PRESENCES OF MISSING VALUES IN SHARE MARKET FORECASTING

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ABSTRACT

This dissertation is on observing the influence of the missing values towards the prediction of NSTP (M) Berhad share price. The opening and the closing price of NSTP (M) Berhad will be forecasted starting from 1st September 2008 till 31st December 2008. The missing values in this study are estimated using the cubic spline interpolation using C programming. The stationarity of each series is achieved using transformation before the elimination is carried out. Since the ARMA with \( p + q \leq 10 \) is used, 65 possible models are generated and by using the Eviews software elimination is done based on the \( p \) value. Eight selection criteria (8SC) are used to choose the best model out of the selected for each series. From the selection using 8SC the series without missing values for both opening and closing price is selected as the best models. The forecasting is done using both best models and the accuracy is compared. Besides checking the accuracy of the forecasting, the Mean Absolute Percentage Error (MAPE) is used to check the time period that this best model can be used to forecast. The closing price is known to give a better forecast compared to the opening. Also found that, the forecasting using this ARMA best model is applicable for short period prediction.

Keywords: stationarity, missing values, forecasting, ARMA, 8SC, Eviews.
ABSTRAK


Kata kunci: pegun, data tak tercerap, ramalan, ARMA, 8SC, Eviews.
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LIST OF SYMBOLS

p      order of autoregressive models
q      order of moving average models
≤      less than or equal
≥      greater than or equal
=      equal
≠      not equal
+      addition
−      subtraction
×      multiplication
÷      division
Σ      summation
n      number of observations
k      number of parameters
SSE    sum of squared error/ sum of squared residuals
df     degree of freedom
UCL    upper control limit
LCL    lower control limit
CHAPTER 1

INTRODUCTION

1.1 OVERVIEW

In this fast moving world with just a click of mouse, trading which was once only for the rich has reached different level of people. For many, share market has a high potential in money making but less realized that share market has high risk too. According to Gray (1991), it is not impossible for an outstanding performance with a good planning and information about share market. It depends to individual to decide wisely before making any moves regarding selling and buying shares. Yet one has to make their move carefully so that they don’t have to lose what they own in a second. Investing has to be done at the right time to optimize the profit.

1.2 SHARE/STOCK

A share as defined by Bersteins (2000) is a part of ownership in the company. When a company is selling their shares to public, the company is said to be going public. According to Little and Rhodes (2004) a shareholder has a share in the success of the business and a part owner in the company. Extend of ownership depends to the amount of share a person owns. They also explained that stock price depends to the demand for it. The value of a stock depends on many factors. Investors will be looking on the company’s profile dividend prospects and financial
condition. For those who are interested they can buy these stocks according to their capability.
Owning a company share need to be given importance as an investors eventually become a part of the company. Hence, an investor needs to spend time surveying before doing the stock selection. They need to investigate a large market before selecting few promising ones and finally the best that promise profit significantly.

1.3 TYPES OF STOCKS.

Stocks can be divided into few different stocks. According to Case (1994), some of the stocks are blue chip stocks. Blue chips stocks are the major gigantic companies stocks. These stocks are less likely to fall and can be considered safe. Even if the share price goes down the companies is most likely to pay dividend to its stockholders. Based on White (1994), privatization issues are more likely for political reasons compare to economical reasons.

Growth stocks are stocks that as defined by Case (1994), are from smaller and newer upcoming companies. The dividends received are less likely to be as much as the blue chip. The risk in this type of stock is high as the possibility of the stock value going down is high. While as said by Gray (1991), it is much safer to buy much potential recovery stocks rather than growth stocks as this companies which are more likely to go bankrupt will start climbing back. Investment in these companies can bring gains yet it still has the tendency of bankruptcy. According to Lim (2006), value stocks are shares of companies that are undervalued or overlooked. Normally, these kinds of shares are less attracting the investors as the growth of the
shares is fairly low. Value stocks are popular due to the high dividends paid. This is a way to keep the shareholders stick with value stock of a particular company.

1.4 TYPES OF INVESTMENT RISKS.

As much as profit one’s investment could give, as much risk it put one’s money at. Investment need to be done carefully as the risk in it is quite high. There several types of risks identified in investing. According to Hall (1993), one of the risks in investing is the business risk. If the company one invested could not generate their sales and when management not able to bring the company to a higher level the share value of that particular company most likely will remain the same and the possibilities of falling is high as well.

Stock specific risk or also known as unsystematic risk is where one will lost the capital based on the percentage of share value. This can be overcome by investing in many different companies as if one fall the possibilities to the other to rise are still there to cover the fall. According to Lim (2007), the risk of not being in the market of also known as marketability risk is when one is ready to liquidate and the risk of not being in the stock market or hard to do so since there maybe too few investors in the market. This lead to shortage of reaching financial goals.

Based on Hall (1993), there also systematic risk or market risk where it is associated with the whole market movement. For example, if the entre market declines then the value of all shares will decline too. Political risk is more to the places where the political environment is unstable. Political instability can lead to productivity reduction of the company thus can lead to
REFERENCE


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