



## SENSITIVITY OF COGNITIVE INVESTMENT DECISION AS A STRATEGIC RATIONALE IN POST PANDEMIC ERA

**Dr. Manoj Kumara N V**

*Assistant Professor, Department of Management Sciences, Maharaja Institute of Technology Mysore, Karnataka, India .*

### **Abstract**

*The pandemic times have dramatically changed the global financial market. Investors' risk and return expectations have shifted over the time, prompting them to reallocate their investment portfolios. The study aims to investigate the volatility of the stock returns and also examine the significant difference between pre and post pandemic performance of selected stock returns. The analysis is to examine the stock returns of 3 major sectors consisting of 5 selected NSE companies in each sector based on its market capitalization. The data considering the study period of six months weekly price of stock in both pre and post period respectively. The study use descriptive statistics, paired sample correlations and paired sample t-test to proven the stated hypothesis. The study found that in all three selected sector the stock return resulted insignificant compare to pre and post pandemic period. It is also observed that the paired t-test also resulted insignificant in all cases. The correlation resulted insignificant in automobile sector and significant in pharmaceutical and IT sector at 5% and 10% significance level. Hence, the study found that negative correlation between the pre and post stock returns. In post pandemic era, there are times where the key indices of Indian stock exchanges dropped by 40% and also shown an increase of 14% - 15%, which has been an all-time high benchmark in the market. This made the investors become highly skeptical to pour fresh funds into the market.*

**Keywords:** *Investment, Stock Volatility, Returns, Correlation, Paired T-Test.*

### **Introduction**

The pandemic times have dramatically changed the global financial market. Investors' risk and return expectations have shifted over the time, prompting them to reallocate their investment portfolios. Due to this, the Indian financial market had become highly volatile, and caused unprecedented disruption to the actual operations of every industry that put the investors into jeopardy and abruptly changed the global picture. In post pandemic times, the values of key Indian stock indices have dropped by 40% that increased the need of making informed investment decisions by the investors. The recession changed the overall market outlook and individual investing behaviour massively. Investors tend to make rational decisions by conducting fundamental and technical financial analysis rather than prioritising their gut feeling about the future financial conditions of the market. Hence, cognitive investment decision making process paved way to make an informed play with their risks and returns by the Indian investors.

### **Theoretical Background**

#### **Investment Decision**

The urge to plan for an investment by an individual is based on the past profit experiences and desire to get high return over less investments. In this process, one considers the rate of return, intensity of risk and cost of finance associated with investment opportunity ahead him. Investment decision relates to how a set of funds to be invested on different assets, so that the individual or a firm could gain maximum return. It identifies the optimality that exists between the risks and return of an investment. It is done by conducting fundamental market analysis considering the financial basis of business operations and identifies the securities which are currently undervalued in the market. This helps to add or remove an asset from the investment portfolio and it helps to understand the market sensitivity in order to make a right investment at the right time.

#### **Market Condition at Post Pandemic Era**

Amidst of all economic, social and political chaos caused by the pandemic, global financial market was not left unaffected. COVID-19 has had the greatest influence on equities, bonds, and exchange rates in emerging



economy like India, as well as rapid and significant capital outflows. Several reports show that 142 lakhs new investors joined during the onset of pandemic in India. Consequently, pandemic resulted in increase in oil prices, high industrial operational costs, strategic planning and brought dramatic change in supply chain management system. And the country noticed a dropped down macroeconomic metrics in terms of GDP, trade and commodity exchanges. This brought drastic impact over valuation of the companies and consequently increased the volatility and uncertainty in the Indian stock market. The market fluctuations were at peak due to the frequent change in rates, as well as the novel challenges and strategies facing by corporates in India. In post pandemic era, there are times where the key indices of Indian stock exchanges dropped by 40% and also shown an increase of 14% – 15%, which has been an all-time high benchmark in the market. This made the investors become highly sceptical to pour fresh funds into the market.

### **Risk & Return**

In every investment, the profit or loss are estimated with the risk and return associated with it. Risk is nothing but any uncertainty that has the potential to affect negatively on an investor's investment returns. For example, if there is any change in corporate decisions, it is business risk. If any policies changed by the government, it is legislative risk. If there might rise or fall of stock price, it is considered as market risks. Experts suggest that the amount of risk associated with certain investment typically correlates with the high possible returns out of it for an investor. However, there are various risks need to be considered before an investor decide to make an investment. The very primary risks might include taxability risks, inflationary risks, market risks, company risks, political risks, regulatory risks, global and domestic economic conditions and their impacts, liquidity risks, interest rate fluctuations and so on. Where other risks such as social risks, currency risks might also cause an impact on the return on investment as well as on the stock price.

Risk and return are seldom directly proportional to each other. This makes an investor to show willingness towards making perpetual investments. Historically, stocks are much riskier than corporate bonds, treasury bills or other investment portfolios. The trade-off exist with every investment is that higher returns come with greater risks. Sometimes, it becomes more difficult to determine whether the rate of return would be equal to historical long-term average. Investors can gain more returns by managing the risks by proper asset allocation and diversification of investments in various asset classes.

### **Literature Review**

Arpita Gurbaxani (2021) brings out effects of how covid-19 pandemic has impacted investment and financial decisions of individuals in small towns in developing nations such as India 7 what are all the challenges they faced during that difficult time. The respondents collected from service sector or owned businesses. It studied relationship between the COVID-19 pandemic and change in investment decisions of individuals. Kannadas S (2021) It analysed about investment activity followed by household and external savings, and investor's investment motives and actions to find better investment strategies and to do systematic review of the investment behaviour available for both short- and long-term individual investors. Abid Hussain Nawaz (2020) examined the stock investment in capital market by investors in pandemic covid-19, it analyse behavioural factors that affect the preferences of individual's investors and fund managers in the emerging stock market, Pakistan Stock Exchange. The data collected from structured & semi structured interview with five fund managers from the stock exchange from Pakistan. It used thematic analysis for data interpretation.

Roshal Chinnu Vinu (2020) the influence of psychology on the behavioural of investor's or financial analyst and its subsequent effects on market. It analyse the behaviour of investors towards investment pattern to analyse the factor influence on investment. They used exploratory and descriptive methodology to analyse the data. Jeet Singh (2019) brings out the factors which major influence on the share investment decisions. It tries to find the perception of male and female investors regarding various considerations to be kept in mind while investing in the equity market & also variety of investment alternatives. The 100 samples collected from investors in Moradabad city of UP. Ashish Dewan, R Gayatri, Rishi Dewan (2019) studied on identifying the factors which affecting investment behaviour of corporate and individual investors, and also it makes comparative study of investment



behaviour of both the corporate and individual investors from Southern India. The data collected from 576 investors of southern India. Gede Adiputra (2019) aimed to determine the influence of over confidence, herding effect, self-monitoring on investment decision during the covid-19 pandemic. It consist of 255 individual's samples who already earned the income during the pandemic located in Indonesia, it used non probability sampling method to examine the data.

Byju K (2018) examined investment behaviour of general public in Palakkad district in shares. This study consists of convenient sampling technique.it related to awareness about investment in shares, factors considered in selecting share as investment. Study on investment behaviour among information technology professionals in Tamilnadu. The aims of this is to reveal the demographic profile of the information technology professionals & to analyses the difference between demographic profiles of information technology professionals with respect to various factors influencing investment. Dr. Tarak Nath Sahu (2018) examined the analysis of investment behaviour of particular individual investors of stock market to verify whether there is any impact of independent variables(demographic factors, awareness and perceived risk).& primary data from 400 randomly selected individual investors of stock market from various districts of West Bengal using a structured questionnaire on five point Likert scale. Mugdha Shailendra Kulkarni (2018) examined behavioural finance studies how people actually behave in financial setting.it studied how psychological biases affect investors.it helps to investment managers understand the perceptions of their client. Bhavikswadia (2018) This study tries to find out investment behaviour of middle income class investors in Ahmedabad city. It also focused towards discovery the difference in selection of investment pattern in different age group and income classes' people in Ahmedabad city.

Mark KY Mak1 and WH Ip2 (2017)It studied about significant role of financial industry in mainland Chinese and Hong Kong economies, It analyse the cautions towards financial investment which makes it difficult for financial service providers to formulate marketing strategies after experiencing several financial crises. Prof. Sumandiran Prithiviraj (2016) aims to find the behaviour of individual investors from Coimbatore city towards available investment avenues in Indian financial markets. This also analyse factors affecting the Investment decision and to find out the risk tolerance level of individual investors with respect to demographic variables. Ms. Priya Kansal (2015)This study examines factors which influence the investment behaviour of women such as age, level of education, their marital status, income, dependency etc. The sample respondents collected from 52 major states, and the sample size is 38412. Brad M. Barbera and Terrance Odeanb (2014) examined the real individual investor's behaviour, it covers the powerful insights into how markets work.it carefully assesses the risk and return of all possible investment options to arrive at an investment portfolio. N. Geetha, Dr. M. Ramesh (2011) brings out investment choices and most appropriate one to invest. It explains how person dealing with planning to must know all the various investments choices and how these can be chosen for the purpose of attaining the overall objectives. The respondents collected from town, it used descriptive statistics and chi square technique.

### **Research Gaps**

There are very few studies are made on measures can be taken to educate the investors about risk and returns. So that achieving investment objectives need a market knowledge and investment techniques. Investor's responses were biased and it is vary from time to time as well situation to situation. It analyse the critical perception gaps that investors behaviour is very crucial Most of the literature studied based on investors behaviour, features, (income, age, gender) if the research try to include common people perception towards the investment patterns it would me more weightage.

### **Objective of the Study**

- 1 To investigate the volatility of the stock prices based on the returns calculation.
- 2 To examine significant difference between pre and post pandemic performance of selected stock returns.



## Research Methodology

### Research Method

This paper follows the descriptive research method as it aims at describing how to make strategic rationale investment decisions with special reference to post pandemic times. The research considers post pandemic market conditions and associated risks that can impact maximum financial returns and welfare of an investor.

### Sampling Design

**1. Sample Method:** This study conducted by following simple random sampling method. The data in the analysis is an indicative of sector-wise performance of the Indian stock market. Sectors primarily focused in this paper are Automobile Industry, Pharmaceutical Industry and Information Technology (IT) Industry.

**2. Sampling Technique:** The technique included is convenient sampling where the companies finalised in each industry taken is based on their market capitalisation.

**3. Sample Size:** This study considered 5 companies from three sectors that are drawn as a sample from the NSE listed companies.

### Sample:

Table 1: Selected Company Details				
Sr. No	Company Name	BSE Scrip Code	NSE Symbol	CMP as on Mar 08, 2022 (In Rs)
<b>AUTOMOBILE SECTOR</b>				
1	Maruti Suzuki	532500	MARUTI	6,805.20
2	Tata Motors	500570	TATAMOTORS	391.8
3	Hero Motocorp	500182	HEROMOTOCO	2,251.40
4	TVS Motors	532343	TVSMOTOR	534.8
5	Bajaj Auto	532977	BAJAJ-AUTO	3,314.25
<b>PHARMACEUTICAL SECTOR</b>				
1	Sun Pharmaceutical Industries Ltd.	524715	SUNPHARMA	885.6
2	Dr. Reddys Laboratories Ltd.	500124	DRREDDY	3,888.40
3	Divis Laboratories Ltd.	532488	DIVISLAB	4,218.10
4	Cipla Ltd.	500087	CIPLA	933.4
5	Biocon Ltd.	532523	BIOCON	319.9
<b>INFORMATION TECHNOLOGY SECTOR</b>				
1	Tata Consultancy Service	532540	TCS	3416.35
2	Infosys	500209	INFY	1507.30
3	HCL Technologies	532281	HCLTECH	1027.00
4	Wipro Limited	507685	WIPRO	470.65
5	Redington India Ltd	532805	REDINGTON	129.50

Source: Moneycontrol database



### Sources of Data

The data collected for the analysis of this paper are secondary data which are sourced from various reports, journals and articles available in websites like research gate, science direct and so on.

### Tools of the Study

**1. Financial Tool:** Risk & Return

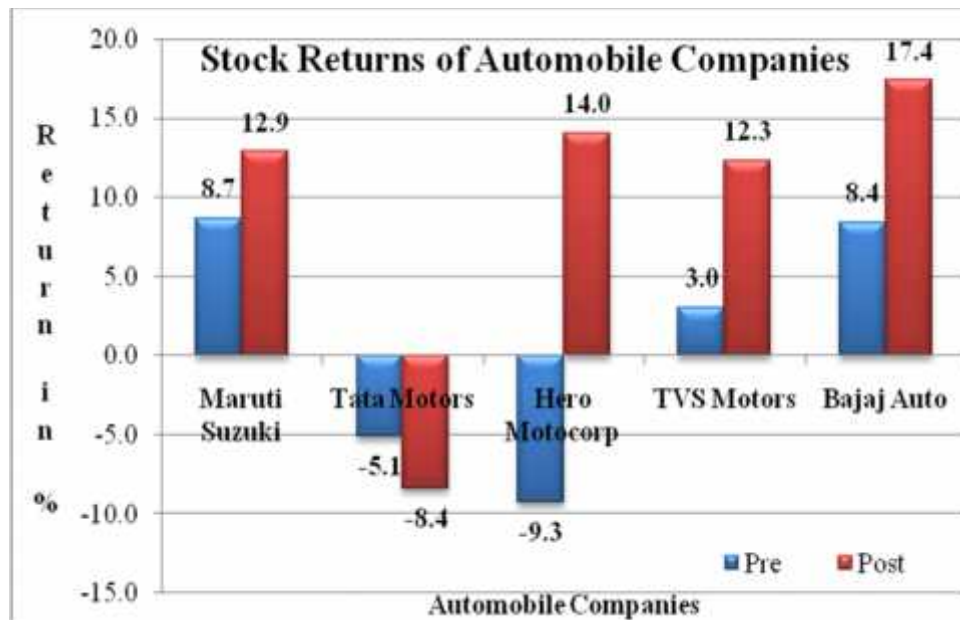
**2. Statistical Tool:** Descriptive statistics: It helps to ascertain the variation in the stock prices using Mean, standard deviation and co-variance. T-test: T-test helps to determine the mean difference between two or more stock returns.

### Hypothesis of the Study

**H<sub>0</sub>:** There is no significant difference between pre and post pandemic performance of selected stock returns.

### Analysis and Interpretation

The analysis is to examine the stock returns of 3 major sectors consisting of 5 selected NSE companies in each sector based on its market capitalization. The data considering the study period of six months weekly price of stock in both pre and post period respectively. The study use descriptive statistics, paired sample correlations and paired sample t-test to proven the stated hypothesis. Firstly, researcher try to investigate the volatility of the stock prices based on the returns calculation. The below charts represent six months pre and post pandemic period returns of selected securities in three sector.



**Chart 1: Percentage of Stock Return in Automobile Companies**

From the above chart 1 shows the calculation of stock returns of major five selected based on its market capitalization of NSE listed companies in Automobile companies considering the study period of six months weekly price of stock in both pre and post period respectively. Firstly, the Maruti Suzuki has reported a stock return at 8.7% in pre pandemic period (June – Nov -2019) and it is observed that, there is drastically increased by 12.9% in the performance of the stock in post comparison period (Dec 2021 – May-2022) so, that the company which positively enhanced the value of the market share compare to pre pandemic period. Secondly, the Tata Motors has reported negative stock return at -5.1% in pre pandemic period and it decreased further by -8.4% in the post pandemic period. So, the stock value of Tata Motors has been reported negative value in both pre and



post-pandemic stock performance era. Thirdly, Hero Motocorp has reported a negative stock return at -9.3% in pre pandemic period and it is observed that, it substantially increased by 14.0% in the performance of the stock in post comparison period. So, that the company has positively inflated the value of the market share compare to pre pandemic period.

Fourthly, TVS Motors reported a very low stock return at 3.0% in pre-pandemic period whereas the stock return value quadrupled to 12.3% during post-pandemic performance. Hence, company noticed a high positive value of stock return from pre to post pandemic period. Finally, Bajaj Auto which has reported a stock return at 8.4% in pre-pandemic period and the stock value has been increased more than its double at 17.4 during post-pandemic times. Therefore, the company has reported a positive stock performance rate when compare to pre to post pandemic period.

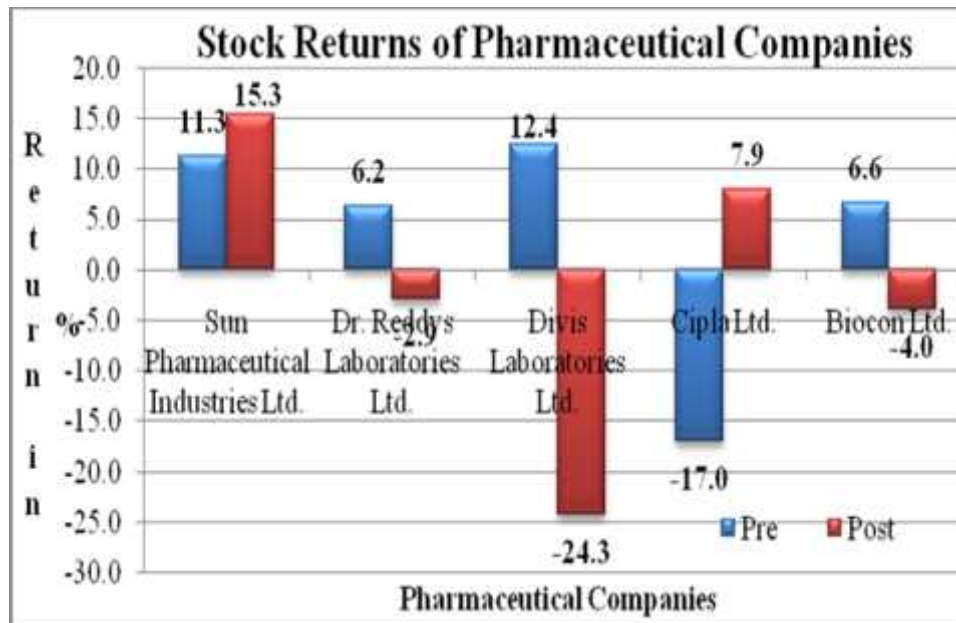
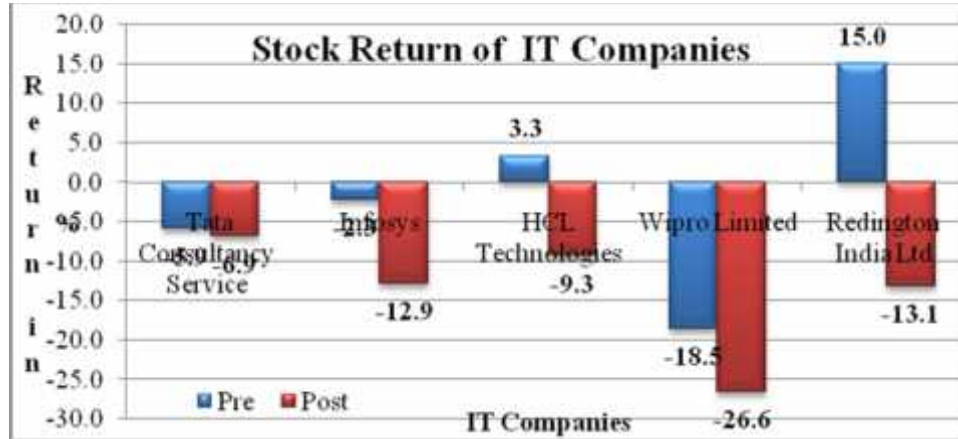


Chart 2: Percentage of Stock Return in Pharmaceutical Companies

From the above chart 2 shows the calculation of stock returns of major five selected based on its market capitalization of NSE listed companies in Pharmaceutical companies considering the study period of six months weekly price of stock in both pre and post period respectively. Firstly, the Sun Pharmaceutical Industries Ltd. has reported a stock return at 11.3% in pre pandemic period (June – Nov -2019) and it is observed that, it eventually increased by 15.3% in the performance of the stock in post comparison period (Dec 2021 – May-2022). So that the company which positively enhanced the value of the market share, compare to pre pandemic period. Secondly, the Dr. Reddys Laboratories Ltd has reported stock return at 6.2% in pre pandemic period and it has been decreased by -2.9% in post comparison period. So that the company stock performance reduced in pre to post comparison times. Thirdly, the Davis Laboratories Ltd has reported a stock return at 12.4% in pre pandemic period and a drastic decrease of stock return is observed at -24.3% in post pandemic period. Hence, the company has negatively impacted during post comparison period due to pandemic in terms of stock value. Fourthly, the Cipla Ltd which has reported a negative stock return at -17.0% in pre-pandemic times and gradually increased its performance value with a stock return of 7.9% after pandemic period. So, there is a significant increase in the stock value performance of Cipla Ltd when compared to pre to post pandemic period. Finally, the Biocon Ltd which has reported a stock return at 6.6% in pre-pandemic period and fall in stock return value is noticed at 4.0% in post pandemic period. Therefore, it is evident that the company's stock performance has been affected in post comparison period.



**Chart 3: Percentage of Stock Return in IT Companies**

From the above chart 3 shows the calculation of stock returns of major five selected based on its market capitalization of NSE listed companies in IT companies considering the study period of six months weekly price of stock in both pre and post period respectively. Firstly, the Tata Consultancy Service has reported a stock return at -5.9% in pre pandemic period (June – Nov -2019) and it is observed that, it has eventually decreased by -6.9% in the performance of the stock in post comparison period (Dec 2021 – May-2022). So that the company which negatively affected in terms of value of the market share compare to pre pandemic period. Secondly, the Infosys has reported negative stock return at -2.3% in pre pandemic period and it decreased drastically by -12.9% in the post pandemic period. So, the stock value of Infosys has been reported negative value in both pre and post-pandemic stock performance era. Thirdly, HCL Technologies has reported a positive stock return at 3.3% in pre pandemic period and it is observed that, it has been reduced by -9.3% in the performance of the stock in post comparison period. So, that the company experienced a negative impact in terms of value of the market share compare to pre pandemic period.

Fourthly, Wipro Ltd reported a very low stock return at -18.5% in pre-pandemic period whereas the stock return value further decreased to -26.6% during post-pandemic performance. Hence, company noticed a highly negative value of stock return from pre to post pandemic period. Finally, Redington India Ltd which has reported a stock return at 15.0% in pre-pandemic period and the stock value has been substantially decreased at -13.1% during post-pandemic times. Therefore, the company has reported a negative stock performance rate when compare to pre to post pandemic period.

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
PRR	130	-.13	.18	.0005	.04637	.002
POR	130	-.15	.09	.0037	.04501	.002
Valid N (listwise)	130					

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRR	.0005	130	.04637	.00407
	POR	.0037	130	.04501	.00395



		N	Correlation	Sig.
Pair 1	PRR & POR	130	.045	.610

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PRR - POR	-.00324	.06315	.00554	-.01419	.00772	-.584	129	.560

Source: SPSS Database Output-Author Calculations

From the above table represents the calculation of descriptive statistics, paired correlation and Paired t-test considering 6 months weekly returns in pre and post pandemic period from Pre (June – Nov -2019)& Post (Dec 2021 – May-2022) of selected automobile stocks in NSE respectively. Table 2 shows the descriptive statistics, where in total observation of 130 mean of pre returns results 0.005 & in post, it is 0.037 with the variance of 0.002 & SD at 4.55% change. Table 4 observes that, positive correlation exists between pre and post stock returns of automobile sector but weak relationship has found between these two variables since it is results statistically insignificant. Table 5 reveals that the paired average of negative mean i.e. -0.00324 and it is proven that there is insignificant changes establish between pre and post stock returns of selected automobile companies.

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
PRR	130	-.12	.10	.0015	.03755	.001
POR	130	-.18	.13	-.0006	.04633	.002

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRR	.0015	130	.03755	.00329
	POR	-.0006	130	.04633	.00406

		N	Correlation	Sig.
Pair 1	PRR & POR	130	-.184	.037





	Paired Differences						t	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pair 1 PRR - POR	.00212	.06477	.00568	-.00912	.01336	.373	129	.710	

Source: SPSS Database Output-Author Calculations

From the above table represents the calculation of descriptive statistics, paired correlation and Paired t-test considering 6 months weekly returns in pre and post pandemic period from Pre (June – Nov -2019) & Post (Dec 2021 – May-2022) of selected pharmaceutical stocks in NSE respectively. Table 7 shows the descriptive statistics, where in total observation of 130 mean of pre returns results 0.0015 in post, it is -0.0006 with the variance of 0.001 and 0.002 respectively & SD at 4%. Table 8 observes that, negative correlation exists between pre and post stock returns of pharmaceutical sector and weak relationship has found between these two variables since it results statistically significant. Table 9 reveals that the paired average of mean i.e. 0.00212 and it is proven that there is insignificant changes establish between pre and post stock returns of selected pharmaceutical companies.

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
PRR	130	-.13	.13	-.0006	.03532	.001
POR	130	-.14	.13	-.0053	.04298	.002
Valid N (list wise)	130					

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRR	-.0006	130	.03532	.00310
	POR	-.0053	130	.04298	.00377

		N	Correlation	Sig.
Pair 1	PRR& POR	130	-.153	.081

	Paired Differences						T	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
				Lower	Upper				
Pair 1 PRR - POR	.00468	.05967	.00523	-.00567	.01504	.895	129	.372	

Source: SPSS Database Output-Author Calculations



From the above table represents the calculation of descriptive statistics, paired correlation and Paired t-test considering 6 months weekly returns in pre and post pandemic period from Pre (June – Nov -2019) & Post (Dec 2021 – May-2022) of selected IT sector stocks in NSE respectively. Table 11 shows the descriptive statistics, where in total observation of 130 mean of pre returns results -0.0006 in post, it is -0.0053 with the variance of 0.001 and 0.002 respectively & SD at 3.7%. Table 12 observes that, negative correlation exists between pre and post stock returns of IT sector and weak relationship has found between these two variables since it results statistically significant. Table 13 reveals that the paired average of mean i.e. 0.00468 and it is proven that there is an insignificant changes establish between pre and post stock returns of selected IT companies.

<b>Table 14: Paired Samples Statistics</b>					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	com1pr	.0033	26	.03735	.00732
	com1po	.0050	26	.04562	.00895
Pair 2	com2pr	-.0020	26	.07011	.01375
	com2po	-.0033	26	.05115	.01003
Pair 3	com3pr	-.0035	26	.03528	.00692
	com3po	.0055	26	.04565	.00895
Pair 4	com4pr	.0012	26	.05308	.01041
	com4po	.0048	26	.04896	.00960
Pair 5	com5pr	.0032	26	.02616	.00513
	com5po	.0066	26	.03480	.00682
Pair 6	com6pr	.0043	26	.04240	.00832
	com6po	.0059	26	.03714	.00728
Pair 7	com7pr	.0025	26	.03023	.00593
	com7po	-.0011	26	.04375	.00858
Pair 8	com8pr	.0047	26	.03104	.00609
	com8po	-.0093	26	.05515	.01082
Pair 9	com9pr	-.0066	26	.02731	.00536
	com9po	.0030	26	.04504	.00883
Pair 10	com10pr	.0025	26	.05261	.01032
	com10po	-.0016	26	.05072	.00995
Pair 11	com11pr	-.0023	26	.02859	.00561
	com11po	-.0026	26	.02744	.00538
Pair 12	com12pr	-.0008	26	.04753	.00932
	com12po	-.0049	26	.04872	.00956
Pair 13	com13pr	.0012	26	.02424	.00475
	com13po	-.0036	26	.04303	.00844
Pair 14	com14pr	-.0070	26	.02462	.00483
	com14po	-.0102	26	.03926	.00770
Pair 15	com15pr	.0058	26	.04552	.00893
	com15po	-.0052	26	.05455	.01070

Source: SPSS Database Output-Author Calculations

From the above table represents the calculation of, paired sample statistics considering 6 months weekly returns in pre and post pandemic period from Pre (June – Nov -2019) & Post (Dec 2021 – May-2022) of selected three sectors stocks in NSE respectively. Table 14 reveals that Wipro Ltd (com14po) shows minimum mean value in post pandemic period whereas Bajaj Auto (com5po) shows maximum mean value in post pandemic period.



		N	Correlation	Sig.
Pair 1	com1pr & com1po	26	.210	.304
Pair 2	com2pr & com2po	26	-.122	.551
Pair 3	com3pr & com3po	26	.041	.843
Pair 4	com4pr & com4po	26	.204	.316
Pair 5	com5pr & com5po	26	-.058	.780
Pair 6	com6pr & com6po	26	-.227	.264
Pair 7	com7pr & com7po	26	-.249	.219
Pair 8	com8pr & com8po	26	-.116	.573
Pair 9	com9pr & com9po	26	.021	.920
Pair 10	com10pr & com10po	26	-.279	.167
Pair 11	com11pr & com11po	26	-.477	.014
Pair 12	com12pr & com12po	26	.237	.243
Pair 13	com13pr & com13po	26	.084	.685
Pair 14	com14pr & com14po	26	-.226	.266
Pair 15	com15pr & com15po	26	-.515	.007

Source: SPSS Database Output-Author Calculations

From the above table represents the calculation of, paired samples correlations considering 6 months weekly returns in pre and post pandemic period from Pre (June – Nov -2019) & Post (Dec 2021 – May-2022) of selected three sectors stocks in NSE respectively. Table 15 shows that the pair 11 i.e. com11pr & com11po (Tata Consultancy Service) and pair 15 i.e. com15pr & com15po (Redington India Ltd) results negative correlation exists between pre and post paired values. Hence, the p value which is resulted less than 0.05 in both the cases. It is proven that there is a significant relationship between pre and post returns of selected securities. The remaining companies results insignificant.

Pair		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	com1pr - com1po	-0.002	0.053	0.010	-0.023	0.020	-0.159	25	0.875
Pair 2	com2pr - com2po	0.001	0.092	0.018	-0.036	0.038	0.071	25	0.944
Pair 3	com3pr - com3po	-0.009	0.057	0.011	-0.032	0.014	-0.805	25	0.429
Pair 4	com4pr - com4po	-0.004	0.064	0.013	-0.030	0.022	-0.280	25	0.782
Pair 5	com5pr - com5po	-0.003	0.045	0.009	-0.021	0.015	-0.382	25	0.706
Pair 6	com6pr - com6po	-0.002	0.062	0.012	-0.027	0.024	-0.132	25	0.896
Pair 7	com7pr - com7po	0.004	0.059	0.012	-0.020	0.027	0.308	25	0.761



Pair 8	com8pr - com8po	0.014	0.066	0.013	-0.013	0.041	1.082	25	0.29	
Pair 9	com9pr - com9po	-0.010	0.052	0.010	-0.031	0.012	-0.933	25	0.359	
Pair 10	com10pr- com10po	0.004	0.083	0.016	-0.029	0.038	0.254	25	0.802	
Pair 11	com11pr com11po	-	0.000	0.048	0.009	-0.019	0.020	0.024	25	0.981
Pair 12	com12pr com12po	-	0.004	0.059	0.012	-0.020	0.028	0.356	25	0.725
Pair 13	com13pr com13po	-	0.005	0.048	0.009	-0.014	0.024	0.519	25	0.608
Pair 14	com14pr com14po	-	0.003	0.051	0.010	-0.017	0.024	0.316	25	0.754
Pair 15	com15pr com15po	-	0.011	0.087	0.017	-0.024	0.046	0.645	25	0.525

Source: SPSS Database Output-Author Calculations

From the above table 16 represents the calculation of, paired samples t-test considering 6 months weekly returns in pre and post pandemic period from Pre (June – Nov -2019) & Post (Dec 2021 – May-2022) of selected three sector stocks in NSE respectively. The study found that the paired mean resulted positive and negative n selected 15 companies, out of it, selected IT companies resulted in positive paired mean return. In automobile sector, 4 companies had resulted negative paired mean value. The study also observed that, in overall selected companies the paired t-test resulted statistically insignificant. Henceforth, it is proven that there is no statistical significant difference in pre and post pandemic returns of selected stocks.

### Results and Discussions

- Maruti Suzuki, TVS Motors and Bajaj Auto which performed positively both in pre and post pandemic period.
- The Hero Motocorp has reported a negative stock return in pre pandemic period but gradually increased its performance of stock value in post comparison period.
- The Tata Motors has reported a negative stock return value both pre and post pandemic period.
- Sun Pharmaceutical Industries Ltd has reported positive stock return in both pre and post pandemic period.
- The Cipla Ltd shown a negative stock return trajectory in pre pandemic period but in post pandemic times, it's showing a significant positive value of stock return.
- Dr. Reddys Laboratories Ltd and Biocon Ltd have reported a positive stock return in pre pandemic times but it reportedly fell negative in post pandemic period.
- The Divis Laboratories Ltd reported a positive performance of stock return in pre pandemic period but drastically declined during post comparison period.
- Tata Consultancy Service and Infosys neither showing positive growth of stock returns in both pre and post pandemic period.
- HCL Technologies and Redington India Ltd have showing a positive performance in stock return value in pre pandemic period but have dropped to negative in post pandemic times.
- Wipro Limited has reported negative stock return value both in pre and post pandemic period.
- The study found that in all three selected sector the stock return resulted insignificant compare to pre and post pandemic period. It is also observed that the paired t-test also resulted insignificant in all cases.
- The correlation resulted insignificant in automobile sector and significant in pharmaceutical and IT sector at 5% and 10% significance level. Hence, the study found that negative correlation between the pre and post stock returns.



- The study reveals that Wipro Ltd (com14po) shows minimum mean value in post pandemic period whereas Bajaj Auto (com5po) shows maximum mean value in post pandemic period.
- The paired correlation Tata Consultancy Service and Redington India Ltd results significant negative correlation exists between pre and post paired values.

### Conclusion

Investors tend to make rational decisions by conducting fundamental and technical financial analysis rather than prioritizing their gut feeling about the future financial conditions of the market. Hence, cognitive investment decision making process paved way to make an informed play with their risks and returns by the Indian investors. The study also reveals that there is a positive and negative market performance of selected companies which results in greater investment opportunities. The investors try to grasp the knowledge of market, timeline and secure returns which enhance the returns to investors. In post pandemic era, there are times where the key indices of Indian stock exchanges dropped by 40% and also shown an increase of 14% – 15%, which has been an all-time high benchmark in the market. This made the investors become highly skeptical to pour fresh funds into the market.

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