شبكة المعلومات الجامعية
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بسم الله الرحمن الرحيم

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جامعة عين شمس

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قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

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Ain Shams University
Faculty of Business
Business Administration Department

Testing the Effectiveness of Technical Analysis and Fundamental Analysis on the Prediction of Stocks' Prices

A Dissertation in Fulfillment of the Requirements for the Degree of Doctor of Philosophy in Business Administration

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Summary

First: Introduction:

Technical and fundamental analyses are the two main approaches to the financial markets analysis. Both of them try to solve the same problem, but they approach the problem from different directions. The problem is to determine the main trend of the future stock prices to achieve returns. For this purpose, the fundamentalists rely on analyzing the companies' financial statements and analyzing the economic environment, while technicians depend on analyzing the companies' historical stock prices.

Each type of analysis has its own tools, strategies, indicators, and techniques. Many analysts are trying to promote these techniques for enhancing their investment decisions in order to maximize their profit and minimize the risk of loss. Accordingly, some analysts use a combination of different analyses to identify which stocks they should invest in. For example, some fundamentalists rely partly on technical analysis as a timing tool for determining the best time to buy or to sell stocks.

Second: Research Problem:

There is no agreement on one approach to stock analysis. Although there are many studies supporting the profitability of technical analysis, there are also many studies supporting the predictive power of fundamental analysis. Therefore, the research problem is to find an answer to the question of which type of analysis, whether technical or fundamental, is more accurate in predicting stock prices in the Egyptian stock market.

Third: Research Objective:

The main objective of this research is to determine whether technical analysis or fundamental analysis should be used to predict stock prices accurately in the Egyptian stock market. It can be achieved through ensuring the validity of the research hypotheses, and evaluating the ability of technical analysis and fundamental analysis in predicting stock prices.

Fourth: Research Importance:

This research has academic and empirical importance. With reference to academic importance, it seeks to clarify the substantial differences between technical analysis and fundamental analysis through reviewing and discussing literature and previous studies. Regarding empirical importance, it helps practitioners apply the best method of analysis to predict stock prices in the Egyptian stock market.

Fifth: Research Hypotheses:

- H_1: There is a statistically significant relationship between technical analysis indicators and stock prices.
- H_2: There is a statistically significant relationship between fundamental analysis ratios and stock prices.
- H_3 : There is no statistical difference between using technical analysis indicators and using fundamental analysis ratios in predicting stock prices.

Sixth: Research Methodology:

Sample: The research sample consists of 29 companies listed on EGX 30 in the Egyptian stock market from 2009 to 2018 to forecast stock prices in 2019.

Data: The research depends on the daily closing prices of 29 stocks, and the financial statements (balance sheets and income statements) for these companies. These data are collected from the Mubasher website, the official website of some companies, the MIST software application (Misr Information Services and Trading), and the output of the Meta stock program.

Statistical analysis: Two statistical analyses have been applied: the panel data analysis, and the artificial neural networks analysis.

Statistical programs: Three programs have been used: SPSS, E-views, and the R program.

Seventh: Research Structures:

This research is organized as follows: chapter one includes the introduction, chapter two involves the literature review of the technical analysis, chapter three discusses the literature review of the fundamental analysis, chapter four consists of methodology and data analysis, chapter five comprises conclusion and recommendations, references, and the appendixes.

Eighth: Research Conclusion:

With respect to technical analysis, the findings appear that the technical analysis indicators can be used in predicting stock prices, especially with the aid of ANN analysis. The moving average is the best indicator for forecasting stock prices. %RSI is the second most important indicator, because its normalized importance is above (40%) for some companies. With regard to fundamental analysis, the OCFPS is the most important variable to explain the stock price, whereas the remaining variables which involve FCFPS, EPS, BVPS, and ROA did not seem to have any significant value on the stock price. The panel data analysis is better than the ANN analysis in forecasting stock prices when dependent on fundamental analysis ratios. The fixed effect model (FEM) is the best econometric model to represent the data, because it explains more than 70% of the changes in the stock price. Moreover, the error in forecasted prices obtained by relying on the fundamental analysis dataset is extremely higher than the error obtained by relying on the technical analysis dataset. Thus, technical analysis is more appropriate in forecasting stock prices compared to fundamental analysis in the Egyptian stock market.

Abstract

This thesis evaluates whether technical analysis or fundamental analysis is better to predict stock prices accurately in the Egyptian stock market. It has been done by investigating the predictive abilities of eight technical analysis indicators: volume, EMA 50 days, %RSI, %K, %D, ADX, +DI, and –DI; in addition to, six fundamental analysis ratios: EPS, BVPS, ROE, ROA, FCFPS, and OCFPS. This research also examines the accuracy of artificial neural networks on the prediction of future market movements. The research data comprise the daily closing prices and yearly financial reports for 29 companies listed on EGX30 over the period 2009-2018 to forecast the stock prices in 2019. For statistical inference, two statistical analyses have been applied: the panel data analysis, and the artificial neural networks analysis.

The findings of this study demonstrate that the technical analysis indicators can be powerful in predicting stock prices accurately, particularly with the aid of ANN analysis. The moving average is the best indicator for predicting stock prices. Concerning fundamental analysis, the OCFPS is the most important variable to explain the stock price. The panel data analysis (linear regression) is better than the ANN analysis (nonlinear regression) in forecasting stock prices when dependent on fundamental analysis ratios. The fixed effect model (FEM) is the best econometric model to represent the fundamental analysis dataset. Furthermore, the error in forecasted prices obtained by depending on the technical analysis dataset is extremely lower than the error obtained by depending on the fundamental analysis dataset. It implies that technical analysis is more accurate in forecasting stock prices compared to fundamental analysis in the Egyptian stock market. Moreover, the results report that the neural networks model is effective in forecasting stock prices when dependent on technical analysis dataset, and it can be used to enhance forecasting accuracy.

Key words: Technical analysis, Fundamental analysis, Stock prices prediction, Panel data analysis, Artificial neural networks analysis.

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