

# Investment valuation through stock market analysis (Technical and fundamental analysis)

## Financial markets.



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### Abstract

- Objectives:
- To compile tools that contribute to the stock market analysis for the valuation of financial assets in the stock market.
  - To analyze the macroeconomic variables and indexes involved in the behavior of assets in the stock market.
  - Describe the importance and usefulness of technical and financial analysis, as well as Charles Henry Dow's method for the projection and estimation of financial assets.

In the present line of research, the mixed method has been used, which encompasses the quantitative and qualitative methods, since the study of financial assets involves graphs, financial statements, ratios, historical and current data, as well as events, wars, pandemics, social, political, cultural and health conflicts, among others. The quantitative method has been an essential part of the fundamental analysis, since it allows to know the accounting of the economic entity and in this way to know its liabilities and business strategies that may be the cause of the company's success, on the other hand, the qualitative method has been part of the stock market analysis in general, since it allows to study the events that affect and cause volatility in the financial market.

In general, financial markets are affected by the economic variables that occur in the country, the economic situation can be reflected in indexes such as GDP, GNP, inflation, CPI and sometimes even unemployment is involved, since the economic activity of the population reflects the production and economic situation of the country. Bar charts, candlestick charts, trends, techniques and theories are the best option to represent the movements of stocks specifically, however the behavior can be replicated by other assets that are similarly issued by companies and are dependent on the supply and demand of investors.

With this presentation, it is expected to contribute to beginner investors to the valuation of assets, based on the needs and objectives that are planning to certain term (short, medium, long) as well as to give a brief vision of what could occur in the future of the markets, especially in investments, because especially currently the institution have been concerned about denouncing investments and financial inclusion, in order to involve more people in the financial city and therefore obtain returns with the minimum capital available, and even the opportunity to be a shareholder of a large company.

### Introduction

Financial markets have been the most attractive factor in the world of finance for investors and professionals in the sector, people whose main objective is to obtain greater profitability and ensure profits by relying on different methods and tools that are strictly studied and grounded to contribute to sound decision making, as well as to avoid randomness and uncertainty in the results. However, the conclusions obtained may vary in the future and thus modify the pre-established financial environment. Stock market analysis includes useful methods and tools for the valuation of instruments with respect to profitability, prices, volatility, risk, among other scenarios that influence the change of indicators, however, currently technical and fundamental analysis have been the mainstay of specialists in the financial sector. The instruments offered through the stock market can be analyzed by means of these tools. In general terms, it is possible to mention that the stock market is the way in which part of the economy is financed, portions into which the capital stock of a company is divided, therefore it is established that companies that issue securities seek to obtain money as part of a financing and in this way remunerate shareholders through the profit of their investments and on the other hand, the dividend payment offered by the company with respect to the volume of shares in circulation. In technical analysis, specialists maintain a common position that refers to the study of the market through the use of graphs that represent the behavior of the shares over a certain period of time, and in practice it is possible to answer the question: What is the right time to enter the stock market? In this sense, each investor defines his or her approach to the market depending on his or her profile, degree of risk desired, personality and knowledge based on the company's own financial statistics.

The only objective of this analysis is to know the trend of a company's share price, which is done from the very short term to the very long term. This makes the analysis mainly aimed at short-term investors and market speculators. In addition, it tries to identify the trend of the stock and the changes that may occur in it (Forecast, 2004).

On the other hand, the fundamental analysis is considered a process of research, diagnosis, studies carried out by interested parties in the sector in order to have a foundation and justify the convenience of investment over shares, in the same way it allows to identify risk and opportunity factors regarding the financial scope, starting from the statement of financial position, income statement, cash flow, among other documents and ratios that will allow to make approximations regarding profit, profitability, growth, etc. The exposed methods maintain greater value others since comparisons are made and used to complement each other through different information, but of the same nature, it is also important to predict the evolution of the assets, through historical values, graphs, financial statements that contemplate the trajectory of the company, as well as the economic cycles that are taken as background of the financial health of the company. However, this is not the case with all the securities issued, since, if a company is a going concern, it will have historical values and it will be difficult to find its future indexes.

### Materials and methods

The study of the behavior of financial assets, especially stocks involve different methods and elements of analysis, from the internal such as financial statements, operations, corporate governance, logistics structure, etc. to the external such as inflation, politics, society, etc. Therefore, it is important to determine variables that can influence the variation of values in the national and international financial market; in national territory it is important to monitor the Gross Domestic Product (GDP) composed of consumption, investment, government spending and domestic spending; the GNP is considered a flow variable (the objective of flow variables is to measure in a given time, for example exports and/or imports every six months or annually), likewise it is important the Gross National Product (GNP), indexes that allow to measure the level of economic activity in the country, as well as the level of economic activity in the country, as well as the economic activity in the country, as well as the economic spillover they contribute. On the other hand, the CPI (Consumer Price Index) is considered an implicit variable in the analysis of the economy.

The CPI (Consumer Price Index) is considered an implicit variable in the stock market analysis, since this way companies can be affected in their sales and therefore in their income and their level of marketability can decrease, due to the fact that the population will seek to substitute expensive products for cheaper ones. Among the important variables, the exchange rate also stands out, since the investor's decisions may not only be made in the Mexican Stock Exchange (BMV) or in the Institutional Stock Exchange (BIVA), but also in foreign Stock Exchanges, therefore it is important to consider and monitor the equivalent to the currency to be invested and in this way the origin of the company in which the investor wishes to invest. Inflation is one of the most influential factors that cause volatility in the markets, this is defined as a generalized increase in the price of goods and services in the economy in a term, so it intervenes in the price of the companies, being that it is determined by the operations of the companies. When taking into account the factors that are involved in the behavior of financial assets, it will be possible to perform a thorough analysis, being that the procedure and analysis begins by knowing upward and downward trends through graphs by the technical analysis, while by the fundamental analysis it will be important to know which sections lead to these results.

The following figure will contribute to the understanding of Dow's theory which states that prices move by trends (trend refers to the movement of prices in one direction at a given time), this is done to identify trend and maintain a positive reaction to market behavior. It is necessary to contemplate that the price of a stock is not directly linear when following a trend, that is to say, variations are observed in the stock prices and in this way a zig-zag fluctuation is found where maximum and minimum points are identified, which are called peaks, ceilings or resistance, while the minimum points are crests, floors or supports. In this way three trends are declared: upward and troughs high than the previous one, downward (peaks and troughs lower than the previous ones) and sideways trend or also known as no trend, where prices remain in an enclosure of minimums or maximums.

The movements that are observed will contribute to the decision making for the moment of entry and exit of the market.

The trend presented by the company is a representation of what can happen in the market, this will be in force until the behavioral signals report an end. A trend is bullish, for example, until it changes direction and starts to go down. The reverse is true for a downtrend. To measure this parameter, Dow always used closing prices, and not where the trend break was located. On the other hand in the fundamental analysis, it is based on historical and current factors that inform the financial situation of the company, in that sense ratios and financial statements are used, as well as events that happen in the world in political, social, cultural and / or economic, for example the company and many other companies the factor that caused downward trends or falls in the behavior is due to the pandemic by COVID-19 from 2020, and some other falls of companies that produce and distribute raw materials are attributed to the war involving Ukraine and Russia currently in 2022, this type of events are involved in the indexes presented by the companies and even in the fundamental analysis it is possible to inquire and know the dividends paid by the companies to their investors. In addition, the fundamentals to make the best decisions should be based on company information such as the environment, estimates of the value of its shares, volume, in the same way it is a tool for the company, since it will help to know the value of the company and the acceptance of its operations in general.



Graphic 1 Mexican company Peñoles' 5-year performance  
Source: Investing.com

Fundamental analysis does not mean that the price is the representation of all the necessary information, but estimates the price with the objective of finding a real or intrinsic value and thus invest in the company, intrinsic value and in this way invest and discover if a security is undervalued or withdrawn investment capital if it is considered overvalued. In general, fundamental analysis is used by investors to improve and make decisions in an accurate way so as not to invest in a random way. Regarding the phases of the fundamental analysis, these are presented in 5 points, starting with immersion (gathering and study of information), elaboration and planning of alternatives through the financial diagnosis, the next point refers to the projection and estimation of results, and finally there is the evaluation of the strategy that allows the correct development of the company's operational activities. Both analyses of the stock market sector make it possible to provide a global vision that allows to show a filter that determines sectors and markets as the best opportunity to invest, these analyses are complemented and determine investment terms with historical data in the short, medium and long term, it is also possible to determine the time of entry and exit, where there may be profits and losses. Finally, through the methods that encompass the stock market analysis it is possible to know the value of the company, which can also be interpreted as the value that the company is willing to pay for it and this value is accepted by the owners, partners and/or shareholders. This value is represented by the net worth, which is the amount contributed by the partners at the time of incorporation of the company, in addition to the amount accumulated with positive and negative adjustments (represented by assets - liabilities = net worth).



Graphic 2 Fundamental analysis  
Source: www.ig.com

### Results

Throughout this line of research, different methods of analysis were analyzed for decision making regarding sound investments within the stock market, since it is evident that investors seek to obtain the greatest benefit and the highest profitability through their invested capital. The result of the implemented analysis will be the evaluation of the profit, as well as the efficiency and effectiveness of the financial strategies used for the improvement of the operations of finance, production, logistics, among others. As it could be discovered in the research, the result of the investments not only depend on the corporate governance of the entities or their sales, the decisions of the company, etc. There are also external factors that cause volatility in the market and it is possible to prevent changes to a large extent through the interpretation and analysis of the movements of financial assets.

"We all know that prices go up or down, it is not advisable to be too curious about what causes price movements, you risk filling your head with irrelevant aspects" Jesse Livermore, mythical investor and financial analyst.

It is important to mention that the implementation of stock market analysis (technical and fundamental analysis) does not ensure the profitability of investments, as mentioned above, it is only considered an approximation and projection of prices, since everything depends on the sectors (political, economic, social, cultural) the price of raw materials, products and services are affected by events, since it is possible that demand changes and prices are harmed. Just as the behavior of stocks has been exposed, it is also possible that other assets, such as ETFs and fibers, follow the same behavior. The different methods that exist are capable of demonstrating the return on invested capital through different techniques that allow to know the market behavior, such as the Elliott theory or Elliott curves, in the same way it is important to identify historical highs and lows to know the time of entry, exit and decline of the price and volume of the shares in particular.

	Analysis	Fundamental	Technical
What are you analyzing?	Determining the value of a financial asset or company	Price as a result of forces between supply and demand	
Objective	Search for the intrinsic value of the security and comparison with the market value	Pattern search, charting, quantitative methods, trading systems, etc.	
It is based on	Based on variations with respect to economic factors	Uses price, movement, and charts to predict	
Reasons	The causes of price movements	The effects of price movements	
Factors	Price is determined by supply and demand, modified by the market and the trend	Value is determined by cash flow, growth and risk.	
Information	Economic reports, financial statements, news, ratios, statistics, etc.	Statistical analysis	
Tools	Price, stock and income	Technical analysis, bar graphs, candlestick charts, etc.	
Creators	Charles Dow, Ralph Nelson Elliot	Richard Schaberg, Warren Buffett, Benjamin Graham, Warren Buffett	
Main activities	It is possible to move market behavior (more investment and more money)	It is a catalyst for the price to move its value.	

Table 1  
Source: Own elaboration with researched data

### Conclusions

The stock market is now considered as the perfect balance that exists between supply and demand, since the economic cycles are present in any of the analyzed entities, it is essential to mention that investments are not only made knowing the tools to execute it, it is also important to know the regulations, contributions for the investment, which refers only to the payment of taxes on the yield generated, intermediaries and structure of the stock exchanges that offer stock market services. In this sense, the stock market is considered a phenomenon where emotions are also present, it is necessary to be patient and avoid panic to eliminate losses and generate profits as has been the objective from the beginning of this research and even by experience of investors when a company does not project its recovery in the market, it is possible to buy even cheaper in order to average the loss and at least recover the capital investment made. The technical and fundamental analysis is the usual representation of investors when it comes to study the market, there are different methods, tools, price projection techniques, risk, trends, however, currently the stock market analysis is being standardized with respect to the needs of the investor, as well as their profile (conservative, moderate, aggressive). In order to obtain better results, it is advisable to establish a procedure over time and apply it rigorously, in this way seeking to match whatever the state of the market is, as well as the control of emotions in the investor's city. Financial inclusion has been an important part in the last years, since finances have invaded the daily life of people, the study of finances in any of its dimensions allows professional, emotional and economic growth, there is the opportunity to invest in a great company and obtain yields from it, as well as to be part of the improvement of the economic entity. It is important to mention that the common investment does not cause the participation in the decision making, although on the other hand having 50% + 1 of the shares of a company is cause for the shareholder to take part of the control and decisions of the company. Finally, in order for the company's structure to be considered adequate, it must have corporate governance, which is even considered a requirement for issuing debt securities in the stock market and in the available stock exchanges (BMV and BIVA).



Figure 1 Indices of the new wave of financial inclusion in Latin America  
Source: Colsicor, pulso report, 2021

### Future of research

The valuation of financial instruments through stock market analysis has important perspectives at present, since it is part of the projection of profitability, earnings, yields and solvency of both companies and investors within the stock market, it is essential to maintain interest in world events, because these will be variables that modify the behavior of the stock market. Sometimes, the institutions in charge of finances in national territory will plan the increase or decrease of indexes, prices, interest rates, which support the prevention of complex events in investments, in the same way it is sought to reduce the risk. Mobile devices have been the biggest evolution in technology at least so far, its popularity has been the cause of the research of sectors in the financial markets, these were benefited by features such as immediacy and information gathering to a large extent. The special advantages for the future are based on ubiquity, which refers to the fact that mobile devices have become an indispensable part of people's lives and allow practically obtaining information at any time it is required, another advantage that is expected is the geolocation which allows the contextualization and delimitation of the research and with a greater degree of complexity, finally the multiformal, which allows presenting the information in different ways. These facts are current, just wait to visualize the evolution of the markets and stock exchanges. Fintech is an important element in the financial city, since its objective is to facilitate communication and regulate the monetary circulation in the country, therefore, the future of investments is also part of financial technology, since cryptocurrencies are now beginning to be used, which are already recognized as a payment currency at least in El Salvador. The work now is to imagine and anticipate what may come to be in the world of investments, because the projection will always be essential to know the behavior of assets, however, as it has been emphasized, it is not assured that the estimate is really what happens in the market. On the other hand, it is said that the future is built from now on, since there is a concept called investment horizon which refers to a period of time (short, medium or long term) in which an investment is planned with the purpose of generating yield. Furthermore, in the future it will continue to be important to monitor the financial status of companies, since the time of analysis will be different, but the economic entity will be the same, referring to its production, distribution and logistics in general. In the same way, macroeconomic variables are the factor that should not be lost sight of, inflation is currently increasing unfavorably, now inflation is represented higher in the United States compared to Mexico, but this is also interesting for our country, since at least 80% of Mexico's operations are dependent on the neighboring country.



Figure 2 Fintech  
Source: Secretaría de Hacienda y Crédito Público, Gobierno de México

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