RISK & RETURN FROM THE DIVERSIFIED VS NON-DIVERSIFIED PORTFOLIO

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Abstract
Thispapercentersaroundtheinvestigationofportfoliodiversificationandriskandreturnanalysis.Thispaper shows the way that portfolio expansion is ideal for risk and return. risk has consistently been the worry of supervisor and investors as a piece of basic leadership forms. Supervisors will in general control for the most part unsystematic risk while attempting to limit the presentation to orderly (advertise) chance. The paper intends to evaluate the risk level and risk return exchange offs for the arbitrarily chosen organizations from 5 unique parts recorded in Indian financial exchange. A broadening equation was utilized to figure the risk and profit for a yearly premise from the year 2013 to 2018. The risk and profit counts were directed for the arrangement of individual businesses and furthermore on every one of the enterprises taken together. The analysis depends on securities exchange returns and not on the monetary returns of the organization. The analysis doesn't think about all the co's. however just on few. It just attempts to think about portfolios dependent on whether the venture is in single industry or a few enterprises. The last piece of the analysis is finished utilizing: Mean returns, Standard deviation, Covariance, Return per unit of risk, Coefficient of differenceExpostfactotechnique,normalreturn.SoaspermyexplorationIfoundthatdifferentiatedportfolio is player than non- diversifiedportfolio.

Key words: *Portfolio theory, Portfolio diversification, Risk, Return.*

INTRODUCTION

Portfolio the executives can be an incredibly insufficient space internationally and locally. By owning numerous advantages, sure assortments of risk (explicit hazard) are regularly diminished. The advantages inside the portfolio may exemplify stocks, bonds, alternatives, warrants, gold declarations, realty, prospects contracts, creation offices or the other thing that normal to hold its cost. An expanded venture organization can't hold in excess of 5 percent of its benefits in a solitary security and not in excess of 10 percent of the security of a backer. Non-broadened speculation organizations don't have these confinements. The unpredictability of a speculation portfolio relies upon the benefits blend. Differentiated ventureorganizations as a rule put resources into a wide scope of protections. For instance, broadened stock common reserve may put resources into the innovation, modern and retail segments and in a few stocks inside every division,Non- differentiated venture organizations adopt a progressively engaged strategy to resource designation. For instance,aninnovationsharedstoremayputuniquelyinmediatransmissionorganizations,whileanaltruistic trust
may choose to put distinctly in top notch government and corporate securities.

OBJECTIVE OF THE STUDY:

- To study the concept of portfolio, portfolio risk and return and diversified vs non-diversified portfolios.
- To create a portfolio between these companies and to calculate risk and return of theseportfolios

REVIEW OF LITERATURE:

Sunil Poshakwale, (1996) The suspicion that stock costs are arbitrary is essential to the productive market speculation and capital resources valuing models. The Infra and Media

areas are the real benefactors for the portfolio. **Subrata K. Mitra, (2003)** The successful may or may not come, however it presents hope of becomingrich.Nicelydiversifiedportfoliocanbetsdeliveraveragereturn.**StephenL.Lee,(2003)**T heauthor observed that compound return of the portfolio is higher than the weighted average of the compound returns of the individual investments. **Eugene F. Fama& James D. MacBeth, (2007)** the major objective of this paper is to test the hypothesis and find the higher risk by large considerably higher risk, than the market portfolio.**RajS.Dhankar&RakeshKumar,(2007)**Theauthor'sobjectiveistotesttherelationship between riskandreturnandeffectofdiversificationofportfolio'snot-marketriskbyapplyingthemarketindexmodel**. Dale L. Domian, David A. Louton& Marie D. Racine, (2007)** This study offers new insights into the question of what number of stocks are needed to diversify a portfolio. **GregorzMichalski, (2007)** Records receivable administration choices are exceptionally mind-boggling. **AmanSrivastava, (2010)** The paper utilized mistake adjustment instrument to look at such correlation with a specific end goal to stay away from the confinements of customary demonstrating system. **Raymond Ling Leh Bin & Chia Jeng Yuan, (2016)** The author has taken 2 opposed widely used strategies- active and passive portfolio investment strategies. **Aliu F., Pavelkova D. &Dehning B., (2017)** Portfolio administration still stays as a science that does not give any clear answer on the portfolio development.

RESEARCH METHODOLOGY:

Methodology means the way samples and sample size is selected for data analysis. The study is based on secondary data. The study is based on stock market returns and not on the financial returns of the company. The study does not consider all the companies but only a few. It only tries to compare portfolios based on whether the investment is in single industry or several industries. 5 industries (Pharma, IT, Automobiles, FMCG, Steel) were randomly selected and few companies in each industry were selected for the study. The prices of these companies were sourced from various journals and the web portal ofBSE India. Various tools are used to analyze the data which has been collected. The last part of the study is done using: Mean returns, standard deviation, covariation, return per unit of risk, coefficient of variance Ex Post facto method, average return.

DATA ANALYSIS:

Table 1: Risk and returns of various companies of Pharma Industries

	LUPIN INDIA	SUN PHARMA	AUROBINDO	GLAXO SMITH	AMRUTANJAN	DR. REDDY'S	GLENMARK	CIPLA	ABBOTT
r	0.43	0.41	3.8	0.08	3.1	0.35	0.51	0.73	2.71
SD	8.31	8.23	10.73	6.61	11.71	7.57	8.59	6.82	8.63
Return at risk per unit	0.05	0.05	0.35	0.01	0.26	0.05	0.06	0.11	0.31
Rank	4	3	9	1	7	2	5	6	8
CV	19.37	20.06	2.82	86.23	3.78	21.95	16.76	9.32	3.19

Table 2: Risk and return of companies in Automobile Industries

	EICHER MOTORS	MAHINDRA &MAHINDRA	MARUTI SUZUKI	TATA MOTORS	ASHOK LEYLAND	BAJAJ AUTO	INDUSTAN MOTORS	HERO MOTOCORP
r	4.26	1.01	3.2	0.66	4.01	0.13	0.79	1.76
SD	8.59	6.63	8.2	10.28	13.46	1.08	16.3	7.17
Return at risk per unit	0.5	0.15	0.39	0.06	0.3	0.12	0.05	0.25
Rank	8	4	7	2	6	3	1	5
CV	2.02	6.55	2.57	15.48	3.36	8.32	20.72	4.07

Table 3: Risk and Return of companies in IT sector

	TCS	INFOSYS	TECH MAHINDRA	IFLEX	WIPRO	31 INFOTECH	HCL	MPHASIS	L & T
r	4.26	1.43	2.01	0.74	1.03	2.35	1.91	-0.05	-0.05
SD	6.5	6.81	8.14	5.31	6.78	25.03	6.86	8.68	0.6
Return at risk per unit	0.66	0.21	0.25	0.14	0.15	0.09	0.28	-0.01	-0.09
Rank	9	6	7	4	5	3	8	2	1
CV	1.52	4.76	4.06	7.14	6.57	10.63	3.59	-167.73	-11.69

Table 4: Risk and return of companies in FMCG sector

	BRITANNIA	NESTLE	ITC	HUL	DABUR	EMAMI	GODREJ	PIDILITE
r	3.96	1.03	0.69	1.96	1.48	1.91	1.87	2.45
SD	7.45	6.2	9.7	6.36	4.95	8.53	6.53	7
Return at risk per unit	0.53	0.17	0.07	0.31	0.3	0.22	0.29	0.35
Rank	8	2	1	6	5	3	4	7
C	1.8	6.0	13.9	3.2	3.3	4.4	3.	2.8

	TATA STEEL	HUSHANSTEEL	JINDAL STEEL	JSW	VISA	SAIL	MAHA STEEL
r	1.76	-2.45	0.72	2.8	-0.72	1.02	0.59
SD	11.28	14.9	17.2	9.54	13.24	13.38	45.51
Return at risk per unit	0.16	-0.16	0.04	0.29	-0.05	0.08	0.01
Rank	6	1	4	7	2	5	3
CV	6.4	-6.09	23.74	3.41	-18.43	13.18	77.78

Table 5: Risk and returns of companies in Steel Industry

Interpretation: Table1depictsthatAurobindohasthehighestreturn(0.35%for1unitofrisk)andthe refore it has been ranked 1st. Table 2 depicts that Eicher Motors has the highest return (0.50% for 1 unit of risk) and therefore it has been ranked 1st. Table 3 depicts that TCS has the highest return (0.66% for 1 unit of risk) and thereforeithasbeen ranked1st.Table4depictsthatBritanniahasthehighestreturn(0.53%for1unitofrisk) andthereforeithasbeenranked1st.Table5depictsthatJSWSteelhasthe highestreturn(0.29%for1unitof risk) and therefore it has been ranked1st.

	LUPIN INDIA	SUN PHARMA	AUROBINDO	GLAXO SMITH	AMRUTANJAN	DR. REDDY'S	GLENMARK	CIPLA	ABBOTT
LUPIN INDIA	-								
SUN PHARMA	0.64173	-	-	-	-	-	-	-	-
AUROBINDO	0.17073	0.26537	-	-	-	-	-	-	-
GLAXO SMITH	0.21619	0.2951	1	-	-	-	-	-	-
AMRUTANJAN	0.19732	0.11036	0.19732	0.30397	-	-	-	-	-
DR. REDDY'S	0.07766	-0.09288	0.07766	-0.07291	-0.00856	-	-	-	-
GLENMARK	0.26183	0.15452	0.26183	-0.00906	0.35307	0.17336	-	-	-
CIPLA	0.12175	-0.0454	0.11645	0.00868	-0.09221	0.15424	0.03396	-	-
ABBOTT	0.05494	0.20909	0.19895	0.07404	0.11721	-0.13486	-0.09655	0.11406	-

Table 6: Correlation of companies in Pharma Industry

Table 7: Correlation of companies in Automobile Industry

	EICHER MOTORS	MAHINDRA &MAHINDRA	MARUTI SUZUKI	TATA MOTORS	ASHOK LEYLAND	BAJAJ AUTO	INDUSTAN MOTORS	HERO MOTOCORP
EICHER MOTORS	-							
MAHINDRA &MAHINDRA	0.31026	-	-	-	-	-	-	-
MARUTI SUZUKI	0.249	0.31026	-	-	-	-	-	-
TATA MOTORS	0.2126	0.31026	0.36891	-	-	-	-	-
ASHOK LEYLAND	0.29899	0.31026	0.36891	0.36521	-	-	-	-
BAJAJ AUTO	0.19638	0.31026	0.36891	0.36521	0.20245	-	-	-
INDUSTAN MOTORS	0.17735	0.31026	0.36891	0.36521	0.20245	0.21184	-	-
HERO MOTOCORP	0.42432	0.31026	0.36891	0.36521	0.20245	0.21184	0.02671	-

Table 8: Correlation of companies in IT sector

	TCS	INFOSYS	TECH MAHINDRA	IFLEX	WIPRO	31 INFOTECH	HCL	MPHASIS	L&T
TCS	-								
INFOSYS	0.54058	-	-	-	-	-	-	-	-
TECH MAHINDRA	0.54058	3.14601	-	-	-	-	-	-	-
IFLEX	0.54058	0.54058	0.54058	-	-	-	-	-	-
WIPRO	0.67331	0.43323	0.43323	0.39596	-	-	-	-	-
31 INFOTECH	-0.14997	-0.16302	-0.16302	0.11991	0.01109	-	-	-	-
HCL	0.62458	0.38236	0.38236	0.30196	0.71877	-0.19038	-	-	-
MPHASIS	0.15583	0.18609	0.18609	0.13851	0.04408	0.19711	0.01238	-	-
L&T	-0.03807	0.04148	0.04148	-0.22013	-0.17352	-0.02655	-0.05152	-0.07859	-

Table 9: Correlation of companies in FMCG sector

	BIRTANNIA	NESTLE	ITC	HUL	DABUR	EMAMI	GODREJ	PIDILITE
BRITANNIA								
NESTLE	0.281	-	-	-	-	-	-	-
ITC	-0.06659	0.0313	-	-	-	-	-	-
HUL	0.21293	0.39837	0.03407	-	-	-	-	-
DABUR	0.33182	0.55561	0.00042	0.47719	-	-	-	-
EMAMI	0.61736	0.43223	-0.03911	0.39558	0.45048	-	-	-
GODREJ	0.1558	0.38052	0.20407	0.39377	0.37751	0.25912	-	-
PIDILITE	0.26519	0.45208	0.12298	0.1618	0.32473	0.40714	0.24055	-

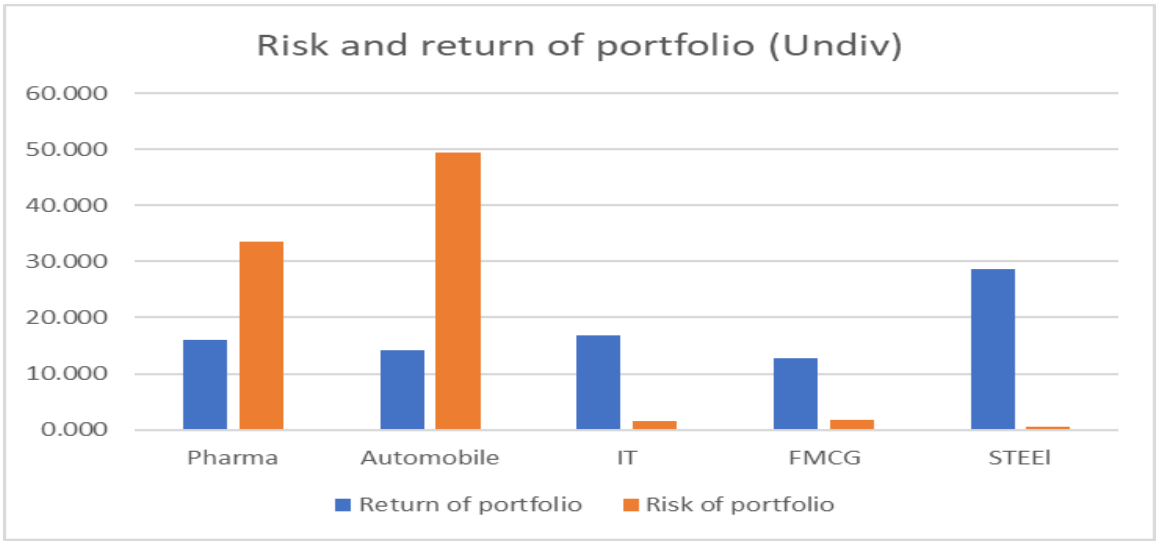
Table 10: Correlation of companies in Steel Industry

	TATA STEEL	HUSHANSTEEL	JINDAL STEEL	JSW STEEL	VISA	SAIL	MAHA STEEL
TATA STEEL	-						
HUSHAN STEEL	0.25352	-	-	-	-	-	-
JINDAL STEEL	0.45083	0.25897	-	-	-	-	-

JSW STEEL	0.54966	0.19019	0.28345	-	-	-	-
VISA	0.39161	0.35659	0.37093	0.21415	-	-	-
SAIL	0.70167	0.28441	0.46503	0.54193	0.57382	-	-
MAHA STEEL	0.57375	-0.29081	0.77598	0.52931	0.13433	0.88624	-

Table 11: Risk and returns of Non-diversified portfolios

	Return of Portfolio	**Risk of portfolio**
Pharma	16.024	33.589
Automobile	14.162	49.514
IT	16.79	1.637
FMCG	12.84	1.842
Steel	28.644	0.446



Interpretation: It is observed that the risk of pharma sector is 33.58% and return in 16.02%, while in automobile sector the return is 14.16% and risk is 49.51% which depicts high risk and moderate return but in case of IT, FMCG and steel sector risks are but the returns are 16.79%, 12.84% and 28.64% in these three sectors. Risk (1.63%, 1.845%, 0.44%) is less than 2% but returns are moderate to high.

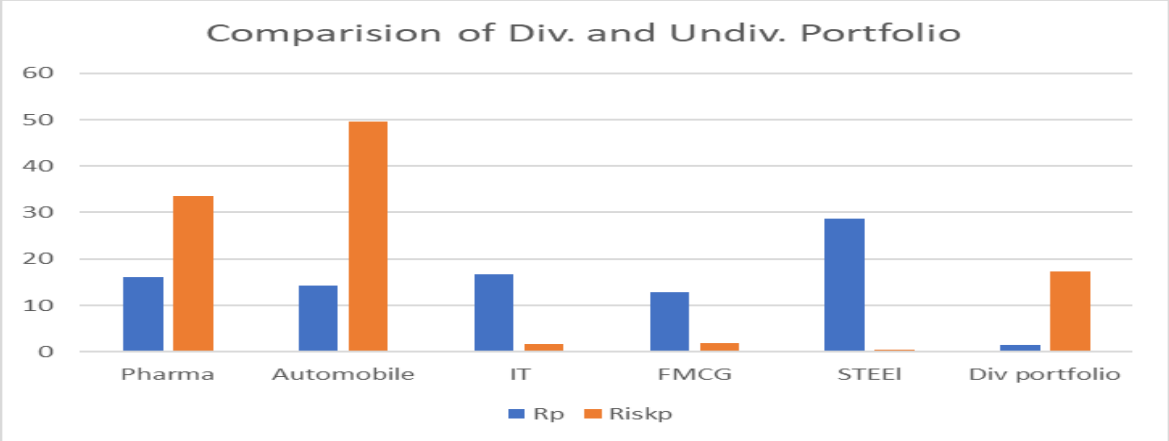
Calculation of risk and return from diversified portfolios:

Table 12: Correlation of industries in diversified portfolios

	PHARMA	**AUTOMOBILE**	**IT**	**FMCG**	**STEEL**
PHARMA	-	-	-	-	-

AUTOMOBILE	0.61754	-	-	-	-
IT	-0.2244	0.36286	-	-	-
FMCG	-0.51642	0.27131	0.48961	-	-
STEEL	-0.22183	0.518	0.25457	0.518	-

Table 13: Ranking of portfolios



	R_p	Rank (Return)	$nRISK_p$	Rank ($Risk_p$)	CV	Rank CV	Rank Total	Overall Rank
PHARMA	16.0237423	3	33.5889832	5	0.47705351	3	11	3
AUTOMOBILE	14.1617132	4	49.5143472	6	0.28601232	2	12	5
IT	16.7902987	2	1.63666959	2	10.25882	5	9	2
FMCG	12.8404207	5	1.84239086	3	6.96943358	4	12	5
STEEL	28.6441175	1	0.4462997	1	64.181351	6	8	1
DIVERSIFIED PORTFOLIO	1.45784263	6	12.8568138	4	0.11339066	1	11	3

Interpretation: The return of portfolio of Pharma, Automobile, IT, FMCG, Steel are 16.02%, 14.16%, 16.79%, 12.84%, 28.64% respectively, while the risk of the portfolios of these sectors are 33.85%, 49.51%, 1.63%,1.84%,0.44%respectively.So,theconsiderablesectorsforlongtermareIT,FMCGandsteelbecause of moderate to high return and less risk. On the other hand, Pharma and automobile have moderate to slightly high return but also have high risk and can be recommended for longterm. But in case of diversified portfolio, the overall risk of all sectors is 17.28% which is slightly high and the returns are 1.47%. Using the covariation, we have ranked all the sectors and using the rank by return, risk of portfolio rank of CV, we calculated the overallrank.

CONCLUSION:

If there should be an occurrence of broadening, the risk and return of the portfolio will be nearer to the risk and return of that advantage which has the most noteworthy weightage in

the portfolio. While making a portfolio, the stocks ought to be consolidated in the accompanying chain of importance:

- High negativecorrelation
- Low negativecorrelation
- Zerocorrelation
- Low positivecorrelation

In this manner, the organizations have negative, low or high relationship are useful with the end goal of diversification and for the most part, the organizations having positive correaltions are not favored for broadening .From the above investigation ,it tends to be suggested that non-diversified portfolios have high risk.Forinstance,pharmasegmentandvehiclesegmenthavehighrisk(forexampleover30%).Forthepresent time frame, diversified portfolio chance is 17% and return is 26%. It implies speculators can get some great comes back from diversification portfolio. The financial specialist ought to choose what is significant for them:exceptionalyieldandgenerallysafeorsteadyreturns.Thespeculatoroughttoberefreshedwith venture systems. He should instruct himself about the developments in securities exchange. He should know about different speculation plans or devices accessible to him. Speculators can take the assistance of store directors on the off chance that the person in question can't follow theportfolio.

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