

How to Select Stocks: Some Important Factors of Stocks?

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Abstract.

The stock market is a place where an investor can buy and sell stocks. The stock market plays an important role in the economic growth of a company, as it has the ability to access the capital from the investor, as well as increase the capital income of the investor. The primary purpose for investment is to strengthen the investor's economic status. Investors invest to earn extra money. This is the common objective for investments. For this, investors invest in shares of companies so that they get extra money besides regular salary in the form of returns or dividends. In today's era, normally the stock market attracts the investors and become the top priority for investment. Investors, generally favor a diversified approach, while choosing different kinds of stocks. A diversified investment is a fusion of different kinds of stocks, but the selection of the group of stocks should be in a proper proportion to earn maximum profit for lowest risk. Selection of stocks depends on not only risk and return but some various important factors of stocks. In this article, we discussed some significant factors and features of stocks which can be play a kay role in choosing the stocks.

Keywords: Investments, Stock Market.

1 INTRODUCTION

An investment [1] is a procurement that is not consumed in the present day, but is used in future to build wealth. The area of investment is very broad and investors have many options for investment, in various fields. Investment in stock market, purchasing real estate, gold, antique items, coins, precious things, bank certificates, fixed deposit, buying a house, land, mutual funds, bond, real estate, commodities, and the like, all these are included in investment. According to these investment classes, it is classified into two branches namely traditional and alternative.

An investment into well-known assets like cash, bonds, shares, real estate, and so on are known as traditional investments with the hope of wealth growth, dividends, and interest earning.

As is known, the stock market increases the income of both capital and investment, so it has two main and important objectives.

The first main objective is to provide capital to companies so that they can use the fund and expand their business. If a company issue 10-unit shares of a stock and sells all the shares in \$10 per share, then the

company gets \$100 as a profit. They use this profit for the growth and development of their business. It is better to issue shares of stocks instead of borrowing money, for rise and expansion in business, because there is no need to pay interest.

Investor's money growth is the second main objective of the stock market, for those investors who purchase the stocks. Companies openly trade and share some of their profits with the investors. Investors can earn profit in two ways, one is in the form of dividends as some companies pay dividends regularly and the other one is to resell the purchased stocks, when their price increases.

One more important factor is that the investors are always following diversified approaches in investment. They favour more than one stock rather than a single stock and selection of group of stocks for investment is a major task. The collection of stocks in a correct proportion is called portfolio. The main objective of portfolio selection is to select a group of stocks in the right proportion such that the investor obtains the highest return at least risk. Portfolio is briefly described in the next segment.

2 PORTFOLIO

In the portfolio selection [2], the aim is to obtain a proper proportion of assets such that the investor gets maximum profit with least risk. In a practical portfolio planning process, the investment decision to be taken by an investor is not simple and is influenced by several other constraints. It should be noted, that no stock should be chosen only on the basis of its personal return and risk, and when it is selected in a group with other assets, then the mutual accordance of stocks has the potential to increase the return and reduce some risk of the complete portfolio. Organization of the portfolio is a process that includes five steps and each and every step is an essential part of the complete process and its success depends on how well each level is managed. These steps are security examination, portfolio study, portfolio optimization, portfolio modification, and portfolio assessment and a short description of each step is described below:

1. **Security examination** – Different types and numerous numbers of securities are available in the financial market for investment. The need for a thorough investigation of a security is very important prior to investing. There is a very simple policy in investment, which states, buy the low-priced assets and sell high-priced assets. However, the basic problem is how to distinguish which assets that belong to the security examination are low-priced and which are high-priced. There are two approaches to investigate the securities namely technical investigation and fundamental investigation.
 - i. **Technical investigation** – In this approach, for security analysis, a proper study about the movement of the share price is necessary. For this, past information of share price movement will be helpful, to know how changes are taking place, and these efforts will be helpful in predicting the future share price.
 - ii. **Fundamental investigation** – This analysis includes the information about company status, market share of the company, dividend, and earning per share of the company.

2. **Portfolio study** – After selection of the securities for investment, the next step is to construct a feasible portfolio. There are a large number of portfolios with different proportions of the selected securities and all are feasible. Calculate mathematically the risk and the return of each of the constructed portfolios.
3. **Portfolio optimization** – The aim is to identify the best portfolio out of all these feasible, above-mentioned, portfolios. A well-organized portfolio is the one that has the maximum return, with all of those feasible portfolios that have identical risks and have the least risk, and all of those feasible portfolios which have identical returns. If there are two portfolios with the same return, then choose the one with a low risk, same as if there are two portfolios with the same risk, then choose the portfolio with a high return.
4. **Portfolio modification** – The financial market or economy is not stable and fluctuates every day. Therefore, it is necessary to reorganize the portfolio or proportion of security according to the market, to maintain the efficiency of the optimal portfolio. This is the vital part. After achieving the finest portfolio, it is necessary that the investor continuously observe the portfolio so that the portfolio does not lose its optimality.
5. **Portfolio assessment** – This process is related to the performance evaluation of the optimal portfolio during the concerned period, with regard to portfolio risk and return. This also includes comparison of the optimal value with the actual value in the selected time period.

In portfolio preparation, the decision of stock selection depends on various constraints. To resolve the problem of portfolio selection, numerous models have been introduced such as, Markowitz model, sharp single index model, Konno and Yamazaki model, linear programming model etc. have been introduced. The portfolio selection problem was initially introduced by Professor Harry Markowitz [3] and he was awarded with the Nobel Prize in Economics in 1990 for his great contribution to the portfolio selection problem. He introduced Markowitz model or mean-variance (MV) model in which return is calculated as the mean and risk as variance. He gave the concept that holding two or more assets are less risky than holding one asset, and this has become a foundation of modern portfolio theory. This model is conceptually sound in analyzing the return and risk of the portfolio. Sharpe introduced the Sharp Single Index Model [4], which is the simplified version of the MV model. The concept behind this model is that stocks vary mutually because of the common movement in the stock market and there is no effect beyond the market. This further led to the development of the Capital Asset Pricing Model. Financial economist William Sharpe (Nobel Prize in economics) [5], introduced the Capital Asset Pricing Model (CAPM), in his book "Portfolio Theory and Capital Markets". The symmetrical expected return for risky assets was determined by the CAPM. The Black-Litterman model is a portfolio selection model that was developed by Black and Litterman [6] they solved the problem of unintuitive, input-sensitivity, highly-concentrated portfolios, and estimation error maximization.

Konno and Yamazaki [7] introduced an improved and simplified version of Markowitz's Model both computationally and theoretically where risk is calculated as mean absolute deviation (MAD) instead of variance.

Speranza [8] presented a linear programming model related to portfolio selection and used semi absolute deviation to measure risk.

Konno and Suzuki [9] proposed a mean variance skewness model for portfolio optimization which is the extended version of standard mean variance model. For this the skewness of rate of return and third order derivative of utility function are the significant parameters. They conclude that the third order derivative term can't be neglected and allows us to maximize it.

T. Joro and P. Na [10] developed a performance evaluation for portfolio efficiency on mean-variance skewness by employing Data Envelopment analysis. They suggested that this framework is more efficient than mean-variance model. Although there is no proper technique to test the efficiency of this framework.

There are some basic and important terms which are related to the portfolio and their knowledge is essential also needed by an investor, before creating the portfolio. These basic terms are as follows:

1. **Return** – In the financial scenario, the profit from an investment is known as a return. Every investor is keen to get the maximum return.
2. **Risk** – An unpleasant possibility or result in the investment is risk. Some risk types are change in interest rate, delay in maturity time, market fall, and liquidity risk and so on.
3. **Risk averse** – An investor who is not willing to take a risky investment. He/she wants a stable return even if it is lower. He/she looks forward to a safe investment.
4. **Risk tolerance** – A degree of risk-taking attitude in an investment. Generally, investors who desire a higher return, their risk tolerance level is higher.
5. **Liquidity** – Investors go with liquid stocks so that without any loss it they be quickly bought or sold or converted into cash. In this process the price of the stock is unaffected.
6. **Dividend** – This is the surplus money shared with the shareholder by the company, from its profit. This is just a distribution of the company's profit to its shareholders. The dividend is decided by the company's Board of Directors and needs the shareholder's approval.
7. **Total amount of stock proportion in a portfolio** – The summation of the proportion of stocks held in a portfolio should be one.
8. **Upper and lower bound for proportion of stocks** – The proportion of stocks must be included in the upper and lower bounds. The lower and upper bounds have been marked so that many small investments can be avoided and in a similar manner, too many large investments cannot be done.
9. **Number of stocks held in a portfolio** – According to Markowitz "holding a single stock is riskier than holding two or more stocks". Another useful motivation is to invest only in a fixed number of stocks. The number of stocks in a portfolio depends on how much time one can spend in valuation of those stocks. An ideal portfolio contains 5-15 stocks.

These are the basic terms and factors, which are related to portfolio and stocks, but some other factors discussed in the next segment are also important for stock selection and valuation.

3 SOME IMPORTANT FACTORS FOR STOCK VALUATION:

Stock selection is the first step for investing in the stock market. Stocks belong to different sectors like bank, industries, corporate field, transport, chemicals, textiles, software products, pharma companies, vehicles, electronics, and so on. The investors have to choose from the stocks of a company or sector they choose. However, there are some important factors that should be taken into consideration before the selection of stocks, such as, risk, returns, liquidity, and dividend, which are the basic factors of stocks. Panwar *et. al.*, presented an integrated approach for portfolio selection using investors behavior survey, cluster analysis, AHP and optimization technique with different combination of stocks parameter. They applied three different optimization technique TLBO [11], BBO [12] and FMOLP [13] and compared [14] the obtained result and conclude that BBO gives more efficient result among all three. Also, they applied a post optimality test for improvement of the obtained result. Furthermore, there are some more important points discussed herewith.

1. **Alpha-coefficient** – In finance, performance is measured by the alpha-coefficient. It compares return with respect to risk. The excess return of an investment is known as alpha-coefficient.
2. **Beta-coefficient** – Volatility or systematic risk, as compared to the stock market or a portfolio, is measured by the beta-coefficient. Beta 1 shows that the stock's price changes with the market. Beta Greater than 1 shows higher volatility and less than 1 shows less volatility than the market. Alpha-coefficient and beta-coefficient are both terms used to measure, compare, and examine the returns.
3. **Market-cap** – This is more important than the stock price. It measures the size of company in which investment is to be made. It shows the total amount of market worth of the company. It is evaluated by multiplying per share price by the company's total shares. It is classified by three caps, namely, large-cap, mid-cap and small-cap. Large-cap companies having \$10 billion or more, mid-cap companies have between \$2 billion and \$10 billion, and small-cap companies having between \$300 million and \$2 billion market-cap. Market-cap is revised by two leading elements: Variations in stock price or share issues and buying by the company.
4. **Relative strength index (RSI)** – RSI proposed by J. Welles Wilder in 1978, calculates the present and past performance of a stock, based on today's closing prices. RSI generally belongs to the range 30% - 70%. Above 70% indicates an overbought and below 30% shows an oversold condition.
5. **Coefficient of variation (CV)** – Coefficient of variation helps to evaluate the value of instability relative to the return rate. It is also helpful to know about a better portfolio. Low degree CV is for those investors who are averse to risk. Conversely investors whose risk tolerance level is high and desire high returns go with the high degree CV.
6. **Earning per share (EPS)** – Company's profit is represented by EPS. It is that part of company's profit that is distributed to each share in the common stock.
7. **Price-earning ratio** – Price-earnings ratio (p/e ratio) facilitates the ratio of current share price and earning per share. This is a frequently used valuation factor. Its higher value represents higher earnings

and growth in the future, compared to the lower value, for a company. A company that is losing money does not have p/e ratio.

8. **Price to earning growth ratio** – A comparative calculation or relation between the stock price, EPS, and the growth of the company is defined by the price-to-earning growth ratio. A company having a higher p/e ratio has a higher growth rate.
9. **Earning yield** – Earning yield is the percentage of each amount invested in the stock which the company has received. It is inverse of the p/e ratio.

These factors are very helpful for those investors who have a little bit of knowledge about stocks and investments and are new to the stock market. Despite all the above factors, investment of stock does not guarantee returns, as the decision requires to be made today without any information about the future price.

1. BETA-COEFFICIENT

Beta measure is the volatility of a stock with respect to the market. For moving accurately with the market, beta should be one. Beta is calculated by the following formula:

$$\text{Beta coefficient} = \frac{\text{covariance of the asset's return with the market's return}}{\text{variance of the market's return}}$$

Performance of a stock measured with the standard result known as the market's return or benchmark. A combination of almost all types of securities on behalf of the aspect of the entire market is a benchmark and is properly known as indexes. The two most famous indexes are S&P 500 and Dow Jones Industrial Average. This research assumes S&P 500 index as a benchmark.

2. ALPHA-COEFFICIENT

The stock performance with respect to indexes is measured by alpha. Alpha is evaluated by as follows:

$$\text{Alpha coefficient} = \text{asset's return} - \text{beta coefficient} * \text{market's return}$$

It is also known as active return.

3. RELATIVE STRENGTH INDDIX (RSI)

RSI is a momentum oscillator that analyzes the present and past performance of the daily closing price. To examine the financial market, RSI is used as a technical pointer.

$$RSI = 100 - \frac{100}{1 + avg_i} \text{ and } avg_i = \frac{avg \text{ gain}}{avg \text{ loss}}$$

4. COEFFICIENT OF VARIATION (CV)

Coefficient of variation, measures the instability in an investment. CV is the relation between risk and return of the asset. It is determined by dividing the standard deviation by the return. It is also a performance evaluation parameter to screen which portfolio or stock is better.

$$\text{Coefficient of variatin} = \frac{\text{asset's standard deviation}}{\text{asset's return}}$$

5. EARNING YIELD (EY)

The percentage of each dollar is known as EY, which has been invested in that stock which was earned by the company. It is calculated by the formula:

$$EY = \frac{1}{\frac{p}{e} \text{ ratio of the asset}}$$

6. PRICE TO EARNING GROWTH RATIO (PEG ratio)

The PEG ratio is a comparative performance between the stock price, earning per share and growth of the company.

$$PEG \text{ ratio} = \frac{\frac{p}{e} \text{ ratio}}{\text{earning per share}}$$

The remaining stock valuation factors namely net profit, p/e ratio, earning per share, and market cap are obtained from the profile of the corresponding stock in the official website of BSE India.

CONCLUSION

The first step for portfolio selection is stock selection. There are several varieties of stocks available in the stock market. It depends on the investor to choose the stocks from various areas and sectors. This is a very significant and guarded process, because stock selection plays an important role in finding the finest optimal portfolio. For this, the past record of stocks is very significant. For the complete study of stock, along with historical closing price, risk, liquidity, and dividends, a study of some new factors such as, alpha-coefficient, beta-coefficient, coefficient of variation earning per share, price to earnings ratio, etc. are also essential.

REFERENCES

- 1 Bodie, Z.: 'Investments' (Tata McGraw-Hill Education, 2009. 2009)
- 2 Elton, E.J., Gruber, M.J., Brown, S.J., and Goetzmann, W.N.: 'Modern portfolio theory and investment analysis' (John Wiley & Sons, 2009. 2009)
- 3 Markowitz, H.: 'Portfolio selection', The journal of finance, 1952, 7, (1), pp. 77-91
- 4 Sharpe, W.F.: 'A simplified model for portfolio analysis', Management science, 1963, 9, (2), pp. 277-293
- 5 Sharpe, W.F., and Sharpe, W.: 'Portfolio theory and capital markets' (McGraw-Hill New York, 1970. 1970)
- 6 Black, F., and Litterman, R.: 'Asset allocation: combining investor views with market equilibrium', in Editor (Ed.) (Eds.): 'Book Asset allocation: combining investor views with market equilibrium' (Discussion paper, Goldman, Sachs & Co, 1990, edn.), pp.
- 7 Konno, H., and Yamazaki, H.: 'Mean-absolute deviation portfolio optimization model and its applications to Tokyo stock market', Management science, 1991, 37, (5), pp. 519-531
- 8 Speranza, M.G.: 'Linear programming models for portfolio optimization' (1993. 1993)
- 9 Konno, H., and Suzuki, K.-i.: 'A mean-variance-skewness portfolio optimization model', Journal of the Operations Research Society of Japan, 1995, 38, (2), pp. 173-187
- 10 Joro, T., and Na, P.: 'Portfolio performance evaluation in a mean-variance-skewness framework', European Journal of Operational Research, 2006, 175, (1), pp. 446-461
- 11 Panwar, D., Jha, M., and Srivastava, N.: 'Stock selection and portfolio optimization using teaching-learning-based algorithm'
- 12 Panwar, D., Jha, M., and Srivastava, N.: 'Portfolio selection using Biogeography-based optimization & Forecasting'
- 13 Panwar, D., Jha, M., and Srivastava, N.: 'Optimization of Risk and Return Using Fuzzy Multiobjective Linear Programming', Advances in Fuzzy Systems, 2018, 2018
- 14 Panwar, D., Jha, M., and Srivastava, N.: 'Performance Evaluation of Genetic Algorithm & Fuzzy Logic for Portfolio Optimization'