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Stock Selection by Using Fundamental Analysis and Optimal Portfolio Construction: A Case Study of Equity Market of India

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Abstract

In this study, we focus on determining the optimal portfolio for investing in Indian equity firms within a specific economic sector, considering both individual and portfolio manager approaches. A portfolio, comprising diverse assets such as stocks, bonds, and money market goods, is strategically managed with the goal of maximizing returns while minimizing risks, in accordance with investor preferences. Emphasizing risk-adjusted return as a key metric for portfolio selection, our research assesses the balance between potential gains and associated dangers. The study utilizes portfolio management methodologies, evaluating the financial data of CNX Nifty-listed companies and employing a stock selection process based on five-year statistics from 2018 to 2023. Our findings contribute to the understanding of effective portfolio construction, selection, and evaluation, catering to the dynamic preferences and goals of investors in the Indian equity market.

Keywords: *Stock investment, Portfolio management, Retail investors, Portfolio construction, Stock selection*.

1. INTRODUCTION

The management of portfolios is a popular technique for determining the best source to allocate wealth to potential investment options. It appears that the only people with access to stock management in India are wealthy people and mutual fund corporations. People think that portfolio management is an expensive service that takes a lot of knowledge. Retail investors can efficiently plan their investments through portfolio management, it also helps spread capital among different businesses, stock groups, etc. Investors mostly care about security study and portfolio management when they want to make smart investments. The portfolio is a hybrid investment strategy that includes equities, bonds, government securities, etc. The Active portfolio management assigns investment categories based on investor preferences and needs. Determining an investor's risk tolerance and time horizon is the first step in managing their account. The portfolio fluctuates with market conditions and time.

Portfolio management includes planning, picking, growing, analysing, and judging. The proficiency of a portfolio manager is dependent on the portfolio's ability to achieve comprehensive balance between the goals of safety and growth liquidity and productivity. General portfolio management involves constantly rebalancing to select the best stocks to maximize the investor's preferences and goals. Portfolio management requires financial ability to monitor market conditions and analyze securities. Numerous merchant banks and mutual fund brokers help wealthy people manage their finances in India and other western countries. According to, the portfolio management process is a set of coordinated steps that are taken regularly to build and keep an asset mix that helps clients meet their goals. The customer can receive advice on how to maximise and protect his investment from a portfolio manager who is informed about the economy and stock market, has expertise, and is willing to learn about alternative investment possibilities. Putting together a portfolio whose success is very close to that of an average of stocks is called "average tracking." The portfolio that was made is called a "tracking portfolio," and the index that was watched is sometimes called a "benchmark [1]. Buyers and lenders can transact and obtain capital for numerous economic sectors on the stock market. On the global financial markets, there are a lot of studies about how to make stocks as risk optimized as possible. The designed an optimal sector stock equity portfolio. Diversification significantly reduces unsystematic risk, but systematic risk cannot be eliminated [2]. The optimal portfolio's returns increase, and risk decreases when asset allocation, diversification, and valuation timing are properly implemented [3] The best strategy, according to the Sharpe single index approach, contains of [4]. When you use the Markowitz model, you must make a lot more estimates, which takes a lot more time and work [5]. Sharpe's index model for building the best portfolio is also easy to understand and use in real life. the tried to use Harry Markowitz's portfolio Risk and Return methods to solve the problem of building the best portfolio [6]. Investors with varying levels of risk aversion have access to optimal portfolios with varying levels of return. In recent research, the risk/diversification-centered approach to portfolio optimization has

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gained popularity. Effectiveness of mean diversification Different diversification measures' frontiers are determined, and optimal portfolios are identified risk-reward trade-off argues that these portfolios are superior. The best variance strategy is less important to them than returns on volatility. The active management of a portfolio follows a specific procedure that includes portfolio planning, selection, and construction. Portfolio evaluation and analysis. How good a portfolio manager is at their job is shown by how well they find a balance between safety, liquidity, and earnings. Portfolio management, which is both an art and a science, is used by people and groups that invest in things to control how much risk they are exposed to. The SEBI clause defines a portfolio manager as someone who advises and manages a client's securities and finances. Merchant bankers managing portfolios must follow SEBI guidelines. Portfolio management is only allowed by SEBI-registered merchant bankers used the Sharpe index model to identify the best course of action. They found that equity investments performed better in a volatile market. According to investors should focus on price changes and earnings per share across the board when looking at stock information rather than just the weekly average. To figure out how well the banking system is doing, a small number of private and public banks had a full review of their past wins and plans for future growth [7]. The Indian banking sector is predicted to grow more quickly in the next years. Research on the best ways to pick stocks shows that stocks with low beta and low debt-to-equity ratio have higher returns over the long term, while stocks with high beta and high debt-to-equity ratio have higher returns over the short term [8]. Pharmaceutical and infrastructure equities were used to build the ideal portfolio the former is performing better than the latter. And a significant stock allocation was made to the pharmaceutical industry 80%, with the remaining 20% going to the infrastructure sector [9] By applying the Sharpe single index model with 10 companies from the banking and IT sectors that are listed on the BSE Sensex the ideal portfolio, which consists of three businesses two from the banking sector and one from the IT sector. the Sharpe single index model to the consistent correlation model, finding that the former provides investors on the Indonesian stock exchange with better selection options. The Sharpe single index model was used to design the portfolio, and the results showed that it performed better than the consistent correlation model-constructed portfolio.

1.1 Portfolio Management Phases

A portfolio is managed in five key processes, and the effectiveness of each step has an impact on the portfolio's total performance. The phases of portfolio management are as follows:

- **Analysis of investment goals:** As the initial stage in portfolio management, investors' objectives and preferences must be thoroughly evaluated. By analysing the investor's objectives, it is simple to identify the securities that meet the investor's objectives and preferences.
- **Analysis of security:** There are several securities that meet investors' goals and preferences. Debentures, bonds, and preference shares provide steady income for investors. Growth equities are best for capital appreciation. Tax-exempt and safe fixed deposits, government bonds, and money market products are available. Before choosing assets, the portfolio manager must assess the risk-return trade-off and market conditions.
- **Construction of a portfolio:** Portfolio construction involves choosing the best securities to maximize return and minimize risk. The investor's goals and risk tolerance dictate the securities combination. The Sharpe single index model, the capital asset price model, and the Markowitz model can all be used to make portfolios. When the stock makes the most money, the amount will be big [10].
- **Revising the portfolio:** The owner must modify the mix of investments based on market and economic conditions after creating the ideal Portfolio. The portfolio must be revised so that it can consistently perform at its highest level. It aids the investor in securing guarantees that promote higher returns with reduced risk.
- **Portfolio analysis:** By comparing the market return to the risk-free rate, you can figure out the risk of return for a stock. By looking at the risk and return over time, a portfolio review helps buyers figure out the pros and cons of a planned portfolio. Investors will decide whether to change the stock based on what they think is best.

1.2 Need for Investment Portfolio Design

Indian families want to save more; therefore, the saving rate rises. India's GDP savings rate is 32% and investment rate 34%. Because India lacks an investment strategy, increasing investment growth does not boost output. It will accelerate capital obsolescence. Investments should only be made in superior techniques to generate productive output to avoid wasteful capital utilization [11]. One of the best investment methods is portfolio management. Statistics show that the average Indian household saves 55% financially and 45% physically. The latest RBI data showed that 64% of financial savings were in cash and bank accounts, giving a negative return. Capital appreciation, safety, marketability, liquidity, and inflation protection are their investment goals. Investors must follow organized tactics in this inflationary environment. To create portfolio management concepts and theories for the Indian market, active portfolio management strategies can be used on the capital market in India. Because investors have different tastes, they need stock management. If the portfolio manager doesn't know what the clients want, they can't put together the best portfolio. The person in charge of the portfolio

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needs to do research on the securities and find out what buyers want. Portfolio managing services are very new in India. In 1987, portfolio management for public joint fund projects began. Brokers and investing professionals become portfolio managers because active mutual fund portfolio management works. When purchasing and selling securities, portfolio managers should be strategic, able to evaluate the features of the securities and match them to the needs of their clients to maximise returns while reducing risk.

1.3 Equity Portfolio Management's prevalence in India

In India, a group of financial experts helps people keep track of their money and decide where to put it. Portfolio management services are tailored to investor needs and tied to direct client contact. Portfolio managers need more expertise. SEBI has many client-portfolio manager rules. Portfolio management services are becoming harder to supply because to SEBI audits, account maintenance, and everyday operations. The intricacy of portfolio management services in India requires in-depth expertise and training for portfolio managers. The SEBI-recognized Indian stock exchanges allow primary and secondary trading. The capital market has grown rapidly over the previous quarter-century, resulting in 23 stock exchanges and 9500 listed firms [12]**.**

1.4 Need for and Importance of Portfolio Management

The administration of investor funds for asset and security investments is preset. Portfolio management is flexible and requires regular analysis and smart judgment while investing. Clients use portfolio management experts to maximize return with minimal risk. Investor objectives, restrictions, risk and return preferences, tax liabilities, etc. guide portfolio management. The established portfolio must be evaluated periodically in response to changing market conditions to maximize investment returns, making portfolio management an ongoing service. When evaluating a portfolio, the return on the portfolio is compared to a standard, like the market or a risk-free rate. The success of portfolio management depends on analysing securities from various investment opportunities and selecting the best combination of securities to diversify investments. A definite and optimal return is possible if the portfolio manager can meaningfully combine investment opportunities. Investors can diversify across industries, firms, the market, or securities within a single asset class. Modern portfolio management theories emphasize diversification as the key to portfolio performance.

2. LITERATURE REVIEW

Finding the best way to use the Sharpe index to develop a strategy is the main goal of this study **[13].** The odds are decreased for the user by creating a strategy. The sugar and metal industries served as the foundation for this investigation's strategy. Each of these sectors is represented by ten companies, which are then ranked using a single index methodology. The securities are then chosen for the development of the ideal portfolio after the cut-off points have been calculated. The percentage of investments in EAC securities in the portfolio is determined. Whereas **[14]** described equity stock diversification can help investors achieve the optimal risk-return trade-off. A portfolio's return can be maximized, or risk can be reduced by investing in a variety of stocks. This study shows why it's smart to spread out the assets in a portfolio and gives smart managers ways to lower the risk of their portfolios. The sample data from the daily share prices of Nifty stocks during a nine-year period. The empirical study demonstrates add more stocks to the portfolios of the sample stocks, portfolio returns are maximized, and portfolio risk is reduced. The demonstrates that investors can efficiently diversify their stock holdings and construct portfolios on the Indian stock market.

The study **[15]** examined Investments have risk and return. Risk affects investment returns. High risk provides high reward, while minimal risk yields low return. Portfolios should include high, moderate, and low-risk assets. Portfolio management models help institutional and individual investors reduce risk and maximize profit. In banking, Sharpe Index concept is used to maximize return with least risk. Secondary data were chosen. Using their market worth as of February 25, 2020, the top twenty public and private institutions were chosen for the study. Among the top 20 institutions were City Union Bank, Indus land Bank, Kotak Mahindra Bank, AU Small Finance Bank, and HDFC Bank. The highest rate of return was 23.34 percent, which was more than the Nifty's average yield. The beta of the portfolio was 0.6, which was lower than the Nifty's beta of 1. Less volatility exists in the fund's performance.

This study examined that **[16]** Several risk models are compared to see if they are good for effective portfolio management for investors who want to use different risk models to build their portfolios. The conditional value at risk, the mean variance, the semi-variance, the mean absolute deviation, and the mean absolute deviation are all ways to measure risk. Prices were taken from the Pakistan Stock Exchange, the Bombay Stock Exchange, and the Dhaka Stock Exchange when the economy

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was in a crisis, when it was getting better, and when it was getting stronger. Based on the average GDP of each country during the given time, three economic models are made.

[17] examined risk diversification is increasingly used in portfolio optimization. Risk-based portfolio optimization prioritizes diversity or risk over return. The technique has been criticized for lacking an objective, like Markowitz's Mean-Variance setup by trading returns and risk. Risk diversification is the only aim in single-objective optimization portfolio building. Instead of bi-objective optimization, this portfolio optimizes return/risk. When risk is considered, optimal portfolios should outperform risk-based portfolios in terms of diversification and returns.

The goal of this study **[18]** was to find out how well-known genetic algorithms and tabu search methods handle the financial problem of not keeping up with stock market measures well enough. With quadratic programming, the stock weights in a tracking portfolio can be worked out. On the other hand, picking the right stocks is an NP-hard problem that can only be answered by using heuristics. Seven real signs were used to compare the different ways to track stock prices. The results showed that both natural and artificial groups make tabu searches better. Both inside and outside of the group, the tracking portfolios did better than the average. This shows that these rules of thumb are useful for keeping an eye on an index with only a few companies. **[19]** described to attain the highest predicted returns with the least amount of risk, investors frequently use portfolio construction to build their investment portfolios. Putting together an investing portfolio is referred to as "portfolio construction." Part of this process involves using an asset allocation plan, which comprises adjusting the percentage of a portfolio assigned to each asset class to attain the ideal risk-return balance. Your risk tolerance, financial goals, and available time will all affect how you choose your assets. The Sharpe single index technique is used to build the best portfolio in this study. The best strategy was determined using Sharpe's single index method. The Nifty and the monthly closing prices of NSE-listed businesses were used from January 2010 to December 2016. Equities of the example companies, except for Maruti, Tata Steel, and HDFC, are all undervalued. These stocks can update portfolios by being added.

This study **[20]** examined Either on their own or with the help of fund managers, people can buy stocks. A diverse portfolio of Indian stocks from several economic sectors is put together in this study. Compare the top portfolio selection strategies for comparable measurements. In this study used Treynor's index and Sharpe index to create an ideal investment portfolio of Indian economic sectors. Individuals or portfolio managers may choose firms in each sector based on a future analysis that seeks greater returns, assuming a risk level. NSE's eleven sector indexes and CNX Nifty were evaluated. The records include the daily numbers from April 1, 2014, to March 31, 2015. This is because short-term changes in stock prices are just as important as long-term trends when it comes to buying stocks. You can see how well the market is doing with CNX Nifty. The Economic sectors in optimal portfolio were chosen using a unique return cut-off value. Whereas **[21]** described Security analysis and portfolio management expertise are necessary for making sensible investment selections. The objective of a logical investor is to maximize profit with the lowest possible risk. Due to the large number of investment opportunities with different risk levels in this study creates an equity portfolio utilizing BSE stocks. Institutional and individual investors struggle to optimize portfolios. The introduces Sharpe's Single Index Model to investors to help them comprehend its value in portfolio creation. Indian investors may benefit from Sharpe's Single Index Model SIM when more companies are sold each year on the stock market **[22].**

Table 1. Comparison of review table

Reference	Topic	Methodology/Approach	Findings
[13]	Portfolio construction using Sharpe index	Two sectors (sugar and metal) represented by ten companies each. Securities ranked using single index methodology. Ideal portfolio constructed based on cutoff points. Analysis aims to guide investors to select securities with higher return and lower risk.	Provides an ideal portfolio construction approach using the Sharpe index. Helps investors lower risk and achieve higher returns in specific sectors.
[14]	Equity stock diversification and portfolio optimization	Uses Nifty stock data over a nine-year period to study portfolio diversification. Demonstrates how adding more stocks to the portfolio maximizes returns and reduces risk.	Highlights the benefits of diversification in an equity portfolio for logical investors. Shows that by adding more stocks to the portfolio, investors can achieve better returns while reducing risk.

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[15]	Portfolio management for banking sector	Uses Sharpe Index to optimize portfolio return with least risk for 20 top-listed public and private banks. Selected banks form the ideal portfolio. Portfolio achieved greater returns and lower volatility compared to the Nifty index.	Demonstrates a portfolio management model for banking using the Sharpe Index. The selected ideal portfolio of banks outperformed the Nifty index in terms of returns and risk.
[16]	Efficient portfolio management using risk models	Uses multiple risk models (CVaR, MV, SV, MaD) to create portfolios under different economic scenarios. Data from three stock exchanges.	Compares different risk models for portfolio management under various economic environments.
[17]	Mean-diversification optimal portfolios	Introduces mean-diversification optimal portfolios that balance returns and diversification measures. Genetic algorithm used to find efficient frontiers.	Describes a different way to improve a portfolio that considers the trade-off between return and diversification. It has been shown that ideal portfolios with an average amount of variety do well in terms of the risk-reward trade-off.
[18]	Heuristics for stock market index tracking	Evaluates the performance of genetic algorithms and tabu search heuristics in incomplete stock market index tracking. Uses real-world indices and compares the strategies.	Tabu search heuristics are found to be effective solutions for tracking an index using a small collection of companies.
[19]	Empirical ideal portfolio construction	Employs Sharpe's single index model to create an ideal portfolio using NSE-listed firms and Nifty index data. Suggests certain undervalued stocks for investors to consider.	Demonstrates the use of Sharpe's single index model for creating an ideal portfolio. Provides insights into undervalued stocks for investors.
[20]	Optimal portfolio selection for Indian equities	Compares Treynor's index and Sharpe index model for creating an ideal portfolio of Indian economic sectors. Uses data from the NSE sector indexes and Nifty.	Offers a comparison between two methods (Treynor's index and Sharpe index) for creating an optimal portfolio in Indian equities.
[21]	Equity portfolio using Sharpe's Single Index Model	Creates an equity portfolio using selected stocks from BSE with the help of Sharpe's Single Index Model. Suggests the SIM could be beneficial for Indian investors.	Demonstrates the use of Sharpe's Single Index Model for equity portfolio creation. Proposes that SIM could be advantageous for Indian investors.

Table 1 shows the reviewed studies present diverse approaches to portfolio construction and management, ranging from sector-specific applications to comparisons of risk models and indices. The findings offer valuable insights for investors seeking to optimize returns while managing risk in the dynamic landscape of the Indian equity market.

3. RESEARCH METHODOLOGY

3.1 The Problem Statement

Because they are underprepared and run the risk of losing money if stock prices fluctuate unexpectedly, most small investors are not ready to invest in the stock market. Additionally, it is challenging for individuals to get advice from professionals on how to choose the approach that produces the most return with the least amount of danger. This study aimed to show how even small investors may manage their portfolios to maximise returns while minimising risks.

❖ **Purpose of the Study**

Following are the study's objectives:

1. To determine the investments for portfolio construction.

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2. To construct the optimal portfolio for individual investors.
3. To assess the efficacy of a constructed portfolio.
4. To forecast the future return movement of selected equities.

3.2 Design of the Research

The research employs both exploratory and descriptive methods to achieve its objectives. Exploratory research was used to develop a foundational understanding of the subject, while descriptive research was utilized to complete the portfolio management process.

3.3 Data Collection

Secondary data are utilized for the purpose of conducting this study. The financial data of 50 CNX Nifty-listed companies from 2018 to 2023 has been used to compile data from secondary sources. The information is compiled from a variety of secondary sources. several scholarly articles, journals, books, and the NSE database were used.

3.4 The expected outcome and contribution of the study

Retail investors frequently have trouble choosing the stocks that will yield the highest returns relative to other investments, but they are still hesitant to invest freely due to their lack of understanding of portfolio management. In this study will aid retail investors in gaining a better understanding of the portfolio management process, and it may serve as a guide for retail investing.

4. RESULT & ANALYSIS

When figuring out what this part means, economic, industry, and business studies are all used. Economic analysis, industry analysis, and business analysis all look at the growth rate of key economic indicators, the growth rate of key Indian sectors, and the analysis of key financial ratios based on factors that have already been set.

4.1 Fundamental analysis

The fundamental analysis has three phases, which are,
1. Analysis of the Economy
2. Analyse of the Market
3. Analysis of the Company

4.1.1 Analysis of the Economy

Economic analysis is the study of the economy's overall operations. Investors contemplate the economic factors that influence the performance of the companies in which they invest. In this study employs the GDP growth rate, the interest rate, the exchange rate, and foreign investments, among other economic variables.

Table 2 Rates of growth for major economic indicators (2018-2023).

Year	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	CAGR
GDP Growth (%)	9.8	7.7	6.1	7.9	8.3	-4.89
Inflation Rate (%)	10	10	11.4	9.3	6.3	-11.05
Interest rate (%) (Avg)	10	10.25	10	10.25	9.75	-1.56
Stock market (%)	11.9	11.6	9.3	19.9	25.9	18.98

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Exchange Rate (₹/$)	45.54	51.89	55.29	61.03	63.29	7.94

In analyzing the economy, it is crucial to consider the growth rates of key economic indicators over the period from 2018 to 2023. Table 2 provides insights into the GDP growth, inflation rate, average interest rate, stock market performance, and exchange rate. These indicators play a significant role in shaping investment decisions and understanding the overall economic landscape.

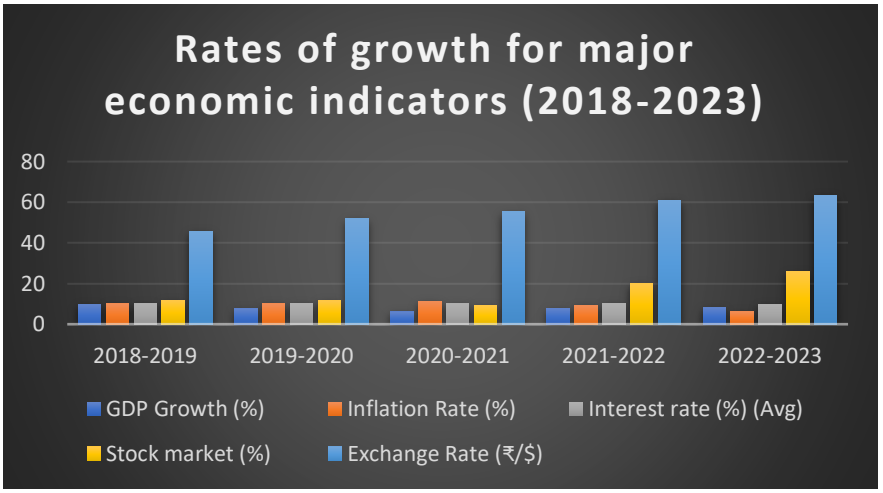

Figure 1. Graphs Representation Rates of growth for major economic indicators (2018-2023)

Table 3The Indian economic statistics (2018-2023).

Year	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	CAGR
Foreign Reserves ($ Mn)	40048	39874.9	40042.6	39809.3	42508.1	2.59
Foreign Investments (FII, FDI & FPI) ($ in Mn)	52127	49232	56722	36387	83571	12.89
Exports (USD in Bn)	351	406	400	414	411	5.39
Agriculture Production (%)	221	226.3	228.3	229.6	2.34	1.59

Table 3 illustrates the rate of growth of important economic indices. People spend less money when inflation is low, allowing them to save and invest more. If people spend money, the economy will expand and expand in the future. Between 2018 and 2023, the fixed interest rate fluctuates between 9.85% and 3.2%. Businesses can put more money towards expansion while interest rates are on the decline. Economic growth can benefit from and suffer from export uncertainty. Exports are advantageous to a business. The yearly growth rate of the transactions is 5.48 percent. Foreign earnings rise when the exchange rate does. This has an impact on the 7.95% yearly growth rate. India's economy continues to be mostly dependent on agriculture. Figure 1 shows that the yearly growth rate of agriculture production is at a record-low 0.53 percent. Foreign investments are going up, which means that now is a good time to spend, which can help the economy grow. Overall, the study shows that key economic indicators are growing at a good rate, which could help the financial market grow. To make the most of this chance, investors should put their money in the stock market.

4.1.2 Analyse of the Market

Its profitability, as well as its strengths and shortcomings, are covered in the industry analysis. It investigates the impact of market, political, and economic influences on the expansion and development of an industry. Business studies such as

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industry analysis start by assessing the state of a particular industry or industrial sector. Business decisions are based on the growth rate of a specific industry at a particular period in this type of fundamental analysis.

Table 4 Annual Growth Rates of Key Industries

Industry	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Agriculture	2.5	6.6	-0.4	0.9	0.10
Mining and quarrying	1.7	4.1	15.8	13.3	14.6
Manufacturing	6.9	6.1	8.5	11.6	12.6
Electricity gas & water supply	3.5	5.0	8.2	5.4	6.6
Construction	1.6	4.0	4.0	3.8	5.6
Trade transport, communication	10.7	7.8	9.6	11.7	13.6
Financial service, professional service	10.7	12.0	12.6	11.69	14.68
Public administration, defence	5.3	4.8	9.1	9.8	10.6

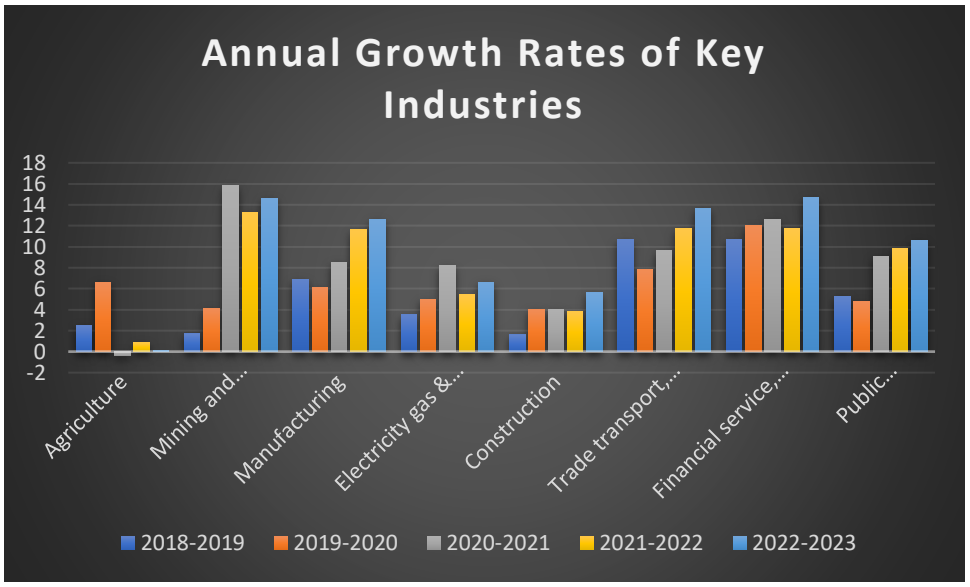

Figure 2. Graphs Representation Annual Growth Rates of Key Industries.

Table 4 and figure 2 provides data on the growth rate of key industries from 2012-2013 to 2018-2023, as depicted in the table. The rate of expansion for the manufacturing sector ranges from 6.9% to 11.6%. The growth rate for the public sector and the defense industry ranges from 5.3% to 9.9%. Financial and professional services have a stable growth rate between 10.75% and 11.38%. The trade, transportation, and communication sector are growing at a rate of 10.7% to 11.0%. The study shows that, on average, growth rates in key industries are good. The 2023 made in India plan and the new industrial policies are good for the industries, according to reports on their progress. Increases industrial production, which will influence the growth of the country's industry over the next few years.

4.1.3 Analysis of the Company

Simple computations that assess the relative strengths of multiple businesses can be done using the data on income statements, balance sheets, and cash flow statements. A business analysis looks at the capital structure, market value, profitability, and profits. Investors will value this information more than the company's core financial information. Sales and market value ratios, capital structure ratios, and income ratios are the three main categories of the study. The ultimate choice will be determined by each ratio's mean, standard deviation, and annual compound growth rate. The study's businesses were graded using statistical indicators such the mean, standard deviation, and compound annual growth rate. The instructions for a business study include a list of the many profit ratios that can be used to assess a company.

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The following criteria will be used to determine the final security choice for the portfolio.
1. Possessing the greatest average value
2. The least significant difference
3. The highest compound annual growth rate.

Table 5 Ratio analysis of Construction, Industrial manufacturing, Media & Entertainment, and Shipping industry

	Larsen and Toubro	BHEL	Zee Entertainment	Adani Ports and SEZ
MEAN				
DPS	17.81	4.24	3.00	2.04
OPS	79.03	20.58	10.91	13.52
GP RATIO	10.64	8.51	30.59	58.57
NP RATIO	9.88	8.66	24.40	53.65
ROCA	18.23	18.47	27.96	15.93
ROA INCL REV	419.22	128.48	29.99	45.91
DEBT EQ RATIO	1.29	1.07	1.83	1.98
FIN CHG COV RATIO	8.11	74.07	820.08	6.79
DEBTORS TURNOVER	3.61	2.47	5.03	7.41
INVEST TURN OVER	30.17	4.50	3.73	34.50
DIVIDEND PAY OUT ON NP	28.27	21.57	29.84	12.49
EPS	65.66	15.41	7.98	10.74
BOOK VALUE	417.70	128.48	29.99	45.90
PE RATIO	21.12	6.98	510.6	24.56
EARNINGS YIELD	1.05	1.07	1.02	1.06
DIVIDEND YIELD	1.01	1.03	1.00	1.06
PRICE TO BOOK	4.06	2.54	6.20	6.16
SD				
DPS	2.98	3.61	1.31	0.06
OPS	18.56	21.45	3.78	3.64
GP RATIO	1.76	13.28	3.02	5.32
NP RATIO	1.68	8.43	3.29	7.32
ROCA	3.23	19.03	6.69	2.44
ROA INCL REV	48.70	15.41	1.08	16.87
DEBT EQ RATIO	1.02	1.02	576.88	1.11
FIN CHG COV RATIO	2.25	89.93	0.49	2.57
DEBTORS TURNOVER	1.20	1.44	0.35	3.07
INVEST TURN OVER	3.46	0.59	3.11	8.47
DIVIDEND PAY OUT ON NP	5.33	2.12	2.14	4.35
EPS	12.05	14.86	6.69	3.85
BOOK VALUE	42.38	15.41	3.15	16.88
PE RATIO	6.64	24.38	9.53	6.84
EARNINGS YIELD	1.02	1.08	1.00	1.04
DIVIDEND YIELD	1.00	1.02	1.00	1.05
PRICE TO BOOK	1.70	1.55	6.20	2.14
CAGR				
DPS	1.00	0.75	-0.09	-0.04
OPS	1.09	-3.38	-0.13	-0.14
GP RATIO	1.02	-3.31	0.02	-0.03
NP RATIO	-0.03	-3.33	-0.03	-0.07
ROCA	0.08	-3.56	-0.03	-0.02
ROA INCL REV	0.03	-1.05	0.01	-0.19
DEBT EQ RATIO	-0.02	1.02	0.13	-0.09
FIN CHG COV RATIO	0.08	-3.63	0.25	0.01
DEBTORS TURNOVER	0.05	1.15	-0.07	0.12

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INVEST TURN OVER	-0.02	1.05	0.01	0.17
DIVIDEND PAY OUT ON NP	-0.07	1.45	-0.07	0.03
EPS	0.06	-3.56	0.01	0.09
BOOK VALUE	-0.02	-1.05	-0.09	-0.19
PE RATIO	-0.10	-1.75	1.00	-0.20
EARNINGS YIELD	0.11	-3.34	-1.86	-0.02
DIVIDEND YIELD	0.06	1.54	1.06	0.06
PRICE TO BOOK	-0.04	1.20	1.06	-0.05

Hindustan Unilever did better than the other two companies looked at for the business analysis in the consumer goods sector on the CNX nifty in terms of profitability ratios like (DPS, OPS) and capital structure and turnover ratios like (ROA including evaluation, investment turnover ratio). When all the factors are considered (as shown by the numbers), Hindustan Unilever does better than the competition and can be chosen as the end stock. Table 5 shows the ratios for the manufacturing, construction, media and leisure, and logistics businesses. Since the CNX Nifty only had one company in each of these businesses, these were chosen as the last stocks to buy.

5. CONCLUSION

Investors can spread risk through diversification by placing money in a portfolio of equities. By connecting the return on an asset to a single market index, the Sharpe single index approach has made it easier to build the ideal portfolio. Five of the 11 sectors are represented in the ideal portfolio, with the other four being largely invested in after the pharma sector equities. Compare the risk and return of each firm to the risk and return of the market to decide the best course of action. In terms of the approach employed and the calculations performed, it has practical value. This strategy allows for the creation of an ideal sectoral portfolio for investing in the associated equity stocks. Building an optimal portfolio is a crucial and difficult undertaking for both individual and institutional investors. It's hard for both small buyers and big companies to build a portfolio. The goal of the study was to find the best way to build a portfolio using Sharpe's single index method. The Sharpe single index model is a practical and simple method for selecting the ideal portfolio. The method uses fewer variables than the Markowitz carefully weighing all the variables that affect equities. Any additional macroeconomic elements that affect the fluctuation of stock prices on the stock market may also be included in this list of general economic factors. The return on the newly created portfolio, which is 30,89%, is higher than both the market return and the risk-free rate. 28,56 percent was the return on the portfolio under review, which is higher than both the market return and the risk-free rate. The created portfolio offers individual investors an ideal return of 29.89 percent. Retail investors can therefore use this created portfolio to make long-term 5 years investments in CNX Nifty equities model does. In this analysis, the optimum portfolio was built utilizing 4 outstanding stocks that represented two important sectors of the Indian economy. From 1 April 2018 to 31 March 2023, the portfolio's performance was compared to that of the NIFTY Index. Sharpe portfolios built on a single index model have outperformed NIFTY returns. As a result, it would be wise to invest in the stock developing portfolio.

Conflict of interest
There is no conflict of interest.

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Competing interest
There are no stated competing interests.

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Toshabanta Bhoi conceptualized, conducted methodology, performed formal analysis, investigated, curated data, and contributed to writing and visualization. Ramesh Chandra Das participated in methodology, formal analysis, provided resources, curated data, and contributed to writing and supervision. The corresponding author, Toshabanta Bhoi, can be contacted at bhoirana2009@gmail.com and 9650282822. All authors approved the submitted version, taking responsibility for their contributions, and ensuring integrity throughout the study.

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The authors have no relevant financial or non-financial interests to disclose.

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