Does Corporate Finance and Macroeconomics Fundamental Affect Stock Returns? Evidence from Malaysian Services Sector

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ABSTRACT

In this paper we examine the relationship between corporate finance variables and macroeconomics fundamentals towards stock returns index. Using panel data estimation of generalize least square (GLS) for services sector companies traded on the Bursa Malaysia over the 10 year period from 2002 through 2011. Our result clearly shows that corporate finance has more influenced towards stock returns compared to macroeconomic fundamentals. Overall, the results suggest that investors are guided by firm-specific attributes and thus should follow strictly on the performance of the company before engaging in any investment and profitable undertakings.
KEYWORDS: Macroeconomics Fundamental, Corporate Finance, Panel Data, Services Sector, Stock Returns.

INTRODUCTION

The study on the influence of corporate finance and macroeconomic activities on stock market has become widespread in recent years. One of the reasons is that stock market is highly volatile and thus, they can have a great impact on the country economic growth. Moreover, company's performance is normally measured by how the stock prices can sustain in the long run. More generally, the present paper reflects how stock price is affected by both internal and external factors. Therefore, the paper tests the influence of corporate finance components representing the internal factor and macroeconomic variables representing external factor toward stock index movement for 30 service sector companies traded on the Bursa Malaysia over the 10 year period from 2002 to 2011.

The fundamental reason for selecting service sector is because of its importance in contributing toward nation economy growth. For example, for the past twenty year, Malaysia industry sector have experienced an economic boom and developed at a rapid pace through aggressive development agenda. Moreover, it has remained as a main contributor to the economy growth with projected share (inclusive of government services) to be at 67.3% of the GDP by 2020. The sector is considered to be the main driver for the nation transformation agenda in manufacturing and production of export related goods and services. Indeed, with the liberalisation of several services sub-sector under the newly established agenda called Economic Transformation Programme (ETP) will not only contribute to higher investment activity in the sector but will also increase economic growth of a country as well [1].

In particular, besides the conversional services sector such as finance, insurance, real estate wholesale and retail trade, hotels and transportation, the newly developed and highly advanced communication sub-sector are given priority in this programme leading to increase in foreign investments. This consumer-oriented business segments have contributed large amount to the capital expenditure of firm and will continue to do so in the future. Indeed, the communications sub-sector businesses are likely to adjoin new capacity for mobile networks and data transmission, despite the fact that those in the wholesale and retail trade sub-sector are likely to further expand their operations with strategically-located new outlets.

The organization of the paper is as follows. Section II reviews previous related literature. Section III present the data and outlines methodology employed. Section IV reports and discusses the empirical findings, and section V concludes.

LITERATURE REVIEW

Several studies focus on the correlation between selected variables such as internal factors (company fundamental) and external factors (environment circumstances and economic variables) with stock price. In [2] for examples, study on long run comovement between developed national stock market indexes (Canada, Germany, Italy, Japan and the U.S) and measures an aggregate real activity of economic variables and financial variables. Using an error correction model (ECM), they find that the real stock indexes return are related to the changes in macroeconomic variables. Similar results reported by [3] who found that the stock market indicators mostly have high correlated with finanacial intermediary development. In [4] finds that financial fundamental variables such as

earning per share, divedend per share, are more significant in explaining UAE financial markets compared to macroeconomic variables such as gross domestic product, interest rate, crude oil price, inflation rate, consumer price index, and money supply. However, in [5] finds the opposite for the Nigerian Stock Exchange (NSE). They find that economic variables is more influence compared to financial fundamental variables.

In [6] studies the long-term equilibrium relationships between stock index with selected macroeconomic variables includinh money supply, short and long term term interest rate, and exchange rate of Singapore, Japan, and the United States. Using a Johansen's vector error-correction technique for the monthly time-series data, they find the money supply changes and stock return are positively related.

In [7] investigates the 'soft information' in fims' debt issue. He finds that information of firms' debt issue may effect a firm's stock price throughout outside investors' trading. Similarly, in [8] find that the firms that have higher leverages, higher default risks, or have financial constraint will give negative effect on stock price and this finding is consistent with the debt overhang theory whereas an increase in leverage ratio, the stock price will be lower.

In [9] explore the impact of capital market efficiency in India using time series data on market capitalization, total market turnover and stock price index and find that market capitalization and market liquidity are positively related with stock price. The results suggest that the capital market in India has constantly contribute to the economic growth of the country.

As for Malaysia market, in [10] analysed the dynamic linkages between Malaysian equity market and four macroeconomic variables (real output, price level, money supply and exchange rate). Using standard and vector regression for monthly data for the period from January 1977 to August 1998, the results show that money supply are positively related with stock price index but negative long-run effects for money supply expansion on the stock prices. In [11] analyses the interrelationship among macroeconomic variables and stock market in Malaysia. They find that money supply tend to influence the composite index whereas an increase in the money supply will lead to an increase in the availability of loans to the public as well as increase the stock demand.

In [12] examines the effects of intellectual capital (IC) disclosure of listed companies in Bursa Malaysia (BM) on their market capitalization (MCAP). Using data for listed companies from 2002 through 2006, they find positive and significant relationship between IC disclosure and MCAP while negative relationship between stock price and MCAP.

Although many empirical studies have examined the finance and macroeconomic influence toward stock returns, their results have shown inconsistency. They are not using proper estimation procedures and thus may distort the power of standard tests leading to wrong conclusions. As such, right technique in utilising the data should be applied in drawing strong inferences.

DATA AND METHODOLOGY

Data

Altogether there are 183 services sector companies listed in the Main Board of Bursa Malaysia. However, only 30 companies have completed set of data for analysis. The sample data consist of financial statements from annual report of each selected firms obtained from Bursa Malaysia website and World databank website over the period of ten years from year from 2002 until 2011. Specifically, the data for market capitalization which is the proxy of firm's size and the stock index are obtained from Bursa Malaysia website while data for interest rates (BLR) and money supply (M2) are collected from World databank website. Table 1 shows the summary statistics which include the maximum, minimum, mean, and standard deviation for dependent variable and independent variables.

Table 1: Summary statistics

Variables	Observations	Mean	Std. Deviation	Minimum	Maximum
stockprice	300	1.927	2.169	0.06	15.3
intrateint	300	5.88	0.604	4.9	6.5
moneysupps	300	9.62	3.019	4.5	14.6
earningpes	300	0.216	0.550	-2.3	4.88
dividendps	300	0.085	0.344	0	4.7
leveragedr	300	48.339	21.26	-29.41	92.64
mktcapita	300	4,558,291	10200,000	6611	72,100,000

Panel Data Model

The present study applies the panel data technique following the structure shown below

$$y_{it} = x'_{it}\beta + z'_{it}a + \varepsilon_{it} \tag{1}$$

or

$$y_{it} = \sum_{j=1}^{N} \alpha_i d_{ij} + x_{it}\beta + \varepsilon_{it} \tag{2}$$

where

$$d_{ij} = \begin{cases} 1 & if \quad i \quad = \quad j \\ 0 & otherwise \end{cases} \tag{3}$$

which are used to capture the individual effects (either fixed or random). The y_{it} is the dependent variable logarithm of stock price (lstockprice) and the X_{it} represents six independent variables which are log interest (l intrateint), log money supply (lmoneysupps), log earning per share (learningpes), log dividend per share (ldividendps), log leverage (lleveragedr), and log market capitalization (lmktcapita) where i, number of firms =1, 2,…..30, t, number of years = 1, 2,……..10. The ε is the error term.

Breusch and Pagan Multiplier Test
Breusch and Pagan Multiplier test introduced a Lagrange Multiplier (LM) test for heteroskedasticity in linear regression model whether to test the estimated variance of residuals from regression are dependent on the values of the independent variables. The purpose of this test is to choose between the Pooled and Random Effect based on the p-value of chi². The data will be analyzed by using Pooled if the null hypothesis cannot be rejected, while for Random Effect will be used when the null hypothesis is rejected. The following Lagrange Multiplier (LM), the test statistic for the Breusch-Pagan test.

$$LM = \frac{\left(\sum_{i=1}^{N} T_i\right)^2}{2\left(\sum_{i=1}^{N} T_i(T_i - 1)\right)} \left[\frac{\sum_{i=1}^{N}\left(\sum_{t=1}^{T_i} \hat{e}_{it}\right)^2}{\sum_{i=1}^{N}\sum_{t=1}^{T_i} \hat{e}_{it}^2} - 1\right]^2 \sim \chi^2(1) \tag{4}$$

Hausman Test
Hausman Fixed Test use to compare between random (REM) versus fixed effects model (FEM) whereas REM is selected with the extension of the GLS-Two Way Estimation if the null hypothesis fails to be rejected. If the null hypothesis is well rejected, FEM will be selected to analyze the data with the extension of FEM-Two-Way Estimation, with extension of variable year. The test statistic is as follows:

$$[\hat{\beta}_{FE} - \hat{\beta}_{RE}]'[Var(\hat{\beta}_{FE}) - Var(\hat{\beta}_{RE})]^{-1}[\hat{\beta}_{FE} - \hat{\beta}_{RE}] \sim X_k^2 \tag{5}$$

RESULTS AND DISCUSSION

All panel data regressions of GLS estimate results in Table 2 follow the general specification in (1). The results reported are for a panel as a whole.

Table 2: Fixed-effects GLS regressions

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Fixed-effects (within) regression          Number of obs      =        196
Group variable: code                       Number of groups   =         29

R-sq:  within  = 0.3416                     Obs per group: min =          1
       between = 0.5675                                     avg =        6.8
       overall = 0.5794                                     max =         10

                                            F(7,160)           =      11.86
corr(u_i, Xb)  = 0.1557                      Prob > F           =     0.0000
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lstockpric~p	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
lintrateint	-.8409354	.4283769	-1.96	0.051	-1.686938	.0050668
lmoneysupp~s	-.0579509	.0890418	-0.65	0.516	-.2337998	.117898
learningpe~s	.0545071	.0494262	1.10	0.272	-.0431048	.1521189
ldividendp~s	.1119838	.0474491	2.36	0.019	.0182765	.205691
lleveragedr	.0539403	.1424098	0.38	0.705	-.2273051	.3351857
lmktcapita~a	.2210587	.0338172	6.54	0.000	.1542731	.2878443
year	-.0040058	.0183904	-0.22	0.828	-.0403252	.0323135
_cons	7.338847	37.29248	0.20	0.844	-66.31013	80.98783
sigma_u	.57024114					
sigma_e	.3687391					
rho	.7051492	(fraction of variance due to u_i)				

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F test that all u_i=0:     F(28, 160) =      9.24              Prob > F = 0.0000
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Table 2 shows that interest rate are negative and significantly affecting share price at 10% level supporting the findings by [6, 13]. The theoretical argument of the negative relationship for the the interest rate is that as it increases, the value of the stock will be decreased since more fund is needed to pay for the higher interest rate. On the otherhand, as interest rate decrease, the share price will automatically be higher since borrowing cost is cheaper allowing investors to demand more stock of companies in the market. As for dividend per share, it shows significantly positive relationship at 5% level towards share price with the coefficient of 0.11 (t-statistic of 2.36), supporting the study by [4, 13]. The reason being as more dividend is paid to the shareholders, the higher will the value the firm in the eye of investors and thus creating high demand for the stock. The results suggest investors in Malaysia are more interested in capital appreciation rather than current incomes contradicting the results of [5] who finds that Nigerian investors are more interested in current incomes compare to capital appreciation.

In the meantime, the market capitalization (proxy for size) has positive and significantly affecting the share price at 5 % level, with coefficient of 0.22 (t-statistic of 6.54), supporting the findings by [14, 9, 12, 15]. Hence, it is suggested that the larger the market capilization of a company, the more potential the company will be in enhancing future growth toward attaining higher profit.

Considering the fact that panel technique utilised the data more efficient, the fixed effect results provide clear evidence of faily strong relationship between interest rates, dividend and size with stock returns. The other variables such as money supply shows negative effect on stock returns while earnings and leverage reports positive impact on stock. However, all these variables does not seem to be statistically significant in explaining stock returns.

SUMMARY AND CONCLUSION

In this paper, we have applied panel data technique to examine the influence of macroeconomic fundamental and corporate financial on the stock returns index. The yearly dataset of 30 companies in services sector traded in Bursa Malaysia over the period 2002 to 2011 are used. The macroeconomic fundamentals consist of money supply and interest rate while corporate financial variables consist of firm-specific attributes such earning per share, dividend per share, leverage and market capitalization.

Previous researchs have used either cross-sectional technique or time series analysis but both methods have drawback. For example, cross-sectional technique have limitation in that it ca lead to spurious correlation arising from non-stationarity while time series analysis may yield bias parameter estimation due to shorter data sets. We have made used of the GLS regression of panel data method to conclude that there is significant evidence in favor of the accepting the hypothesis that corporate finance significantly contributed to the stock returns of service sector in Malaysia. The empirical evidence also show market capitalization is the most influence variable on the stock returns compared to other variables. The important policy implication is that policies focusing on improving the value of company should give priorities to firm-specific attributes over other factors including macroeconomics fundamental.

ACKNOWLEDGEMENT

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