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An Empirical Study on the Impact of Earnings per Share on Stock Prices of a Listed Bank in Malaysia

¹A. Seetharaman and ²John Rudolph Raj

¹Academic Affairs, Global MBA Unit, S.P. Jain Center of Management, Singapore

²Faculty of Management, Multimedia University, Malaysia, 63100 Cyberjaya, Malaysia

*Corresponding Author: John Rudolph Raj, Faculty of Management, Multimedia University, Malaysia
Tel: +603 8312 5573 Fax: +603 8312 5590*

ABSTRACT

The impact of an announcement of Earnings per Share (EPS) on stock prices had often been the centre of interest to researchers, shareholders and investors. This is because; EPS is one of the investment tools to evaluate a company's performance either in the short or long term. The estimated earnings can be used to measure the financial health and prospect of a company. Therefore, in this research paper, an investigation and evaluation has been performed to indicate the impact of EPS on the stock prices of Public Bank Berhad, a listed bank in Malaysia. The aim of the study was to investigate whether there is any correlation between Public Bank Berhad's EPS and its stock price for a relatively long time period of 19 years. In addition, a statistical study was conducted, using Statistical Package for Social Sciences (SPSS) software to evaluate if there is a significant level of impact on the bank's EPS on its stock prices during the quarterly earnings announced since, year 2000. Although, there are some limitations in the use of EPS as an investment analysis tool, it can be concluded that EPS is a classical model, which is important and relied upon by investment analysts to measure the performance of business entities. In this research finding, it can be concluded that there is a very strong positive correlation between Public Bank Berhad's EPS on its stock prices and that there is a significant impact of earnings announcement on Public Bank Berhad's stock prices.

Key words: Portfolio management, earnings announcement, market efficiency, capital asset pricing model, economic tests

INTRODUCTION

Seetharaman (1995a) had stated that earnings per share reflected the good or bad position of the company and its increase was reflected not only in the market price in the stock exchange but also in the P/E ratio, dividend cover, dividend yield and earnings yield. Baldwin (1984) examined whether users of financial statement were able to predict EPS better after the Securities and Exchange Commission's (SEC) disclosure requirements. The information would enable the financial statement users to assess better the size and timing of future profits. In addition, Graves *et al.* (2010) provided evidence on a potential source of an analyst's superiority that humans could use past earning data to predict future earnings more accurately than can mechanical time series model. It is interesting to note that, many researchers, like Hribar *et al.* (2006) stated that stock repurchases were widely supported by improved earnings per share. The repurchase of stocks

boosted the earnings per share due to reduction in the number of shares. On the other hand, Peter (1980) investigated the proposition that while dealing with economic environment, income numbers may have predictable properties. He tested this proposition by employing forecasting models to examine the predictability of annual EPS behavior by utilizing economic lead indicators. The outcome of the study indicated existence of predictable relationship between some economic lead indicators and EPS numbers. Past research efforts have produced a striking correlation to current research findings. Murphy (1966) examined the correlation between growth in earnings per share in one period and the growth in earnings per share in the succeeding period. Joseph stated that if the correlation is positive, companies which record the highest growth rate of earnings per share in one period would also tend to record the highest rates of growth of earnings per share in the next period. Many other noted authors like, Newbold *et al.* (1987) had investigated the efficacy of combining forecasting models with a view to improve the forecasts for earnings per share by employing three types of forecasting models by using historical data. In the study, it was found that value line was more accurate than the prediction of the models. And that the forecast for earning per share could be improved by combining the prediction of the value line with the other models. Foster (1973) examined the stock market reaction to estimates of annual earning per share. These estimates were made after the end of the financial year, but before the release of audited figure. His study examined the stock price adjustment to the EPS estimate.

In a similar vein, the International Accounting Standards Board (IASB) in its International Financial Reporting Standard (IFRS) 14 defines EPS to reflect the company's net after-tax earnings that belong to equity shareholders divided by the number of outstanding shares. In theory, shares can be classified into two types, such as ordinary shares and preference shares. The type of shares referred to in the computation of EPS is the ordinary shares or also known as common shares in which the number of preference shares is to be excluded. Thus, EPS computation could be defined as follows:

$$\text{EPS} = \text{Net income belonging to equity shareholders} / \text{Total No. of outstanding common shares}$$

In a way, EPS can be used as a performance indicator of the financial standing of the company. It measures the company's performance during the year and indicates the progress of the company in the near future. In other words, EPS is a measurement of business performance as the net income figure takes into account both the results of the company's operations and the effects of financing.

Over the years, accountants have developed a number of estimation methods in the calculation of the EPS. There are currently four types of EPS measures, namely basic EPS, primary EPS, fully diluted EPS and diluted EPS. The old presentation of EPS which used the primary and fully diluted EPS measures were replaced by basic and diluted EPS following the issuance of SFAS No. 128 EPS.

MATERIALS AND METHODS

Eilifsen *et al.* (1999) found a significant reduction in stock price volatility in the post-announcement period relative to the pre-announcement period for companies traded on the Oslo Stock Exchange in the period 1990-1995. This was tested by relating the observed returns volatility to changes in the volatility of the underlying business, the speed at which information is incorporated into stock price and the amount of noise in the price process. In their statistical studies, the empirical results document no significant change in the intrinsic variances for small and large

companies after the earnings announcement date (at the 5% significant level) suggesting that earnings releases per se are not carrying information that changes the perception of the underlying risk. The authors failed to investigate the significance of the stock price volatility after the post-earning announcement with a longer duration. The limitation of their study did not classify their companies into different industrial groups for analysis. In addition, the authors failed to collect a substantial amount of data for their statistical studies.

Safer and Wilamowski (1999) described that Artificial Neural Networks (ANN) are used in conjunction with the Sharpe-Linter form of the Capital Asset Pricing Method (CAPM) to predict the returns on US stocks, which will be greater than what financial risk models would predict. The advantage of using a nonlinear approach is to model the financial system more accurately than linear techniques. The Sharpe-Lintner form is used to control for risk and determine abnormal returns of stocks. Inputs include ratios of recent to past stock price averages over pre-event time periods, similarly, stock volume ratios and previous quarter Standardized Unexpected Earnings (SUE). The earnings data is quarterly and runs from the first quarter of 1993 to the second quarter of 1998. Event periods that had the smallest width around the earnings report tended to be easier to predict. In addition, they found that event periods that were closest to the event (the earnings report) were more accurate at predicting the abnormal returns of stocks. According to the authors, the Multivariate Adaptive Regression Splines (MARS) techniques may also work well together with other traditional financial techniques. In addition, the size of the firm as an input variable may help increase the accuracy of prediction. However, the authors failed to elaborate the steps and procedures of calculation for the complex formulae. Moreover, the authors did not show the non-linear and non-parametric techniques such as (MARS) in their studies. The authors did not prove the efficiency of ANN's technique as an analytical tool because this technique is still new.

Armstrong (1983) identified and analyzed the accuracy of the previous annual earnings forecasts that were done by management and professional analysts using extrapolation techniques. He found that the forecasts by management to have 15.9 of mean absolute percentage errors compared to the professional analyst forecasts of 17.7 mean absolute percentage errors. In addition, the author found that the judgmental forecasts (both management and professional analysts) were superior to extrapolation forecasts. The judgmental forecast's mean absolute percentage errors were 21.0 and the extrapolation's mean absolute percentage errors were 28.4. The author provided four possible explanations for the superiority of management forecasts over other analysts views.

- Managers sometimes have inside information
- Managers exert control over performance
- Managers can influence the reported earnings
- Managers have more recent information. Additional research is needed to assess the validity of each of these various explanations

However, the author did not study the significance of earnings forecast and its impact on stock price movement.

Ball and Brown (1968) were the first to note that even after earnings are announced, the estimated cumulative abnormal returns continue to drift up for good news companies and down for bad news companies. In the US, corporations announce earnings quarterly during the first week of every next quarter. But issue earnings warning typically during the last week of the current quarter. The authors highlighted that unfortunately in many studies abnormal returns are

measured as return in excess of the market return, which holds the implicit assumption that the stock in question has a unit CAPM. He further elaborated that if abnormal return is measured as excess return, abnormal return is underestimated for stock with CAPM betas less than unity. On the other hand, the stock was overestimated if the CAPM betas were greater than unity. The authors failed to mention other possible factors that could influence the stock price.

Huijgen and Plantinga (1999) investigated whether financial analysts' earnings forecasts are informative from the viewpoint of allocating investments across different stock markets. Therefore, they developed a country-forecast indicator reflecting the analysts' prospects for specific stock markets. The country forecast indicator was defined as the number of companies within one and the same stock market for which analysts revise their current year earnings forecast upward as a percentage of the total number of companies with a forecast revision in both upward and downward direction. In other words, they aggregated the analysts' earnings forecasts of individual companies toward a country-forecast indicator. According to the research, they found that the overall Swiss portfolio managers are capable to select individual stocks quite well. But the portfolio managers still lack behind the capability to forecast the stock indices' price movement. The authors also realized that nowadays, the portfolio managers and financial analysts are more directed to industries rather than to countries in their asset allocation strategy. The authors failed to elaborate some techniques and factor to forecast the stock indices' price movement. On top of that, the authors did not perform their analysis based on the specific industries rather than on the country stocks as a whole.

Nawrocki and Carter (1998) discussed the stock's earnings announcements constitute positive earnings surprise given a consensus of analysts' expected earnings. In their studies, they conducted a comprehensive back test of whether there is new investment information in earnings surprise data when used with a portfolio selection algorithm. A unique feature of this study was that it used economic return performance to evaluate its results rather than the more commonly used statistical methodology. The results indicated that using earnings surprise information in a periodic revision of a portfolio does not add value. Any value added derives from the portfolio selection algorithm not from the fact that the stocks in the analysis are earnings surprise stocks. In addition, the earnings surprise stocks are a source of increased volatility when used in 15-30 asset portfolios. The authors found that their studies indicated the earning surprise effect could last up to nine-months. In addition, very few stocks exhibit an effect that lasts long enough (3-4 months) to help in a quarterly portfolio revision process. However, the authors failed to investigate the technique to obtain the forecast EPS figures in which it can reduce the earnings surprise.

Stevens and Williams (2001) presented that forecasts by analysts have found evidence for systematic under-reaction, systematic overreaction and systematic optimism bias. With the consistency of systematic optimism, they observed that the forecasts are found to under-react to negative earnings information but overreact to positive information. According to the authors, their finding issue is based on the analyzing forecast reaction to positive versus negative information. According to them, their experimental setting has the potential to detect human decision bias because it is void of potentially confounding incentives of analysts, contains a simple forecasting objective (a random-walk series) provides learning opportunities and economic incentives to minimize forecast error. The authors also found that the under-reaction observed here will reflect a bias in human decision making. Therefore the investors in naturally occurring markets will also tend to under-react to public financial information. This helps explain archival studies demonstrating post-earnings announcement drift. The authors failed to obtain the evidence of systematic over-reaction or optimism bias.

Foster *et al.* (1984) estimated that over the 60 trading days subsequent to earnings announcement, a long position in stocks with unexpected earnings in the highest mark. If it combined with a short position in stocks, eventually it will be in the lowest mark. An annualized return about 25% before transaction cost will be yielded. According to authors, competing explanations for post earning announcement drift fall into two categories as follows:

- In the case of at least a portion of the price response to new information is delayed. It could be investor might not update beliefs fully to new information. Or it could be the transaction costs might prevent investors from incorporating new information into securities prices immediately
- The Capital Asset Pricing Model (CAPM) which serves as a benchmark for determining abnormal returns, might be wrongly specified in that certain risk factors are not accounted for. As a result, the so-called abnormal return is nothing more than fair compensation for bearing risk that is priced in the market but not captured by the CAPM. Or in the case of post-earning announcement drift, this explanation requires that companies with higher than expected earnings become more risky or vice-versa

The introduction of International Financial Reporting Standards (IFRS) 14 / IASB 33 was to replace the previous EPS standards in order to achieve international harmonization in the calculation of EPS. This standard highlighted the basic principles in the calculation of EPS. It has been defined that the EPS's numerator consists of consolidated profits after taxation, minority interest and preference dividends, whereas the EPS's denominator is equal to the total number of ordinary shares being issued. This standard also shows the basic principles of EPS calculation examples based on the changes in capital structure, bonus issue of shares and right issue of shares. In addition, this standard defined diluted EPS as a theoretical EPS based upon the assumption that all shares that could be issued in the future were in issue during the period. The purpose was to show the ordinary shareholders the potential dilution to their earnings that may arise on the conversion of securities. This standard presented an overview of the main changes from previous EPS practice to existing IFRS 14/IASB 33 into four areas:

- The EPS should be based upon the weighted average number of shares in issue during the period, regardless of whether they rank for dividend or not. Previous practice required, as part of the calculation of the basic EPS, the exclusion of shares that did not rank for dividend during the period
- The EPS should reflect post-balance sheet bonus issues and the bonus element of post-balance sheet rights issues
- In relation to share options, the diluted EPS should no longer be calculated on the assumption that the issue proceeds will be invested in government securities. IFRS 14 /IASB 33 requires that extra shares issued as a consequence of the discounted exercise price be used as the basis of the dilution. No adjustment to earnings was required
- Regardless of the level of dilution in both the basic and diluted EPS, it should be disclosed on the face of the Income Statement. The 5% threshold was dropped

Andrade (1999) concluded that the EPS accretion has a marginally positive and significant impact on acquirer returns at announcement. He also found that the post-merger long term

abnormal performance by the acquirers are positively related to the amount of EPS accretion reported for up to a year and a half following closing. In addition, he found the pooling-of-interests method of merger accounting is able to improve the acquirer returns both at announcement and in the long run. It can be achieved by reducing the amount of EPS dilution *ceteris paribus*. He described the best example of a corporate event that might lead to EPS accretion or dilution is an acquisition of another company. As far as method of accounting is concerned, he observed that the managers seem to structure transactions in a way that minimizes the resulting EPS dilution. The author failed to further elaborate the condition if EPS dilution is truly detrimental to stock prices, then the most diluted transactions would not actually get done. On top of that, the author did not elaborate on the aspect of how the impact of EPS announcement on stock price.

Choi *et al.* (2002) had made two types of study on the effect of earnings announcement between Brick'n Mortar and dot.com based on Prospect theory. The first study was an explanation of the phenomenon with Prospect theory and confirmed the theory through anecdotal evidence. The second study was comparing the market reaction to the earnings announcements between the dot.com companies and Brick'n Mortar companies. In their research, they described that many e-companies quickly come into existence and disappear. Therefore the market prices of e-companies plummeted for a variety of reasons. Based on the authors' observation, the main reason for the decrease in the value of e-companies seems to be the inability of those companies to create positive earnings, which are as follows:

- The income of e-companies are more unstable than the traditional Brick and Mortar companies
- The investors are mostly risk averse
- Especially to a negative earnings surprise, the markets are expected to be more sensitive to the earnings announcements of e-companies.

The limitation of this article is that the e-companies have not had positive earnings for several years and thus it may be hard to collect data on e-companies with positive earnings surprise. Moreover, most e-companies are young compared to traditional companies and thus it may be unreasonable to make a comparative analysis.

In another study, Seetharaman (1995b) observed that the conversion of convertible debentures would reduce interest expense on the income statement and increase the number of shares outstanding thereby having an impact on basic earnings per share which in turn influence the market price of the share.

Jindrichovska and Kuo (2002) examined the nature of the timeliness of earnings in the capital market of the Czech Republic (CR) focusing on current reported earnings and contemporaneous returns. In addition, the authors also evaluated the similarities and differences between emerging markets and developed markets. The conclusion is that dividends have a smaller effect on the results for quarterly data than on yearly data. However, the results derived from yearly data indicate that earnings are not more timely or concurrently sensitive in reporting publicly available bad news. The results of quarterly data are similar to those of yearly data except for the smaller magnitude of the slope coefficients. The Czech capital market is a new emerging market. Therefore, it is inevitable that it has some non-standard properties typical of emerging markets, such as irrational investment behavior, lack of information, underdeveloped regulations and lack of transparency, which is partially due to lack of experience. The limitation of this article is that comparing the quantity of available data from developed markets, the amount of data on the Czech

market is too small to examine all the hypotheses fully. It also results in less significant inferences from our tests. The authors failed to test an emerging market in another country which was similar to the Czech market for comparative purposes.

Duncan and Cheng (2000) presented their teaching tool for stock valuation. Basically they showed the way to integrate the basic elements of stock valuation. In their paper, they came up with the Snake Diagram. This diagram showed the central tool for presenting a unified look at fundamental stock analysis. The elements and formulae involved in the Snake Diagram would obtain the Stock Price. According to the Gordon Model, the stock price at time zero is defined as:

$$P_0 = \frac{D_1}{k_s - g}$$

Where:

P_0 = The stock price at time 0

D_1 = The expected per share dividend at time period 1(next year's dividend)

k_s = The required rate of return on the stock and

g = The constant growth rate of dividends from the equation:

$$\text{Since EPS} \Rightarrow \text{EPS} = \frac{\text{Net Income}}{\text{\# of shares}} \text{ and } D_1 = \frac{D_1}{\text{EPS}_1} \times \text{EPS}_1$$

Based on the above mentioned Gordon Model's formula, the Stock Price at time zero will have the direct relation with EPS. For the Stock Price at time zero calculation purposes, the elements as follows are also required:

- $k_s = k_{RF} + \beta_s(k_m - k_{RF})$ Capital Asset Pricing Model
- $g = \text{ROE} \times b$
- $\beta_s = \beta_A(1 + \frac{D}{E})(1 - t)$ Business Risk Factor
- $\text{ROE} = \frac{\text{NI}}{A} \times \frac{A}{E}$

However, the article did not mention the direct impact and correlation of EPS on stock prices. The author emphasized the theoretical aspect leaving out the practical implications on stock price movement.

Suijs (2002) highlighted that the post earnings announcement drift is generally considered to be a capital market anomaly. He concluded that post earnings announcement drift may arise in a capital market with rational investors if the firm's earnings in consecutive periods are positively correlated and there is a fixed supply of the firm's shares. The author found that the result is driven by the fact that equilibrium share prices depend on the forward looking information contained in current earnings and the amount of risk that the fixed supply of shares imposes on the investors. According to him, share prices will be relatively rigid with respect to the forward-looking information contained in current earnings. Hence he concludes that the good (bad) news yields an increase (decrease) in the equilibrium price that is too small compared to the

information that is released in the earnings announcement, so that positive (negative) abnormal returns are likely to occur again in the next period. The author failed to consider the category of the market efficiency for his post earnings announcement drift analysis. In conclusion, his study may be a good basis for generalization only.

Lorek and Willinger (1999) investigated their research paper by using the Statistical Based Model for long-term earnings predictions. According to the authors, the time-series literature in accounting had been dominated by works that emphasize the short-term (i.e., one-step ahead) prediction of annual or quarterly earnings numbers. While considerable effort had been expended on stipulating the time-series properties and predictive ability of alternative earnings expectation models, they highlighted that no research was devoted to assessing the predictive accuracy of long-term earnings forecasts. The authors further stipulated that long-term earnings predictions are a crucial input into equity valuation. Based on their empirical studies, they found that the financial analysts' short-term predictions of earnings have been more accurate than those derived from statistically based time-series models. However, the authors did not reason out the possible factors of financial analysts' short-term predictions of earnings, which have been more accurate than those derived from statistically based time-series models.

Han and Suk (1996) examined the stock price reaction to securities recommended by investment firms. The authors focused on the market reaction on the date an investment firm issued a research report and the date the report was subsequently covered in the Barron's 'Research Report' column. They found that the results indicated significant stock price effects on both the issuance date and the Barron's publication date, although investors can obtain all necessary information about stock recommendations on the issuance date, which is the first public announcement. Thus, their results suggested that the market reaction to the coverage in Barron's be separated from that to the investment firms' recommendations. In addition, the media coverage was responsible for the wider dissemination of information to the investing public, partly because the cost of acquiring information from research reports before the Barron's publication may not be trivial. Their empirical results also showed that the initial market reaction to stocks with positive recommendation is reversed within 5 trading days, supporting the price pressure hypothesis. However, the authors failed to elaborate on the empirical result findings of Barron's Research Reports.

David (1991) described that most financial statement readers are familiar with a simple formula for calculating EPS. The weighted average number of common shares outstanding divides earnings available to common shareholders, generally net income minus any preferred dividend requirement of the year. The resulting statistic is called basic (or simple) EPS. Basic EPS is presented on the income statement when a company has no outstanding securities that are convertible into common stock. When convertible securities are outstanding, more complex rules take effect. These rules are intended to make EPS reflect the potential of convertible securities to dilute earnings available to common shareholders.

Costigan and Lovata (2000) mentioned that since, February of 1997, the International Financial Accounting Standards Board, had issued a new pronouncement on the computation of earnings per share. Statement of Financial Accounting Standards No. 128, Earnings Per Share, simplifies the calculation of earnings per share and makes this U.S. standard more equivalent to international standards. The authors also described that the users of financial statements must understand that reported EPS figures will change the result of the new pronouncement. In addition, researchers using either EPS or P/E ratios must realize that any analysis combining

reported figures before and after this change might contain additional variance due to the restated EPS figures. The author said the major change made by the new standard is that primary EPS will be replaced with basic EPS. The authors also made some statistical studies and concluded that there are relatively small changes in the EPS figures reported under the old and the new accounting pronouncements. However there was a wide variation in the effect across companies in the same industry. Therefore, the research that uses EPS or P/E ratios as either independent or dependent variables must adjust for this new pronouncement. However, the authors failed to study on the correlation of the new EPS standard implementation and the stock price movement after the new EPS announcement.

The Accounting Principles Board's (APB) Opinion No. 15 was the accounting standard for basic, primary and fully diluted EPS calculations and reporting in financial statements to shareholders. FASB Statement No.128 on EPS has superseded it. This Statement established standards for computing and presenting EPS and applies to entities with publicly held common stock or potential common stock. This Statement simplified the standards for computing EPS previously found in APB Opinion No.15, Earnings per Share and makes them comparable to international EPS standards. It replaces the presentation of primary EPS with a presentation of basic EPS. It also requires dual presentation of basic and diluted EPS on the face of the income statement for all entities with complex capital structures and requires a reconciliation of the numerator and denominator of the basic EPS computation to the numerator and denominator of the diluted EPS computation. "Basic EPS excludes dilution and is computed by dividing income available to common stockholders by the weighted-average number of common shares outstanding for the period. Diluted EPS reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock or resulted in the issuance of common stock that then shared in the earnings of the entity. Diluted EPS is computed similarly to fully diluted EPS pursuant to Opinion 15. However, this article did not highlight the limitation of EPS as an analytical tool.

Choi *et al.* (2002) developed a simple model in which trading volume contains information about future stock returns. Their model explains why high trading volume is observed when a firm announces earnings news and how trading volume can be related to the initial under-reaction of the stock price. In addition, their model has a clear testable implication that high abnormal trading volume predicts a stronger drift. In their research, they tested their model's implication and found strong evidence for the model in the case of positive news. Weaker evidence was found in the case of negative news. Besides that, they also discussed the possible explanations for the asymmetric informativeness of trading volume. Based on their statistical studies, it showed that public news have clear value of implications and eventually it will lead to lower trading volume and a smaller drift. In addition, they found that the trading volume generated by the announcement of public information could be a result of the interaction between two different types of investors. Also, the magnitude of trading volume can give information about the degree of under-reaction by investors subject to the conservatism bias. They described the degree if under-reaction depends on news characteristics. According to the authors, the degree of under-reaction depends on news characteristics. If the information content of the news is clear and salient, as in the case of a takeover bid at a certain price, there would be no room for under-reaction and no trading volume would be observed. Therefore trading volume will be high when the information content of the earnings news is not clear or the saliency of the news is weak. The limitation of their results was that many complex specifications were used to calculate abnormal trading volume and to differentiate the surprise measures.

RESULTS AND DISCUSSION

The results from observing and analysing the time series data of Public Bank Berhad over a 19 year period, indicated that the impact of EPS was significant on the volatility and drift in the movement of its stock prices. This finding was consistent with work done by Eilifsen *et al.* (1999) who found a significant reduction in stock price volatility in the post-announcement period relative to the pre-announcement period for companies traded on the Oslo Stock Exchange in the period 1990-1995. In addition, Costigan and Lovata (2000) indicated in their study that, there were relatively small changes in the EPS figures reported under the old and the new accounting pronouncements. However, the authors failed to study on the correlation of the new EPS standard implementation and the stock price movement after the new EPS announcement. In another study, Duncan and Cheng (2000) introduced their teaching tool, known as the Snake Diagram, which was used for stock valuation.

However, the authors, did not mention the direct impact and correlation of EPS on stock prices. They only emphasized the theoretical aspect leaving out the practical implications on stock price movement. Another study by Choi *et al.* (2002) explains why high trading volume is observed when a firm announces earnings news and how trading volume can be related to the initial under-reaction of the stock price. However, the formulae used in arriving at trade volatility was too complex.

In view of the above findings by other researchers, the following research methodology was developed and used in analyzing the impact of EPS on the stock prices of Public Bank Berhad, incorporating hypothesis testing in the statistical study of the time series data spanning 19 years.

After collecting all the required data, the Research Framework as in Fig. 1 was used to conduct the statistical study and the hypothesis test to evaluate the reliability of EPS as an analytical tool for stock price movement and to also determine its limitation. The statistical study using SPSS indicated that the Pearson Correlation coefficient showed a value of +0.879, indicating that there was a very strong positive correlation between the EPS and Stock Price for a time-series data spanning over 19 years.

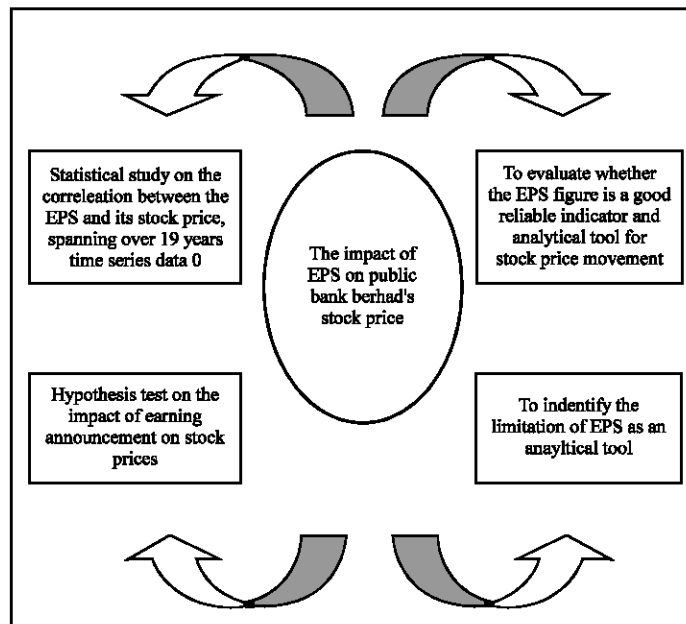


Fig. 1: Research framework

Table 1: Results of SPSS test

Earning announcement for each quarter	Significant level at 0.05	Hypothesis statement	Stock price movement after the earnings announcement
Q3 2002	<0.05	Accept H_1	Negative drift
Q2 2002	<0.05	Accept H_1	Positive drift
Q1 2002	>0.05	Accept H_0	Positive drift
Q4 2001	<0.05	Accept H_1	Positive drift
Q3 2001	>0.05	Accept H_0	Negative drift
Q2 2001	<0.05	Accept H_1	Positive drift
Q1 2001	<0.05	Accept H_1	Negative drift
Q4 2000	>0.05	Accept H_0	Positive drift
Q3 2000	<0.05	Accept H_1	Positive drift
Q2 2000	<0.05	Accept H_1	Negative drift
Q1 2000	>0.05	Accept H_0	Negative drift

The Hypothesis Test was used to determine whether the earnings announcements of Public Bank Berhad had a significant impact on its stock price.

Hypothesis statement: The null hypothesis (H_0) and the alternative hypothesis (H_1) were formulated as follows:

H_0 : There is no impact of earnings announcement on stock price

H_1 : There is an impact of earnings announcement on stock price

Based on the Table 1 results, it is clear that seven 7 events out of eleven 11 events are accepting H_1 , indicating a significant impact of earnings announcement on Public Bank Berhad's stock price. Theoretically, the positive earnings announcement result should influence the stock price. But it has been observed that the inconsistency of the dual directional stock price movement after the quarterly earnings announcement can be explained by comparing the 15 days of pre-announcement EPS stock price's mean and 15 days of post-announcement EPS stock price's mean. The market sentiment could also influence the stock price during the announcement of the EPS. The bottom line is that the statistical study had proven that Public Bank Berhad's EPS has a very strong positive correlation towards its stock price. Therefore, Public Bank Berhad's EPS, is considerably a good performance indicator on the stock price movement.

Limitations of EPS as an analytical tool: The EPS is an important indicator of stock price movement. This is because the market prices of common shares are sensitive in the communication of EPS through its use in the price-earnings ratio. Prior to the adoption of basic and diluted EPS computation rules, accountants calculated primary and fully diluted EPS. Unfortunately there are some limitations of EPS as an analytical tool. The limitations are as follows:

- Primary EPS differed from Basic EPS by including convertibles deemed to be common stock equivalents
- Fully diluted EPS was based on the treasury stock method calculations using end-of-period prices rather than average prices since, they were considered to be more conservative. Aside from the end-of-year-stock-price treasury stock method, calculations using the old fully Diluted EPS are the same as the current Diluted method EPS

- Dropping the old primary and fully diluted EPS calculations has eliminated several arbitrary rules and changed the disclosure of the diluted effect of securities used in calculation EPS

On top of that, the stock price volatility will also be influenced by a few factors such as: economic performance, market risk profile and market sentiment. Therefore while doing the real analysis on stock price, EPS figures and those factors being mentioned need to be taken into consideration.

CONCLUSION

The controversy surrounding EPS calculations are still ongoing. This is because of the current classification of debt as equity in diluted EPS is inconsistent with the balance sheet classification of convertible debt as debt. Besides that, the treasury stock method uses the average stock price in the calculation, which can result in circular causality. Lower stock prices will lead to higher diluted EPS, which may cause higher future stock prices and lead to lower future diluted EPS. Because of these and other problem, only with great caution should the analyst use basic EPS for a firm with a complex capital structure. In addition, EPS is also limited by criticisms in the accounting computation of earnings (e.g., First-In-First Out (FIFO) versus Last-In-First-Out (LIFO) and depreciation expense).

In this research finding, it can be explained that there is a very strong positive correlation between Public Bank Berhad's EPS on it stock prices. The results also showed that, in general there is a significant impact of earnings announcement on Public Bank Berhad's stock prices. However, the results had shown the significant inconsistency in the stock price performance after the announcement of the quarterly earnings announcement. Therefore it can be concluded that Public Bank Berhad's EPS figure is a good indicator for long-term investment analysis by fund managers and the investing community.

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