reinvestment plans, which automatically use the cash dividend to purchase additional shares for the shareholder. Dividends are an important consideration in every long term investor decision to invest because they determine the return on investment.

Fifty years ago, Kendall (1953) observes that stock prices seem to wander randomly over time, and test whether the past price can use to predict the future price change. Later, the studies expand to include others predictive variables such as financial variables. Financial variables that commonly tested to predict stock returns are the dividend yield, price to earning ratio, book-to market ratio, return on equity, and various measures of the interest rate. However, the evidence are mixed. Although there are many empirical researches on the predicting power of financial ratios on stock returns, most of the studies are focus on the developed market like United States (US) stock market; similar studies on emerging market like Malaysia market are scant. The published works that comes to our notice are Ariff *et al.*

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[*] Corresponding author. Tel: +603 89467769, Fax: +603 89486188, E-Mail: leechin@econ.upm.edu.my

(1998) for Malaysia, Lau *et al.* (2001) for Singapore and Malaysia, Choudhury (2003) and Hjalmarsson (2004) for a group of countries including Malaysia. Lau *et al.* (2001) found that earning price ratio is statistically significant and has positive relationship with stock return in Malaysia. However, Ariff *et al.* (1998), Choudhury (2003) and Hjalmarsson (2004) found that financial ratios are not useful in predicting the Malaysian stock return. Generally, this paper aim to test whether the financial ratios, namely dividend yield (DY), price to earning ratio (EP) and capital gain (CG) can predict the Malaysian stock return.

Data and Empirical Results

The Bursa Malaysia previously known as Kuala Lumpur Stock Exchange (KLSE) dates back to 1930 when the Singapore Stockbrokers' Association was set up as a formal organisation dealing in securities in Malaya. It consists of a Main Board, a Second Board and MESDAQ with total market capitalization of MYR700 billion (US$189 billion). Bursa Malaysia currently lists 988 companies which 637 companies are on the Main Board, 227 companies on Second Board and 124 companies on MESDAQ[1]. This study uses monthly financial data of 78 companies listed on the Main Board of Bursa Malaysia/KLSE from 1995 to 2005.

We applied Augmented Dickey-Fuller (ADF), Philip-Perron (PP), and Kwiatkowski, Phillips, Schmidt and Shin (KPSS) unit root tests to determine the stationarity of the time series. We found that all variables is integrating of order zero, $I(0)$. Hence, we utilize Ordinary Least Square (OLS) method to obtain the regressions of monthly stock return. This study used the information set of dividend yield and price to earning ratio to predict the future stock returns. Both ratios have market price per share as the denominator, so that, the ratios should be positively related to the expected return.

The estimated regressions are reported as equations (1) to (4). All the variables (except for dummy variable) are expressed in natural logarithms and the values in parentheses below the coefficients are the p-values[2]. LR_t stands for log of nominal stock return at time t, LDY_{t-1} represents log dividend yield at time t-1, LEP_{t-1} denotes log earning to price ratio at time t-1 and LCG_{t-1} is log capital gain at time t-1. The results of diagnostics tests for the estimated regressions are also presented. R^2 represents the coefficient of determination, JB is the Jarque-Bera statistics for normality, LM is the Breusch-Godfrey Lagrange multiplier test for serial correlation up to 1 lag, White is White's test for general heteroskedasticity and RESET is Ramsey RESET test for functional misspecification.

$$LR_t = \underset{(0.000)}{0.114} + \underset{(0.006)}{0.064 LDY_{t-1}} + \underset{(0.000)}{0.085 D1} \tag{1}$$

Diagnostic Tests

R^2	= 0.684		LM	= 1.319	RESET	= 1.852
JB	= 2.725		White	= 1.715		

$$LR_t = \underset{(0.000)}{0.111} + \underset{(0.006)}{0.062 LDY_{t-1}} + \underset{(0.038)}{0.130 LCG_{t-1}} + \underset{(0.000)}{0.086 D2} \tag{2}$$

Diagnostic Tests

R^2	= 0.682		LM	= 0.336	RESET	= 3.203

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[1] As at 3 Jan 2008.
[2] D1, D2, D3 and D4 are the dummy variables included to correct for normality problem.

$$LR_t \quad = \quad 0.058 \quad + 0.036 LEP_{t-1} \quad + 0.069 D3$$
$$\qquad\qquad (0.006) \qquad (0.045) \qquad\quad (0.000) \tag{3}$$

Diagnostic Tests

R^2	= 0.387	LM	$= 7.184^a$	RESET	= 0.558
JB	$= 169.447^a$	White	$= 23.811^a$		

$$LR_t \quad = \quad 0.037 \quad + 0.018 LEP_{t-1} \quad + 0.073 LCG_{t-1} \quad + 0.02 D4$$
$$\qquad\qquad (0.029) \qquad (0.201) \qquad\quad (0.284) \qquad\quad (0.000) \tag{4}$$

Diagnostic Tests

R^2	= 0.063	LM	= 0.873	RESET	= 0.229
JB	= 1.557	White	= 0.611		

The estimated equation (1) showed that the coefficient of dividend yield carried the positive expected sign and is statistically significant. This means that dividend yield is a significant predictor of future stock return and is positively correlate with stock return. The statistics reported for LM, RESET and White are F-statistics under relevant null hypothesis. The adjusted R^2 of 0.684 shows that 68% of the variation in stock return (dependent variable) is able to be predicted by the dividend yield and independent variables. The Jarque-Bera statistic shows that we cannot reject the null hypothesis of residuals are normally distributed. The result LM indicate that there is no serial correlation up to lag order 1. Non significant test statistic of White test indicates that the residuals are homoskedastic. The Ramsey RESET test indicates that there is no misspecification of omitted variables, incorrect functional forms and correlation between the independent variables and the error terms. Next, we are interested to know whether the combination of dividend yield and capital gain increased the predictive power. The result of equation (2) showed that the coefficients of dividend yield and capital gain carried the expected sign and are statistically significant. This suggests that dividend yield and capital gain can predict future stock return. However, the adjusted R^2 indicated that the inclusion of capital gain doesn't increased the predictive power. Non significant of the JB, LM, White and RESET test statistics indicates that the residuals are normally distributed, uncorrelated, homoskedastic and the model is correctly specified. For the case of earning to price ratio, the estimated equation (3) showed that the coefficients of all the independent variables appeared theoretically satisfactory and are statistically significant. However, the significant JB, LM, White test statistics indicates that the model is not valid because it suffered from normality, serial correlation and heteroskedastic problems. The results of estimated equation (4) showed that the inclusion of capital gain may solved the diagnostic tests problems, but all of the coefficients are not significant except for the constant. It is found that the future stock return can predict by dividend yield alone but cannot predict by price to earning ratio or the combination of price to earning ratio and capital gain.

Conclusion and Implications

It is important to recognize that the purpose of investment is to realize a positive return over a given time period. Identifying variables that successfully predict the returns for a given security is a continuing quest for investors seeking higher returns. Malaysia stock market is an emerging market in Asia. Recently, Malaysia has implementing some liberalize in the stock market. Malaysia stock market is a potential market to get the high profit. So that, many

local as well as foreign investors would interest to know that whether the Malaysia stock returns could predict by the financial ratios. The results of this study showed that the future stock return can predict by dividend yield. It is found that earning yield has less predictive power than dividend yield. These findings implied that dividend yield for Malaysian listed companies have the ability to provide for profitable trading strategy or improved portfolio decisions relative to trading strategy based on earning to price ratio alone; or the trading strategy based on a combination of both dividend yield and capital gain; or the trading strategy based on a combination of both earning to price ratio and capital gain.

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