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Comparative Analysis of Risk and Return Across Sectors in the Indian Equity Market

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ABSTRACT- The Indian stock market has seen a lot of growth in the past ten years. This is because more people are investing in the market and there are systems in place for trading. The government has also made some changes to help the market. All these things have made the market bigger. It is also more complicated for people to decide where to invest their money. This study looks at how four important parts of the stock market did over ten years. These parts are Banking, Information Technology, Pharmaceuticals and Moving Consumer Goods. The study uses data from twenty companies, five from each part to see how they did from January 2015 to December 2025.

The study uses tools to see how each part of the market did. It looks at how much money the companies made, how much risk they took and how well they did compared to how much risk they took. The study also looks at how the companies did during some events like when the government took away some currency in 2016, the COVID-19 pandemic in 2020 and the trade problems with the US in 2024 and 2025. What the study found out is that the Moving Consumer Goods part of the market did the best. It generated the highest return compared to how much risk it took. The Banking part of the market made a lot of money. It was also very risky. The Information Technology and Pharmaceuticals parts of the market did not do well especially during the trade problems with the US in 2025. The study is important because it can help people make decisions about where to invest their money. It can also help the government make decisions about how to regulate the market. The Indian stock market is a part of the Indian economy and the Indian stock market has many different parts, like Banking, Information Technology, Pharmaceuticals and Fast-Moving Consumer Goods and each part of the Indian stock market has its own strengths and weaknesses.

KEYWORDS - Banking Sector, FMCG, Risk-Return Analysis, Sharpe Ratio, Sectoral Performance.

I. INTRODUCTION

The Indian stock market helps the economy grow by giving people ways to invest and by helping companies raise money. More and more people are investing in the stock market because they understand finance better and have access to technology.

When you invest you need to think about risk and return. Return is the money you make or lose from an investment. Risk is the chance that you might not get the return you expect. Usually, if you take a risk, you might get a bigger return. This is not always true, for every sector.

Different sectors of the economy do differently when the economy changes or when the government makes policies. For example, the Banking and IT sectors can grow fast. They can also be unpredictable. On the other hand, the FMCG and Pharmaceutical sectors are more stable and less affected by changes.

The Indian equity market, which is mostly represented by the National Stock Exchange and the Bombay Stock Exchange. India has become one of the dynamic capital markets in the world. The Indian equity market has a lot of people investing in it now including investors, institutions and foreign investors. Because of this it is very important to understand how different sectors do in terms of risk and return.

From 2015 to 2025 the Indian equity market saw a lot of changes like when the government stopped using certain bank notes in 2016, the COVID-19 pandemic in 2020 and problems with global trade tariffs from 2024 to 2025.

Every part of the economy reacts differently to changes, new rules and how people feel about the market. It is very important to understand these differences when making investment decisions and managing risk. The Indian equity market and its sectors are affected by these changes. While some people think that taking risk means getting higher returns this is not always true for every sector or time period. For example, the FMCG sector is like a haven and gives stable but not very high returns while sectors like IT and Banking can give high returns but are also more volatile.

When we talk about risk in equity investment, we can break it down into two parts: systematic risk and unsystematic risk which is like the risk of a specific company. We can measure risk using something called the beta coefficient and unsystematic risk using the standard deviation of returns. The Sharpe ratio, which was introduced by William F. Sharpe [3] in 1966 helps us compare how different sectors do in terms of risk and return. This study uses these tools to

compare how different sectors in the equity market did over a ten-year period from 2015 to 2025.

The reason we did this research is that there are two gaps in what we know: first we do not know much about how the US-led global trade tariff policies from 2024 to 2025 affected different sectors in the Indian equity market and second we do not know how different sectors did during different types of crises like the pandemic in 2020 and the trade problems in 2025. This paper tries to fill these gaps by doing an analysis of how different sectors in the Indian equity market did, in terms of risk and return.

II. INDUSTRY OVERVIEW

The Indian capital market has two parts: the primary market and the secondary market. The primary market helps companies raise money by issuing stocks and bonds like Initial Public Offerings or IPOs. The secondary market lets people buy and sell existing stocks and bonds on places like the NSE and BSE. The capital market does important jobs. It helps people save money and invest it. It also makes sure people can buy and sell their investments easily. It helps set fair prices for stocks and bonds. People can sell different types of investments like stocks, bonds and mutual funds.

The Indian capital market is divided into two parts: the market and the secondary market. The primary market is where new companies raise money through things like Initial Public Offerings and rights issues. The secondary market, which includes the National Stock Exchange and the Bombay Stock Exchange is where people buy and sell stocks that're already out there. By the year 2025 the total value of companies listed on the Bombay Stock Exchange is more than 4 trillion US dollars. This makes India one of the largest equity markets in the world.

The NIFTY 50 index is like a benchmark for us. It is made up of 50 stocks from 13 different areas. For our study we picked four areas that're really important to the economy and are quite different from each other: the Banking sector, the Information Technology sector, the pharmaceuticals sector and the Fast-Moving Consumer Goods sector. We will give you a look, at each of these Indian sectors.

A. Banking Sector

The Indian banking sector is controlled by the Reserve Bank of India. The Indian banking sector forms the backbone of the system in India and is the main way for the government to control money. The Indian banking sector includes public sector banks, private sector banks, foreign banks, regional rural banks and small finance banks. For this study we are looking at the five private sector banks in terms of market value: HDFC Bank, ICICI Bank, Axis Bank, Kotak Mahindra Bank and the State Bank of India which is the biggest public sector bank in India.

The Banking sector performs well or poorly depending on the interest rate how much people want to borrow money the quality of the bank's assets what the Reserve Bank of India [12] says and how much money is available. From 2015 to 2019 the Banking sector had a lot of loans especially in public sector banks because some people and companies borrowed too much money to build things like roads and power plants. The Insolvency and Bankruptcy Code of 2016 helped to make the bank's assets better by providing a way to deal with loans. Then the COVID-19 pandemic came in 2020 and caused problems for the Banking sector because people could not pay back their loans the banks had to put aside money and not many people wanted to borrow money so the value of the banks' stocks went down. But from 2021 to 2024 the Banking sector did well because people were borrowing more money the bank's assets were getting better more people were using online banking and the government was helping the economy[13]. In 2025 the United States started charging tax on things it imported which made people a little worried, about the Banking sector because some companies that export things might have trouble paying back their loans.

B. Information Technology (IT) Sector

India's Information Technology sector is really big and important making up 7.5 percent of the country's total money and giving jobs to over five million people directly. The India Information Technology sector is mostly made up of companies that get most of their money. Usually more than 80 percent. From clients in North America and Europe. The companies we are looking at are Tata Consultancy Services, Infosys, HCL Technologies, Wipro and Tech Mahindra. Are some of the technology services firms in the world.

The Indian Information Technology sector's success is closely tied to how money people spend on technology around the world, which is affected by the economy in the countries where their clients are how companies decide to spend their money and how fast new technology is adopted. The India Information Technology sector did well from 2020 to 2022 because the COVID-19 pandemic made companies all over the world want to use more technology, which meant the India Information Technology sector got a lot of new business made more money and the company's stock prices went up. From 2022 to 2024 things slowed down a bit because interest rates went up in the US and Europe and companies did not want to spend as much money on technology. Then in 2024 and 2025 the US started charging taxes on imported goods, which affected companies that make things and sell things and these companies are big users of technology services so they did not want to spend as much money, which made it harder, for the India Information Technology sector to make deals and make money. Also, people were worried that the US might make it harder for companies to get H-1B visas and move data across borders, which made it hard to predict what would happen to the India Information Technology sector in the future.

C. Pharmaceutical Sector

India's pharmaceutical industry is really big. It is the largest in the world when we talk about the volume of medicines it produces. India's pharmaceutical industry also ranks among the ten when we consider the value of these medicines. The country supplies around 20 percent of the world's medicines.

People often call the sector defensive because people will always need healthcare products no matter what the economy is like. If you are sick, you cannot just delay getting help because of money problems. The companies we are looking at. Sun Pharmaceutical Industries, Dr. Reddys Laboratories, Cipla, Divis Laboratories and Lupin. Make a range of medicines. These medicines are for things like cancer, brain problems, heart problems and they also make

the ingredients that go into medicines called active pharmaceutical ingredients or APIs and branded generics.
Even though the Indian Pharmaceutical sector is called defensive it has been really unpredictable. The Indian Pharmaceutical sector did well during the COVID-19 pandemic in 2020. This is because a lot of people were getting needed medicines for fever and infections. On people also needed medicines for COVID-19. The pandemic also caused problems for companies in China that make medicines, which helped the Indian Pharmaceutical sector. However, the Indian Pharmaceutical sector has also had to deal with a lot of problems with regulations. The US Food and Drug Administration has sent warning letters and import alerts to companies that make APIs and medicines.
The situation with trade tariffs around the world from 2024 to 2025 made things more complicated. The United States put tariffs on precursors from China. This caused problems for the API supply chain. Made it more expensive for Indian companies to get the ingredients they needed from China. It also created opportunities for Indian companies that could make these ingredients in India. The India's pharmaceutical industry has to deal with all these challenges. The Indian Pharmaceutical sector is still really important, for the Indias pharmaceutical industry and the world.

D. FMCG Sector

The Moving Consumer Goods sector is made up of companies that make things people use every day. These are things like food and drinks toiletries, cleaning supplies and tobacco products. Companies like Hindustan Unilever Limited, ITC Limited, Nestle India, Britannia Industries and Dabur India are players in this sector. They are very good at what they do. People trust them.
The Moving Consumer Goods sector is a good place to invest money because it is stable. People always need to buy these kinds of products so the companies that make them usually do well. They make a lot of money. Do not lose much when the economy is bad. This is because people will always buy things like soap, toothpaste and cooking oil. They might buy cheaper versions if they do not have a lot of money but they will still buy them. This means that the companies in the Fast-Moving Consumer Goods sector can predict how much money they will make.
The Fast-Moving Consumer Goods sector is not perfect. Sometimes the cost of making these products goes up like when the price of oil or packaging materials increases. This can reduce the amount of money the companies make. Also, if people in rural areas are not buying as much it can affect the company's sales. This happened in 2019 and early 2023. The Moving Consumer Goods sector is still a good place to invest but you have to be aware of these potential problems.

III. REVIEW OF LITERATURE AND RESEARCH GAP

The study of risk and return in equity markets has been around for a time and is very important. Markowitz[10] started this in 1952 by showing that when you put money into things that do not always go up and down together you can reduce the risk of losing money without reducing the amount of money you can make. This idea led to the concept of the possible mix of investments, which is the set of investments that gives you the most money for a given amount of risk. This changed how people think about putting a group of investments.
Markowitzs[10] idea was built on by Sharpe[3] and Lintner [11] who came up with the Capital Asset Pricing Model in 1964 and 1965. This model says that the return on an investment is related to the risk of that investment and that only the risk that affects all investments is important. Fama and French [5] looked at this model in 2004. Said that while it is a good idea it does not always work because there are other things that can affect the return on an investment.
Sharpe [3] also came up with a way to measure how well an investment doing is called the Sharpe ratio. This ratio looks at how more money an investment makes than a safe investment compared to how risky it is. Treynor[4] came up with a measure that looks at the risk that affects all investments. Both of these measures are still used today to evaluate investments.
In India people started looking at the risk and return of sectors after the government opened up the markets in the early 1990s. Patel [6] did one of the studies of this kind in 2012 and found that some sectors, like the ones that make food and medicine are less risky than others like the ones that make metals and energy. Krishnamurthy [7] looked at this again in 2018. Found that these less risky sectors did well during a time of economic stress.
The COVID-19 pandemic was a test of how well different sectors can handle problems. Mohanty and Singh [8] looked at how different sectors did during the pandemic. Found that some sectors, like the ones that make medicine and technology did well while others, like the ones that make food and banking did not do as well. Gupta [9] looked at this again in 2022. Found that the technology sector did very well while the banking sector took a while to recover.
Valluri and Ravi Kumar [1] did a study of different sectors in 2025 and found that some sectors, like technology and banking did well during the recovery. Salotra and Pinsky[2] looked at how to switch between sectors at different times and found that this can be a good way to make more money. The risk and return of equity markets are still being studied today. The risk and return of different sectors in India are still being looked at. The Capital Asset Pricing Model is still. The Sharpe ratio is still a good way to measure how well an investment is doing. The study of risk and return is very important, for people who want to make money by investing in equity markets.

A. Research Gap

There are two gaps in the research:

- Impact of Recent Global Trade Policies: The majority of studies on sectoral risk and return have focused on past data and traditional financial parameters such as Beta, Standard Deviation, and Sharpe Ratio. However, these studies have ignored the impact of recent global economic events, especially those triggered by changes in global trade policies and tariffs enforced by the USA in 2024 and 2025. These events have affected foreign institutional investments, exchange rate volatility, and sectoral performance in India. There is a lack of empirical research on the impact of global trade tensions on risk-return parameters for major sectors in the Indian stock market.
- Comparative Analysis of Sectoral Resilience Across Crises: The majority of studies on sectoral performance have focused on analyzing sectoral performance during

a particular economic crisis or general risk-return parameters. However, there is a lack of research on comparative sectoral performance during different types of economic crises. For instance, there is no empirical research on how sectoral performance changed for sectors such as Banking, Information Technology, Pharmaceutical, and FMCG during the market corrections triggered by the pandemic-induced market crash in 2020 compared to market corrections triggered by global trade tensions in 2025.

IV. RESEARCH METHODOLOGY

A. Objectives of the Study

The primary objective is to study the analysis of risk and return across selected sectors in the equity market. Secondary objectives include evaluating sector- risk using standard deviation and beta analyzing sector-wise returns and comparing resilience during the 2020 pandemic and 2025 trade-related market corrections.

The main goal of this study is to examine the risk and return of different sectors in the Indian stock market from 2015 to 2025. The other things we want to do are:

- To figure out the returns and average returns for each sector and also look at how much they go up and down and how risky they are.
- To see how risky each sector is, by looking at how much they go up and down and how much of that risk is because of the whole market.
- To compare how well each sector did during the COVID-19 crisis in 2020 and when there were trade problems in 2025.
- To see which sectors do well when you consider the risk using something called the Sharpe ratio and then give advice on where to invest in the Indian equity market.

B. Population and Sample

The study is about equity securities that are listed on the National Stock Exchange and the Bombay Stock Exchange as of December 2025. It is not possible to look at every security so we picked a smaller group that is a good representation of the whole. We used rules to choose these companies. First the company had to be listed on both the National Stock Exchange and the Bombay Stock Exchange from January 2015 to December 2025. This helps to make sure the data is consistent.

Second the company had to be part of a group of companies in the same sector like the NIFTY Bank group or the NIFTY IT group for most of the time from January 2015 to December 2025. This helps to make sure the companies we picked are a representation of their sector.

Third the company had to be considered cap, which means it has to have a high market value. This helps to make sure the company has money and that people can easily buy and sell its securities. We picked five companies from each of four sectors: the Banking sector, the Information Technology sector, the pharmaceuticals sector and the FMCG sector. So, in total we have twenty companies. The Banking sector companies are HDFC Bank, ICICI Bank, State Bank of India Axis Bank and Kotak Mahindra Bank. The Information Technology sector companies are Tata Consultancy Services, Infosys, HCL Technologies, Wipro and Tech Mahindra. The Pharmaceuticals sector companies are Sun Pharmaceutical Industries, Dr. Reddys Laboratories, Cipla, Divis Laboratories and Lupin. The FMCG sector companies are Hindustan Unilever Limited, ITC Limited, Nestle India, Britannia Industries and Dabur India.

These twenty companies are very important because they make up 40 to 45 percent of the total market value of the National Stock Exchange. This shows just how important the National Stock Exchange and the Bombay Stock Exchange are and how important these twenty companies are, to the National Stock Exchange and the Bombay Stock Exchange. The National Stock Exchange and the Bombay Stock Exchange are where people buy and sell equity securities like the ones we are studying.

C. Data and Sources of Data

This study is based on peoples work and it only uses financial information that is available to the public. We got the closing prices for the twenty stocks we looked at and the NIFTY 50 index from a few trusted websites like the official NSE India [14] BSE India [15] Yahoo Finance and Investing.com. The NIFTY 50 index and the twenty sample stocks data covers the time from January 2 2015 to December 31 2025. This is a total of around 2,607 days when the markets were open. We did not count the days when the markets were closed for holidays and other reasons.

To calculate the Sharpe ratio for the twenty sample stocks and the NIFTY 50 index we needed a benchmark that is considered risk-free. So, we used the return on the 91-day Government of India Treasury Bill (T-Bill) for the year. The 91-day T-Bill rate is the choice for a risk-free rate in India because it is very safe and easy to buy and sell. The average rate for the 91-day T-Bill over the time we studied was 5.50 percent per year. This works out to around 0.0212 percent per day when the markets are open. We used this number all the time when we were analyzing the data for the twenty sample stocks and the NIFTY 50 index. We got the information on T-Bill rates from the RBI's Database, on Indian Economy (DBIE) portal.

D. Statistical tools

The framework we are using looks at a lot of things. It uses statistics and financial metrics that people trust. We will go over each tool one, by one. For each tool we will talk about what the formula's what it means and why we are using it. The framework is made up of these tools. They help us understand financial performance. We are using financial performance metrics to get an understanding of things.

i) Daily Return Calculation

Daily returns are what we look at first. To find the return for a particular stock on a certain day we calculate the percentage change in the stocks adjusted closing price from the day before to the current day. We use a formula to do this: the return on day t for stock i is found by taking the adjusted closing price on day t and subtracting the adjusted closing price from the day then dividing by the adjusted closing price from the day before. This gives us Rt = (Pt. Pt-1) / Pt-1. Here Pt is the adjusted closing price on day t. Pt-1 is the adjusted closing price on the day before.

We use adjusted closing prices to account for things like stock splits, bonus issues and dividend payments. This way the returns we calculate show the change in an investor's wealth.

We also look at the returns for a sector. To do this we take the returns of the five stocks, in that sector and average them out giving each stock equal weight. This gives us the sectors portfolio return.

ii) Average Return

The average return is a number that shows how well an investment has done over a period of time. To calculate it you add up all the returns and divide by the number of days. The formula is $\bar{R} = \frac{1}{n}\sum_{i}^{n} = \mathbf{1}\ \mathbf{R_i}$. This helps to smooth out the ups and downs of the market. It can be affected by extreme changes if the market has a big crash or boom. The average return is used to compare how well different parts of the market have done.

iii) Standard Deviation

Standard deviation is a measure of how risky an investment is. It shows how much the daily returns vary from the return. The price can change a lot. If it is low the investment is more stable. People who invest and study finance use this to understand how uncertain their returns might be. The standard deviation is a way to see how much daily returns move away from the average. It is a part of figuring out the total risk of an investment, which includes both kinds of risks that can happen.

To calculate the deviation, we use a formula: $\sigma = \sqrt{[\Sigma(Ri - \bar{R})^2 / (n-1)]}$. The number at the bottom which is n−1 is used to get an accurate estimate.

When the standard deviation is high it means that the returns are all over the place, which makes it harder to predict what will happen so it is riskier.

We calculated the deviation for each day and then figured out what it would be for a whole year, by multiplying it by the square root of 252.Sectors that have a standard deviation are usually thought to be riskier. We also need to look at how much return we get for that risk, which is called the risk-adjusted return or the Sharpe ratio to get a better idea of which sectors are really the riskiest. The standard deviation is a thing to consider when looking at the risk of a sector and it can help us understand how much risk we are taking on when we invest in something.

iv) Beta

Beta is a measure that shows how risk a sectors portfolio has compared to the whole market, which is represented by the NIFTY 50. To calculate beta, we take the covariance of the sectors returns and the NIFTY 50s daily returns and divide it by the variance of the NIFTY 50s daily returns.

The formula for beta is: $\boldsymbol{\beta = Cov(R_i, R_m) / Var(R_m).}$

A beta of 1.0 means the sector moves like the market. If the beta is greater than 1.0 the sector is riskier and more volatile than the market. We call sectors aggressive. On the other hand, a beta of less than 1.0 means the sector is less sensitive to market changes and is considered defensive.

All four sectors in this study have betas than 1.0. This shows that they are less volatile and have diversification benefits compared to investing in the market. The sectoral portfolios provide an investment option. These sectors move differently from the market. Their betas are low which is a thing for investors looking for stable investments.

v) Sharpe Ratio

The formula is $\mathbf{S = \bar{R} - R_f. / \sigma_p.}$

The Sharpe ratio, which was created by William F. Sharpe in 1966 is the most widely used measure of how well an investment does when you consider the risk. The Sharpe ratio is calculated by taking the return you get and dividing it by the total risk. This can be written as a formula: the Sharpe ratio equals the daily return of the investment sector minus the risk-free rate, all divided by the standard deviation of the daily returns.

The Sharpe ratio is a way to compare investments. A high Sharpe ratio is good because it means you get a better return for the risk you take. If the Sharpe ratio is negative that means the investment did not do well as something that is risk free. The Sharpe ratio is useful for looking at investments and comparing them to each other. This is because the Sharpe ratio helps you understand how well an investment does when you consider the risk. The Sharpe ratio is a way to compare the Sharpe ratio of one investment to another.

For example, the Sharpe ratio can help you compare two investments with risks. The Sharpe ratio is a measure of how well an investment does when you consider the risk. The Sharpe ratio is the same, for everyone so it is a way to compare investments. The Sharpe ratio is a measure of the Sharpe ratio. It is used to compare the Sharpe ratio of investments. The Sharpe ratio is a way to look at the Sharpe ratio of an investment.

V. RESULTS AND DISCUSSION

A. Results of Descriptive Statistics of Study Variables

Table 1: Presents the descriptive statistics — minimum, maximum, mean, and standard deviation — of daily returns for the NIFTY 50 index and the four sectoral portfolios over the full 2015–2025 study period

Variable	Minimum	Maximum	Mean	Std. Deviation
NIFTY50 Index	-0.130	0.088	0.0005	0.0102
Banking	-0.194	0.097	0.0006	0.0129
IT	-0.047	0.041	0.0005	0.0095
Pharma	-0.251	0.076	0.0003	0.0116
FMCG	-0.245	0.045	0.0004	0.0097

Table 1 shows us the standard deviation, highest and lowest values for the market and sector variables in this study, which are based on daily returns. The statistics tell us that the average values for NIFTY50 Index, Banking, IT, Pharma and FMCG are 0.0005, 0.0006, 0.0005, 0.0003 and 0.0004 respectively. We also see that the highest values for NIFTY50 Index, Banking, IT, Pharma and FMCG sectors during this study were 0.088, 0.097 0.041 0.076 and 0.045. The standard deviations for each variable show how the data is spread out around its value. Looking at the sectors we analyzed we find that the Banking sector has the volatility, which is 0.0129. On the hand the IT sector has the least volatility, which is 0.0095.

The statistics also show that the values for NIFTY50 Index, Banking, IT, Pharma and FMCG do not follow a pattern around their average and variance. This means that the overall stock returns for NIFTY50 Index and these specific sectors are very sensitive to changes that happen from time to time and to what people think will happen. To understand this the study finds that because the data for NIFTY50

Index, Banking, IT, Pharma and FMCG is sensitive to changes and what people think, it creates opportunities for investors to make more money than usual. However, investors also have to deal with the ups and downs of the market, across these equity sectors including NIFTY50 Index, Banking, IT, Pharma and FMCG.

The standard deviation numbers are very interesting. The Banking sector has the standard deviation of 0.0129. This is 26.5 percent higher than the benchmark NIFTY 50 which is 0.0102. This shows that the Banking sector is the volatile sector. The IT sector has the standard deviation of 0.0095. This is a little lower than the benchmark. This is because big technology companies have prices that do not change much during the day. The FMCG sectors standard deviation is 0.0097. This is also lower than the market benchmark. This is because the FMCG sector is defensive and not affected by cycles.

It is worth noting that the pharmaceutical sector had the single-day loss of -0.2510. The Banking sector had the single-day gain of 0.0970. These big losses and gains show that unexpected events can have an impact. The Pharmaceutical sectors big loss was likely due to an action by the USFDA.

The Banking sectors big gain was likely due to a rally after a crisis or a big announcement by the RBI. These extreme events show that investors, in these sectors need to be prepared for events.

B. Full-Period Risk-Return Summary (2015–2025)

Table 2 shows us the risk and return for each sector over the period from 2015 to 2025. It includes things like the Sharpe ratio and beta coefficient for each sector. This table is really important for comparing how well each sector did. The information, in Table 2 helps us understand the performance of each sector.

The FMCG sector does really well when you consider the risk. It has the Sharpe ratio of 0.001427. This is because the FMCG sector has stable returns and very low volatility of 0.01872. The FMCG sector is the stable of all four sectors.

The Banking sector has a Sharpe ratio of 0.000677. This is good. Not as good as the FMCG sector. The Banking sector has the average return but it is also very volatile. The IT and Pharmaceutical sectors do not do well.

Table 2: Full-Period Risk-Return Summary (2015–2025)

Sector	Mean Daily Return	Std. Deviation	Beta	Sharpe Ratio
Banking	0.0006	0.02653	0.3502	0.000677
IT	0.0005	0.02213	0.2864	-0.003024
Pharma	0.0003	0.02387	0.2217	-0.003961
FMCG	0.0004	0.01872	0.1282	0.001427

They have Sharpe ratios of −0.003024 and −0.003961. This means that these sectors did not give investors returns for the risk they took. The main reason for this is that the IT and Pharmaceutical sectors did badly in 2025. They had made some gains from 2020 to 2024. They lost all of that in 2025.

All four sectors have coefficients that are less than 1.0. This means that they are all less risky than the market. The FMCG sector has the beta of 0.1282. This makes it the safest sector. If the market moves by 10 percent the FMCG sector will only move by 1.28 percent. The Banking sector has the beta of 0.3502. This means that it is closely tied to the overall market. This makes sense because the Banking sector is an indicator of how the economy is doing. The FMCG sector and the Banking sector are very different, in terms of risk. The FMCG sector is very stable while the Banking sector is more volatile.

C. Evidence on the Impact of Global Trade Policies and Crisis Resilience

Table 3: Sector-Wise Risk-Return Summary

Sector	Risk 2020	Risk Before 2025	Risk 2025	Return 2020	Return Before 2025	Return 2025
Banking	0.44906	0.13043	0.110108	-0.00346	0.00157	-0.00084
IT	0.25248	0.10298	0.076115	0.00708	0.00220	-0.00253
Pharma	0.36425	0.10920	0.173462	0.01635	0.00191	-0.00437
FMCG	0.25157	0.09599	0.111504	0.00094	0.00198	0.00093

Table 3 shows us the analysis of risk and return across sectors and three time periods. 2020, Before 2025 and 2025. And Shows changes in how the market behaves.

The IT and Pharma sectors have Sharpe ratios, which are -0.003024 and -0.003961. This means they did not do well compared to an investment. They did poorly in 2025, which made their overall performance look bad. All sectors have a beta of than 1. This shows they are not as affected by the market as the NIFTY 50.

The FMCG sector has the beta at 0.1282. This shows it is very stable and not easily affected by market changes. The IT sector and Pharma sector did not perform well over time. They are less risky, than the market. The FMCG sector is the stable.

i) Risk Analysis

- The banking sectors risk goes down a lot from 0.44906 in 2020 to 0.110108 in 2025. This means it is more stable over time.

- The IT sector also has risk, which means it is more resilient and mature.
- The pharma sectors risk goes up in 2025 to 0.173462 compared to before 2025. This means there is uncertainty.
- The FMCG sector has stable risk but it goes up a bit in 2025.

ii) Return Analysis

In 2020 returns are mixed. Pharma and IT have positive returns but banking has negative returns. Before 2025 all sectors have returns. This means they are growing steadily. However, in 2025 most sectors. Banking, IT and pharma. Have returns. The FMCG sectors returns are slightly positive.

D. Beta Analysis - Systematic Risk Assessment

The beta coefficient is a way to measure the risk that affects the market. This is the part of a sectors risk that you cannot get rid of no matter what you do. It is driven by picture things that affect the whole economy. When you look at the values for individual companies in all sectors you see some interesting things.

In the Banking sector Axis Bank and SBI have values that are a bit higher around 0.45 to 0.55. Kotak Mahindra Bank has a lower beta, around 0.28. This is because Kotak Mahindra Bank is more careful with its lending and its stock is valued highly.

In the IT sector Tech Mahindra is more sensitive to what's happening in the market compared to TCS and Infosys. This is because TCS and Infosys have stable sources of money coming in.

In the Pharma sector Divis Laboratories and Lupin have beta values. This is because they export a lot to places with rules. But Sun Pharma has a varied portfolio so its beta value is lower.

Companies that make things people use every day like food and toiletries have beta values. HUL and Nestle India are examples of this. The beta value for this sector is very low, around 0.1282. This means that if the market as a whole like the NIFTY 50 moves up or down by 10 percent the companies in this sector will only move by 1.28 percent. This makes them a good way to protect against big downturns, in the market.

E. Comparative Sectoral Analysis Across Crisis Period

Table 4 shows the important thing we found in this study: we compared the risk and return of different sectors over three different time periods. The 2020 COVID-19 crisis, the calm period before 2025 from 2015, to 2024 and the 2025 global trade tariff disruption.

Table 4: Comparative Sectoral Risk and Return Analysis: 2020, Pre-2025, and 2025

Sector	Risk 2020	Risk pre-2025	Risk 2025	Return 2020	Return pre-2025	Return 2025
Banking	0.4491	0.1304	0.1101	-0.00346	0.00157	-0.00084
IT	0.2525	0.1030	0.0761	0.00708	0.00220	-0.00253
Pharma	0.3642	0.1092	0.1735	0.01635	0.00191	-0.00437
FMCG	0.2516	0.0960	0.1115	0.00094	0.00198	0.00093

i) Risk Analysis Across Periods

The COVID-19 crisis in the year 2020 was a tough time for all areas of business. The Banking sector had the risk at 0.4491 because people were worried about loan defaults, credit moratoria and the RBI taking emergency measures. The Pharma sector had a risk of 0.3642 in 2020 which's worth mentioning. Even though the Pharma sector was doing well the prices of pharmaceutical stocks were changing really fast because of speculation about COVID-19 vaccines and drugs.

Before 2025 from 2015 to 2024 the risk levels went down a lot in all areas as the markets started to calm down. The Banking sectors risk went down to 0.1304 and the IT and FMCG sectors had the risk levels at 0.1030 and 0.0960. This time was the stable part of the study because companies were making steady money and the monetary policy was supportive.

The year 2025 is a bit more complicated when it comes to risk. The Banking sectors risk went down more to 0.1101 but the Pharma sectors risk went up a lot to 0.1735 which was the highest in all sectors that year. This was because of problems that were specific to the Pharma sector like the USFDA taking action against API manufacturers because of changes in the supply chain due to the US trade tariff framework. The FMCG sectors risk also went up a bit to 0.1115 in 2025 because the cost of inputs was going up due to changes in commodity prices, which was caused by problems, in trade.

ii) Return Analysis Across Periods

In 2020 the returns were really different from one sector to another. The Pharma sector did the best with a return of 0.01635. This was because people were buying a lot of healthcare products and companies were making a lot of money from exports. The IT sector also did well with a return of 0.00708 because many companies were moving to work and spending more on digital technology. On the hand the Banking sector did poorly with a return of -0.00346 because people were worried about the quality of the bank's assets and they were not lending as much money.

From 2015 to 2024 all sectors were doing well. Making money. The Banking sector had a return of 0.00157 the IT sector had a return of 0.00220 the Pharma sector had a return of 0.00191 and the FMCG sector had a return of 0.00198. All of these sectors were doing better than the risk-rate, which means that people who invested in them for the long term made money.

In 2025 things. Three out of four sectors did not do well. The Banking sector had a return of -0.00084. The IT sector had a return of -0.00253. This was because there was uncertainty about trade tariffs and companies were not spending much money on information technology. The Pharma sector was the worst with a return of -0.00437 because it was facing problems with regulations and its costs were going up. The only sector that did okay was the FMCG sector, which had a return of 0.00093. This shows

that the FMCG sector is a place to invest when there is a lot of uncertainty, about what the government will do.

F. COVID-19 vs. 2025 Trade Disruption: A Comparative Resilience Framework

This study tells us something for people who manage investments: what kind of crisis happens determines which areas of business do well. The COVID-19 pandemic in 2020 was a problem that affected peoples health and that helped the healthcare and technology industries but it really hurt the financial services industry, like banking.

On the hand the trade problems in 2025 were a big issue because of policies and uncertainty and that hurt industries that rely on exports, like technology and healthcare and it also hurt industries that rely on credit like banking. It did not hurt industries that people always need, like the companies that make everyday things, such as food and toiletries.

This is important for people who manage investments. To have a portfolio that can really withstand problems you need to have a mix of companies that make things, like food and toiletries which are not affected by policy changes and companies, like healthcare, which do well when there are big health problems. If you only invest in one type of company you might not be protected when different kinds of crises happen.

G. Discussion

The Indian equity research has some results. The Banking sector is an example of how higher returns can come with higher risks. The Banking sector has a beta of 0.3502 and a standard deviation of 0.02653, which means it is very sensitive to the market. Can be volatile. Even with this risk the Banking sector had a positive Sharpe ratio of 0.000677 over the whole period, which is good news for investors who are patient and willing to take risks.

The FMCG sector is really good at managing risk. It had the Sharpe ratio of 0.001427 and was the only sector that made money in both 2020 and 2025 which were very different times for the market. This shows that the FMCG sector is a choice for investors who want to play it safe.

The IT and Pharma sectors did not do well with negative Sharpe ratios of -0.003024 and -0.003961. This was mostly because of what happened in 2025, which wiped out the gains they had made. If we look at the period from 2015 to 2024 both sectors would have had positive Sharpe ratios, which means they were doing okay until the trade policies changed. Investors who got out of these sectors in 2025, when they saw signs of trade policies getting tougher would have done much better than those who just held on.

One thing that stands out is that the risks in sectors started to look more similar after 2020. As the markets got better and more mature the difference between the risks in the Banking sector and the FMCG sector got smaller. For example, the Banking sectors risk went from 0.4491 in 2020 to 0.1101 in 2025. The FMCG sectors risk went from 0.2516 in 2020 to 0.1115 in 2025. This means that the markets are getting more efficient and are pricing the risks of each sector accurately so investors should focus on which sectors will give them the best returns rather, than just looking at the risks.

VI. SUGGESTIONS AND CONCLUSION

A. Suggestions

When we look at the numbers, we can give some advice to investors people who manage portfolios and those who make policies.

Here are the things to consider:

- The way we set up our portfolios is important. We should have a core of stocks like the ones from companies that make things people always need and then add some other stocks that have a chance to grow, like banking and technology stocks. This way we have a balance between being safe and having the chance to make more money.
- We should also have a plan for when things go wrong. When the government is not sure what to do we should put more of our money into stocks like the ones from companies that make things people always need and pharmaceutical stocks. When people are not buying as much, we should put more money into technology and pharmaceutical stocks. We can use a system to switch our money around based on what is happening in the economy.
- When we are choosing which stocks to buy, we should think about how risk we are taking. The companies that make things people always need are a choice because they are safe and give us a good return on our money. Just because banking stocks might make money it does not mean they are the best choice because they can also lose more money.
- Big investors should also keep an eye on how risk they are taking. When the market is doing well, they can put money into stocks that have a chance to grow, like banking and technology stocks. When things are not going well, they should put more money into safe stocks, like the ones from companies that make things people always need to make sure they do not lose too much money.

B. Conclusion

This study looks at how four major Indian equity sectors did over ten years from 2015 to 2025. It uses the closing prices of twenty big stocks to see how each sector did. The study looks at how money each sector made how much risk it took and how well it did compared to the market. It also looks at how each sector did during the pandemic in 2020 and the trade problems in 2025.

The main thing the study found is that no one sector is the best in every way. The Banking sector generated the highest return but it was not the safest. The FMCG sector did the best when you consider the risk. It did well in all kinds of markets. The IT sector is good for growth. It can be hurt by trade policies. The Pharma sector does well when people need medicine. It has a lot of risks when it comes to rules and getting supplies.

These findings show that it is important to invest in different sectors and to consider the risks. They also show that the trade problems in 2025 are a type of risk that needs to be considered when investing in Indian equities. More research should be done on how trade policies affect the equity market. This will help us understand the market better and make investment decisions.

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CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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