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**Research Article**

# COMBINATION TECHNICAL BETWEEN FUNDAMENTAL ANALYSIS AND TECHNICAL ANALYSIS TO MAKING INVESTMENT DECISION IN SECURITIES

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**ABSTRACT**

Today, Fundamental and technical analysis are the two methods of stock analysis is common in the world. But investors always are not knowledgeable about both methods. In making securities investment decisions, they only often use one method is Fundamental or technical analysis which they are unaware that the combination of both methods will help making investment decisions more accurately. The objective of the paper is to show the combines technique two methods through technical indicators, computation skills, and compare stock prices to thereby help investors make decisions more efficiently, reduce risk with basic analytical techniques and highest profit with technical analysis chart.



## INTRODUCTION

Securities are evidence of the legal rights and interests of the owner of the assets or capital of the issuing organization. Securities are expressed in the form of certificates, book entries or electronic data. Securities include: stock [6], bonds, investment fund certificates, derivative securities. In essence, stock is a special commodity.

Securities as a means of abstract goods, it can be negotiable and can be replaced, representing a financial value. Securities include equity securities, debt securities (such as state bonds, corporate bonds, ...) and derivative securities (such as options, swap contracts, Futures contract, forward contract) [4,5]. In developing economies, the debt securities is the proportion of transactions have overwhelmingly on the stock market. In the economies in which the stock market was founded, equity securities accounted for a larger share of the stock market. With the value of securities, securities investment activities arise and thus, securities investment is the use of money to buy and execute a publicly traded stock of one or more businesses. In securities investment activities, investment decision making is an important factor that determines the success of an investor. Therefore, in order to support securities investors to have the means and tools for decision-making analysis, many scientists and managers have come up with two basic methods of analysis and technical analysis. However, each method has its advantages and disadvantages. This article will present a technique combining these two methods to limit the two methods and provide support to securities investors to make better and more accurate decisions in stock investment.

### *Theory of Technical Analysis of Securities*

The history of technical analysis stems from over 100 years ago, from a man named Charles H. Dow. He is the founder to the Wall Street Journal (The Wall Street Journal). After many years of research, in 1884 he launched the average index of closing price of eleven of shares the most important in US market at that time. William Peter Hamilton who really bring life to the study of the Dow by continuing research and published the book "The Stock Market Barometer" (Barometer of stock market) in 1922. During the 1920 and 1930, Richard W. Schabacker who went deep into the study of Dow and Hamilton, Schabacker launched the first concept of technical analysis. Schabacker served as editor of fame Forbes magazine. He pointed out that the signal of Dow theory was given to the average market index remained unchanged and significance when applied to the graph of each individual stock. This was his show and prove in his book "Theory and Practice Stock Market, Technical Analysis and Stock Market Market Profit". Thus the first basis of technical analysis have appeared in the

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Dow theory, but not until Schabacker - the father of modern technical analysis followed by Edward and Magee with "Technical Analysis of Stock Trend" (the book has been reprinted eight times) and today is John Murphy, Jack Schwager, Martin Pring, ... then the real birth name "technical analysis" and is advanced, summarized into a theoretical system important in the analysis of investment on the particular stock market and general financial markets [7]. Technical analysis is the study of the movement of the market, mainly based on the use of the graph is based on historical data of stock prices. Technical analysis uses the change in the stock price and volume as a key tool that allows investors to check, monitor and comment on the demand and supply of securities. But a rise in stock prices sometimes arise due to extraordinary reasons that investors can not anticipate, so technical analysis help for investors to know the time of purchase but can not help investors minimize investment risk in case the price of stock abnormal increases, reduced or called is virtual increases or reduced [1,2,3].

Fundamental analysis is considered to be the product of Benjamin Graham (08.05.1894 - 09.21.1976) is American original English. He is an economist and professional investor. Graham is credited with giving birth to the school of value investing. He started teaching in this school at Columbia College in 1928 and then collaborated with David Dodd published his famous book Security Analysis (Security Analysis) [5]. Fundamental analysis is based on information in the financial statements of the enterprise, helps investors looking for the best company, determine the real value of the securities from investors that help reduce risks, invest more safely. But fundamental analysis is not quick to identify the best time of sale to investors. Whether to invest in long, short, or medium, whether as investors or growth values, both types of analysis are needed, although their role in every kind of investment will vary. Absolutely not necessarily choose to use 'one of two'. It's best to consider both fundamental analysis with indicators of the strength and quality of the company and its products to identify the companies with quality, combined with the supply and demand analysis, prices and volume in the market to find the right time to buy or sell. Fundamental analysis is the foundation that you have to purchase any stocks, it will determine the company's preeminent to other companies, while technical analysis will allow you to see the level of the investors' attention, pressure on supply and demand in the short and medium term to find the opportunities to buy and sell stocks have opportunities to increase most price.

***Assessment of Patterns of Analytical Techniques***

***Fundamental Analysis Technical***

***Fundamental analysis process***

Fundamental analysis process consists of three main components: macroeconomic analysis, sector analysis and company analysis. Three analysis content have value and meaning equivalent in shares selection process. Depending on the investor's purpose, fundamental analysis techniques can be split into two main trends are analyzed from Top to Down (Top - Down), in sequence analysis. The remaining schools are Bottom Up (Bottom-Up or Stockpicking).

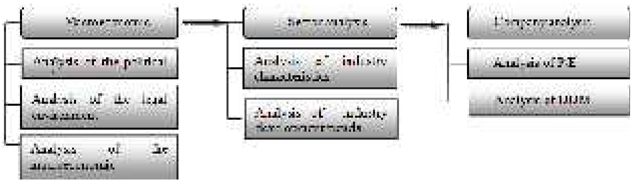

**Fig 1** TOP- DOWN process

***TOP – DOWN procedures***

This process goes from macro to micro, analytical range gradually narrowed, the final destination of the process is found to be in good company. Therefore, it is appropriate for stock investors.

***DOWN – TOP procedures***

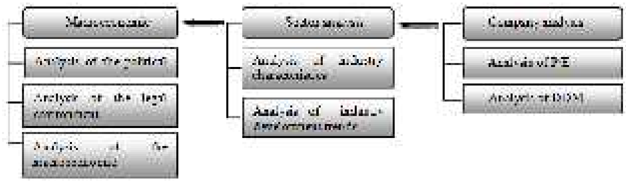

**Fig 2** DOWN- TOP process

DOWN - TOP Process away from the micro to the macro. It is suitable for policy makers (the state management agency on securities) so to come up with effective policies consistent with the practice, the planners must examine, collect factual information thereby conducting economic analysis and policies (that ensure the correctness of the policy).

***Data of fundamental analysis***

Fundamental analysis is better than technical analysis is that past price data can not predict or help predict price movements in the future, which must use future news or to predict imminent price volatility of the market is correct? There are two methods used to value shares in fundamental analysis, each method requires different input data:

+ P/E approach: Share price, charter capital, earnings per share
+ DDM approach: expected divided dividend, stock price, discount rate

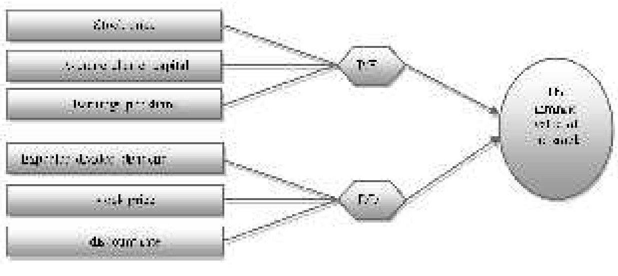

**Fig 3** The model input data of fundamental analysis

***The formulas used in fundamental analysis***
***- P/E approach***

$$\text{Stock price} = \text{EPS} * \frac{\text{P}}{\text{E}} \qquad (1)$$

+ *Basic EPS*

$$\text{EPS}_{\text{Basic}} = \frac{\text{profit after taxes} - \text{dividends for preferred shares}}{\text{Average volume of shares during the period}} \qquad (2)$$

*+ Diluted EPS*

$$EPS_{Diluted} = \frac{\text{profit after taxes} - \text{Dividends for preferred shares} - \text{conversion preferred stock dividend} + \text{Convertible bonds interest rates}(1-t)}{\text{Average outstanding shares} + \text{shares arising from the preferred shares, Convertible bonds, the options contract}} \quad (3)$$

**- DDM approach**

$$Stock\ price = D_0 + \frac{D_1}{(1+r)^1} + \frac{D_2}{(1+r)^2} + \cdots + \frac{D_n}{(1+r)^n} + \frac{P_n}{(1+r)^n} \quad (4)$$

**Note:** - $D_1$, $D_2$, $D_3$: Expected dividend divided by year 0,1,2,…,n

- $P_n$: Selling price of shares in the year n

- r: Discount rate

***Assessment the fundamental analysis methodology***

***- Advantages***

+ Through data on the financial statements, fundamental analysis can help detect companies with valuable assets, a healthy balance sheet, stability and growth revenue over the years. Fundamental analysis help thorough about business lines that the company is operating.

+ Fundamental analysis is given real value of the securities, help investors seeking investment opportunities in the long term.

***Disadvantages***

+ Depending on the macroeconomic indicators: Now there are many macro-economic indicator, may choose the wrong

+ Time consuming, not suitable for short-term investments

+ Depending on the accuracy and truthfulness of the data provided by the company

+ Unable to determine the best time of purchase

+ In the long term, the volatility of the stock market is very large can lead to the wrong decision

***Technical analysis***

***Technical analysis process***

Technical analysis process undergone four major steps which focused mainly on chart

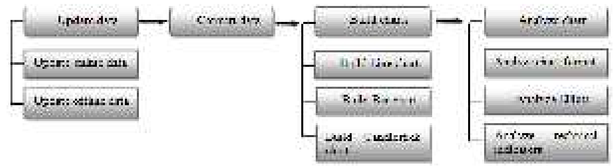

**Fig 4** Technical analysis procedures

***Data of Technical analysis***

Data of techniques analysis including: the opening price, closing price, highest price, lowest price, trading volume

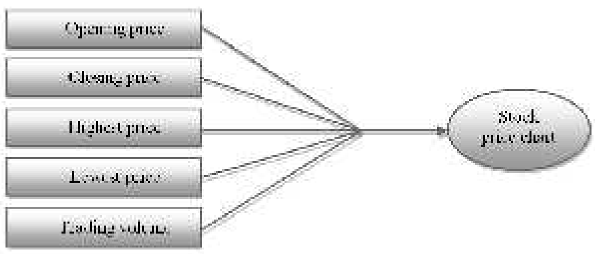


**Fig 5** The model input data of technical analysis

***Assessment the technical analysis methodology***

***Advantages***

+ Technical Analysis determined the market value of the shares and the trend of stock price fluctuations. Helps investors identify investment opportunities in the short term.

+ Provide support and resistance levels, the index and price models, is the basis for investment decisions more effectively

+ The technical trading is automated, quite accurate and do not take time

***Disadvantages***

+ Technical analysis purely based on historical data that history is not always repeated.

+ Signal from the index can not promptly report the ongoing situation in the market. Technical analysis studies the results of a model rather than studying the causes of that model.

+ The index can lead to misunderstanding or incorrect understanding of different situations on the market.

+ Price charts and indicators used with the same amplitude time again there are differences in the transaction software, depending on the source quoted price or the installation of this software.

+ Can not help investors make investment decisions is the most accurate (the folded ginger exist in the investors)

***Technical Combines Between Basic Analysis And Technical Analysis In Investment Decisions***

***Introduction***

Fundamental Analysis A stock analysis method based on underlying factors that influence or lead to a stock price change that indicates the intrinsic value of the stock. On the market. Thus, the in-depth subject of the fundamental analytical method is the intrinsic value of the stock, also known as the theoretical value, the true value of the stock is one of four types of share price. Thus, basic analysis provides us with a value for the basis of comparison. Technical Analysis is a method based on charts, charts of price movements and trading volume of stocks that analyzes stock and supply volatility movements for stocks to show how to behave in the immediate future with respect to prices, that is, only to the analysts when to buy, sell or keep stocks on the market. Thus, the object of in-depth study of technical analysis is the market price of the stock and their volatility trend, the market price is a four kinds of price of the stock.

Recognizing that fundamental analysis and technical analysis have the object of study is not duplicate but that helps investors set the price for comparison. Therefore, investors can combine two specific methods using two prices and compare them together so that they can make the right decision, the most effective investment, the maximum risk mitigation.

***Technique chart combines between fundamental analysis and technical analysis***

***Step 1: build the price chart***

Price chart for technical analysis based on the input data: Opening price, closing price, highest price, lowest price and trading volume

**Table 1** Data for some stocks

| TICKER | DATE | OPEN | HIGH | LOW | CLOSE | VOLUME |
|---|---|---|---|---|---|---|
| AAM | 4/16/2015 | 15.5 | 15.5 | 15.5 | 15.5 | 1000 |
| ACL | 4/16/2015 | 10.2 | 10.2 | 10 | 10.1 | 8880 |
| AGF | 4/16/2015 | 20.5 | 20.7 | 20.4 | 20.7 | 10780 |
| AGM | 4/16/2015 | 14 | 14.7 | 14 | 14.7 | 50 |
| AGR | 4/16/2015 | 8.5 | 8.6 | 8 | 8 | 1655180 |
| ALP | 4/16/2015 | 4.6 | 4.6 | 4.6 | 4.6 | 9060 |

**Fig 6** Stock price Chart

### *Step 2: Calculate the real value of the stock*

### *Way 1: Use P/E approach*

**Table 2** Parameter of EPS, stock price, charter capital of a number of stocks

| Stock | EPS (2015) | Average charter capital 2015 | Stock price 03/12/2015 | P/E |
|---|---|---|---|---|
| A | 6.533 | 1.964 | 64.500 | 9,87 |
| B | 4.812 | 190 | 24.300 | 5,05 |
| C | 4.353 | 110 | 29.600 | 6,80 |
| D | 5.568 | 52 | 33.200 | 5,96 |
| $P/E_{average}$ | | | | 6,92 |
| E | 5.787 | 323 | | |
| E stock price: 5.787*6,92=**40.054** VNĐ | | | | |

### *Way 2: Use DDM approach*

**Table 3** Expected dividend data of E stock in 2016,2017,2018

| targets | Amount of money (VND) |
|---|---|
| D2016 | 2.900 |
| D2017 | 3.000 |
| D2018 | 3.900 |
| P 2018=5.680*10 | 56.800 |
| E stock price=2900+3000/(1+15%)+3900/$(1+15\%)^2$+56.800/$(1+15\%)^2$=51.470 VND/stock | |

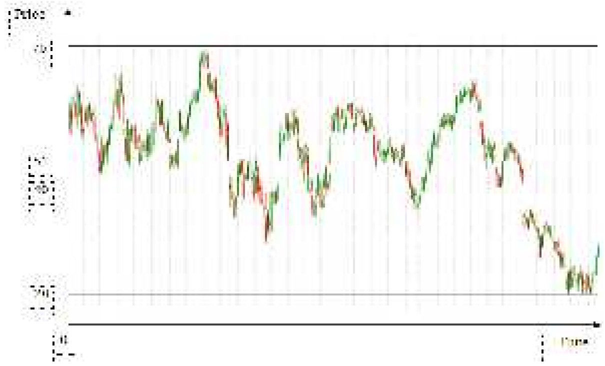

**Fig 7** Technical Graph combination of fundamental analysis and technical analysis

**Note:** - 20: Market price 1 of stock E (The support level of the stock E)
- 70: Market price 1 of stock E (The resistance level of the stock E)
- 40-51: The intrinsic value of the stock E

Thus, through 02 methods P/E and DDM method showed reasonable price of the stock E at about 40,000-51,000 VND.

**+ Step 3: build the technical chart combines between fundamental analysis and technical analysis**

The intrinsic value is the actual value of the shares based on the strength of issued business. Without market factors impact the price of the shares will be equal to its intrinsic value. But when it is launched in the market, there are many factors that impact on the price of shares make it always change continent, up and down around the intrinsic value (ie at prices change from 20 to 70).

***How the decision to buy or sell securities based on combination techniques of technical analysis and fundamental analysis***

Basically we will compare between the market price of the shares and its intrinsic value, combined with the trend of price movements to choose the best time, namely:

1. If the market price of stock E greater than the intrinsic value (greater than 51): Investors should take action to sell shares. The best time to sell when the stock price was 65 E.
2. If the market price of shares is less than the intrinsic value (less than 51): Investors should take action to buy shares. The best time to buy is 25.

The rise and fall of stock prices around their intrinsic value is affected by market factors, but those factors only exist in a certain time period then the share price will be adjusted and return to its initial intrinsic value. In addition to purchasing decision at the time was said to be the most accurate, investors should be combined with upper and lower point.

**Note:** Investors should not wait for the stock price up to equal upper and lower point to trade on the market at that time will not have buy or sell order. Give up when stock prices tend to rise, close to the upper or the lower levels, investors have act now at this time (Observe, collect information about the status of buy and sell on the market, overbought, oversold is how much so that the final decision most correctly).

***Comparing Results of the application fundamental analysis, technical analysis methods and combine these two methods***

**Table 4** Evaluation of results using fundamental analysis methods, technical and the combination of the two methods

| Methods | Analysis Data | Analysis results | Assessment |
|---|---|---|---|
| Fundamental analysis | -EPS<br>-Average charter capital<br>-Stock price<br>-P/E | Intrinsic value: [illegible] | -Know intrinsic value: [illegible]<br>-Don't have fluctuation band: 20-70<br>-Investment plan:<br>Buy when stock price greater than [illegible]<br>Sell when stock price less than [illegible]<br>Buy or sell risk when stock price much change with value from 40 to [illegible] |
| Technical analysis | -Open price<br>-Close price<br>-Highest price<br>-Lowest price<br>-Trading volume | Fluctuation band in history: 20-70 | -Don't know intrinsic value: 40-51<br>-Know fluctuation band 20-70<br>-Investment plan:<br>-Buy when stock price near with 20<br>-Sell when stock price near with 70<br>Buy risk when stock price less than [illegible]<br>Sell risk when intrinsic value of stock greater than [illegible] |
| Combination of the two methods | -EPS<br>-Average charter capital<br>-Stock price<br>-P/E<br>-Open price<br>-Close price<br>-Highest price<br>-Lowest price<br>-Trading volume | Intrinsic value: 40-51<br>Fluctuation band in history: 20-70 | -Know intrinsic value: 40-51<br>-Know fluctuation band: 20-70<br>-Investment plan:<br>-Buy when 20< stock price<40<br>-Sell when 51< stock price <70 |

## CONCLUSION

Currently securities investment is going to be very popular in the countries with the general market and particular stock market develops, it becomes an important component in the economy of the country. Securities investment can bring huge profits but it also brought a lot of risks for investors. Therefore, the securities analysis methods as well as analytical tools are a lot of securities investors are interested and search efforts. Currently there are two analysis methods are used very popular in the world, experts of stock investment preferred, which is the fundamental analysis methods and technical analysis methods, each method has advantages that can help investors to partially mitigate risks. However, each method still exists the disadvantage that we can limit them by technique combines two methods of fundamental analysis and technical analysis when making investment decisions. This article has proposed a technique that combines basic analytical techniques and technical analysis to support securities investors.

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