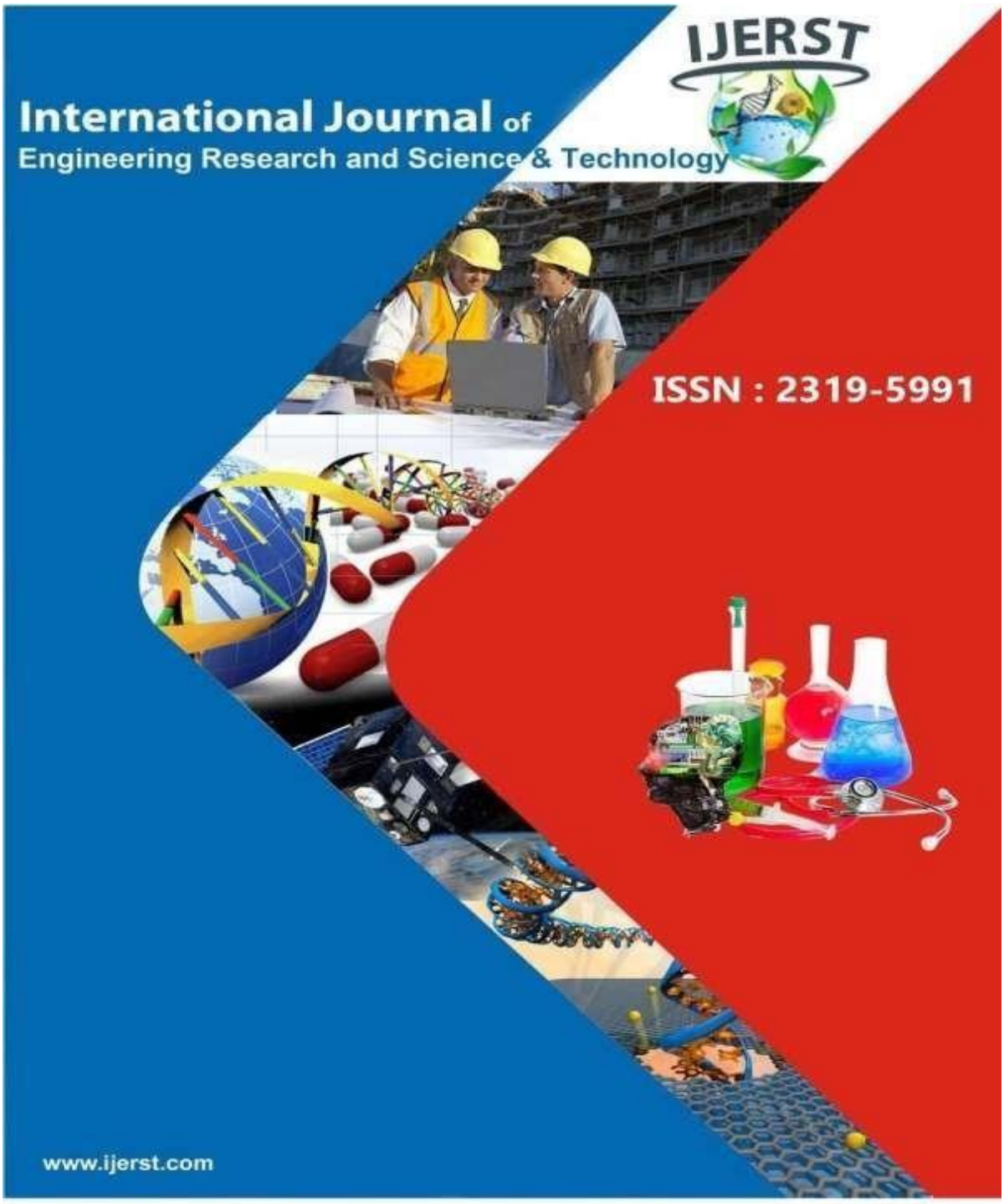

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A STUDY ON RISK AND RETURN ANALYSIS OF SELECTED STOCKS IN INDIA

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Abstract

Portfolio refers to a combination of securities such as stocks, bonds and money market instruments, Diversifying one's investment helps to spread the risk over many assets. Portfolio construction is the process of combining the broad asset classes to yield optimum returns with minimum risk. Construction an investment portfolio depends to a significant degree on the nature of the investor. Understanding market instruments and market movements can help one to understand the market. The significance of this study is of understanding the application of Markowitz model in analyzing the risk and returns of the stocks and also how to use the analysis in the construction of an optimal portfolio for the investments. The study aims at guiding the investors with an investments opportunity that reaps them the maximum returns with minimum volatility.

Key Words: Portfolio Securities, Diversification, Risk and Return Analysis, Portfolio Construction, Markowitz Model, Optimal Portfolio, Market Instruments.

Meaning of portfolio Construction:

Portfolio construction refers to the process of selecting and combining different assets (such as stocks, bonds, real estate, etc.) into a portfolio. The goal of portfolio construction is to create a diversified portfolio that balances risk and return according to an investor's objectives, risk tolerance, and time horizon. This process involves asset allocation, which determines the mix of asset classes, and security selection, which involves choosing specific investments within each asset class.

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Introduction

Portfolio Construction:

The idea of ideal portfolio has a place with Present day Portfolio Hypothesis (MPT). This hypothesis expects that financial backers fanatically endeavor to limit the gamble with most extreme returns. The hypothesis expresses that financial backer's demonstration consistently, and attempts to pursue choices coordinated at augmenting their profits for the given mediocre degree of hazard. The idea of ideal portfolio was first utilized in the year 1952 by Harry Markowitz, and from that it is apparent that it is workable for assorted portfolios to have various degrees of chance and return. Prior to going for portfolio development, financial backer ought to have an unmistakable outlook about how much gamble they can light and begin designating accordingly.Constructing a venture portfolio depends to a critical degree on the idea of the financial backer. Understanding business sector instruments and market developments can assist one with grasping the market. Portfolio alludes to a blend of protections, for example, stocks, securities and currency market instruments. Portfolio development is the most common way of consolidating the expansive resource classes to yield ideal return with least gamble. Broadening one's ventures assists with spreading the gamble over numerous resources. Enhancement of protections in a portfolio guarantees the expected return. In a differentiated portfolio, at specific cases chosen protections in the portfolio may not proceed as expected. Keeping a portfolio with a solitary security might prompt a more prominent probability of the genuine return being very not quite the same as that of the normal return. Consequently, it is a typical practice to have a different arrangement of protections.

Significance of Portfolio Construction:

Diversification: A well-constructed portfolio spreads investments across different asset classes, industries, and geographical regions, reducing overall risk. Diversification helps mitigate the impact of market fluctuations on the portfolio's performance.

Risk Management: By carefully selecting a mix of assets with varying risk profiles, investors can manage risk according to their risk tolerance and investment goals. This ensures that the portfolio’s risk is aligned with the investor’s preferences.

Return Optimization: Portfolio construction allows investors to seek an optimal balance between risk and return. By including assets with different return potentials, investors can strive to maximize returns within their risk constraints.

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Alignment with Objectives: A well-constructed portfolio is tailored to meet the investor's financial objectives, whether it's capital preservation, income generation, or wealth accumulation over the long term.

Adaptability: The process of portfolio construction involves regular review and adjustments to ensure that the portfolio remains aligned with changing market conditions, economic outlooks, and personal circumstances.

Cost Efficiency: Effective portfolio construction considers factors such as transaction costs, taxes, and fees, aiming to minimize expenses and maximize net returns for the investor.

Components of Portfolio Construction:

The major components of an investment portfolio are described below –

Stocks: Stocks refer to company shares and the investors' ownership of the same. Notably, the percentage of ownership depends on the number of company stocks held by an individual. The stockholders are entitled to a share of the company's profits, and they avail it in the form of dividends. Investors can further generate higher returns on their investment in stock by selling the same at a higher price. Stocks are considered to be the reward generating component of an investment portfolio. However, they come with a significant risk factor.

Bonds: Bonds come with a maturity date and are considered less risky than stocks. On maturity, investors receive the principal investment amount along with interest. Bonds constitute the risk-cushioning aspect of an investment portfolio.

Alternatives: Besides stocks and bonds, investors can also add alternative investment instruments like oil, real estate, gold, etc.

Review of Literature:

1. Saravanan, A. Natarajan.P, made a survey on Advances in Administration; the review proposes that ideal portfolio can be built by utilizing Sharpe's Single Record Model utilizing NSE; Clever 50 stocks have been utilized as market list for building the portfolio.

2. Tanja mago (2009) has conquered the method used to tackle the issue of ideal portfolio determination which have disadvantages; alongside their fellowmen they have proposed a superior methodology both hypothetically and tentatively

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3. Zavera (2017) in this paper named, "Utilization of Markowitz Model on Romanian Financial exchange", tried use of Markowitz model in Romanian market by making a portfolio contained three protections.

4. Vishweswarsastry and Dr. Binoy (2019) zeroed in on concentrating on different enterprises and breaking down the gamble and return of the chose organizations alongside assessing the portfolio hazard and returns and evaluates its relationship in taking Venture choices of those various businesses.

5. Joel Allen and Dr. Suresha, (2018) researched the presentation of value portions of 5 areas comprising of 25 organizations. The chose areas are Banking, Vehicle, Oil and Gas, Data Innovation, and Drugs. Furthermore, determined the gamble and return of each organization and of market all in all.

Need for Portfolio Construction:

Helps to develop sound strategies and rebalance asset composition as per their current market condition so that investors can make the most of existing investment. It enables quick customization based on immediate financial needs and market conditions.

Objectives of Portfolio Construction:

- To determine what is the primary goal for portfolio construction.
- To know the knowledge of the investor regarding portfolio construction.
- To find out the risk and return of selected equity scripts.
- To find the relations between selected equity scripts.
- To Study the risk and return measures available for decision making.

Research Methodology

Sources of Data:

Research Methodology is a systematic procedure of collecting information in order to analyse and verify a phenomenon the collecting of information is done in two principle sources. They are as follows.

Primary Data :

Primary data can be collected by making questionnaire and observing data from them.

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Secondary Data :

The data was collected from the official website, BN Rathi securities limited website, and from published books and journals.

Research Analysis:

Microsoft Excel

Tools for Analysis:

Returns: =(number1-number2)/number1

Average returns : =Average(number1,number2)

Variance : =var.p(number1,number2)

Standard Deviation : =stdev.s(number1,number2)

Covariance : =covar(array1,array2) b/w two company shares

Correlation : =correl(array1,array2)

Sample Size: 3 company / 100 investors

Sample Type :

- Tesla company shares
- Reliance company shares
- Google company shares

Research Techniques:

- Risk
- Return
- Variance
- Standard Deviation
- Correlation

Data Analysis of Selected Stocks

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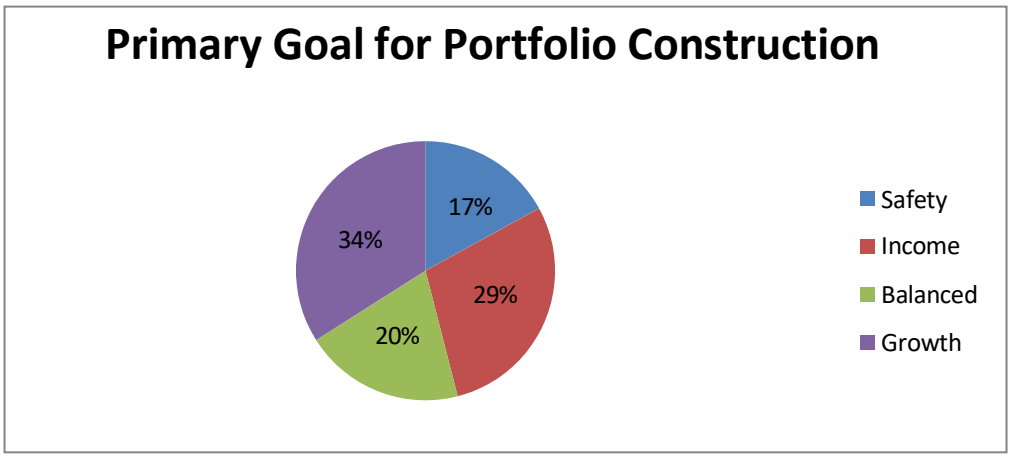
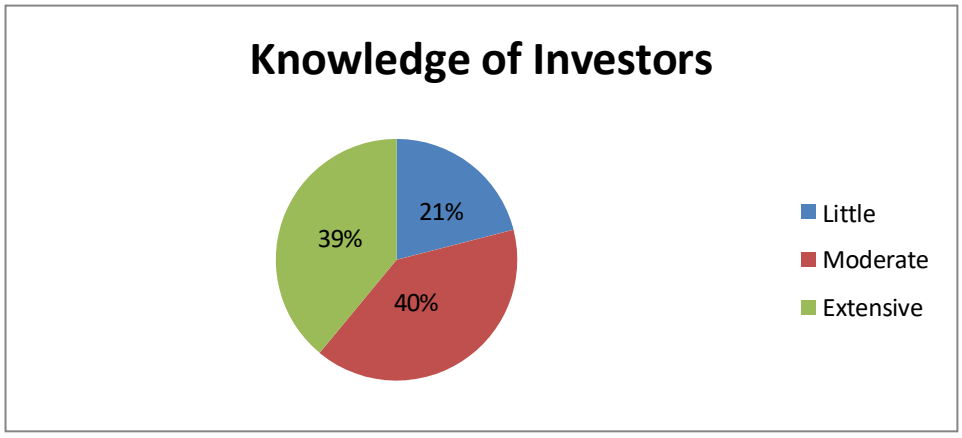
1. **Primary Goal for portfolio construction.**

Safety	Income	Balanced	Growth
17%	29%	20%	34%



2. **Knowledge of investors regarding investment.**

Little	Moderate	Extensive
21%	40%	39%



3. **Calculating Risk and Return.**

3.1 TESLA COMPANY RETURNS OF 2024.

Table:3.1

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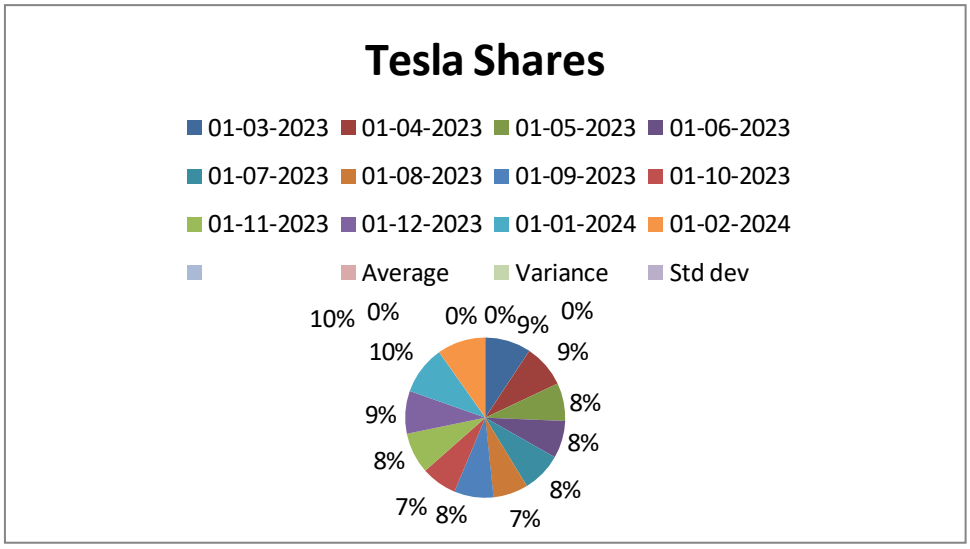
Tesla		
Date	AdjClose	Returns
01-03-2023	297.15	8%
01-04-2023	275.61	4%
01-05-2023	265.25	17%
01-06-2023	227.54	17%
01-07-2023	194.7	58%
01-08-2023	123.18	-29%
01-09-2023	173.22	-16%
01-10-2023	205.71	-1%
01-11-2023	207.46	26%
01-12-2023	164.31	-24%
01-01-2024	203.93	-19%
01-02-2024	234.86	-13%
Average		5%
Variance		0.055382
StdDev		24%

CHART 3.1; TESLA COMPANY RETURNS 2024.



INTERPRETATION: TheTeslacompanyaveragereturnsis 5%andstandarddeviationis 24%.

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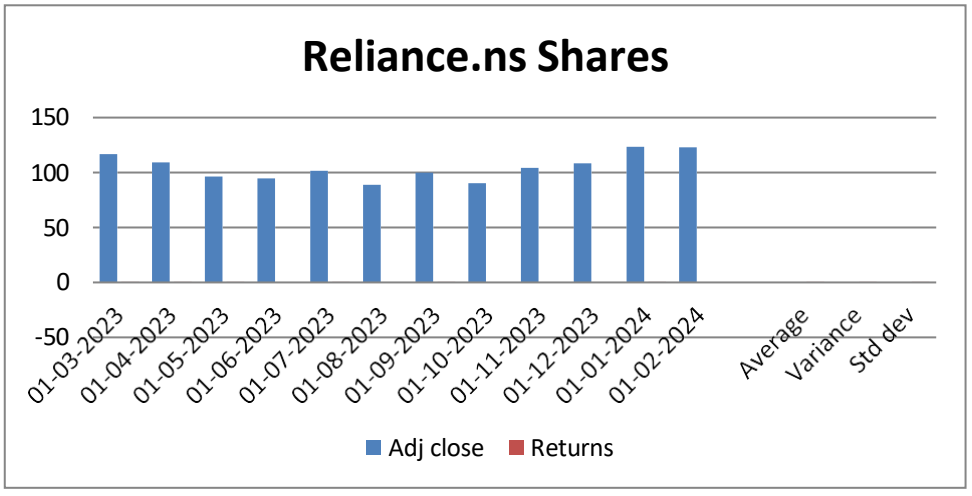
32: RELIANCE COMPANY RETURNS 2024.

Table:3.2

Reliance

Date	AdjClose	Returns
01-03-2023	2501.917	-5%
01-04-2023	2630.032	11%
01-05-2023	2377.75	-7%
01-06-2023	2549.6	-7%
01-07-2023	2731.35	7%
01-08-2023	2547.2	8%
01-09-2023	2353.85	1%
01-10-2023	2322.55	0%
01-11-2023	2331.05	-4%
01-12-2023	2420.5	-2%
01-01-2024	2469.9	-1%
01-02-2024	2499.65	
Averages		0%
variance		0.003331
stdDev		6%

CHART3.2; RELIANCE COMPANY RETURNS 2024.



INTERPRETATION: The Reliance company average return is 0% and standard deviation is 6%

3.3. GOOGLE COMPANY RETURNS OF 2024.

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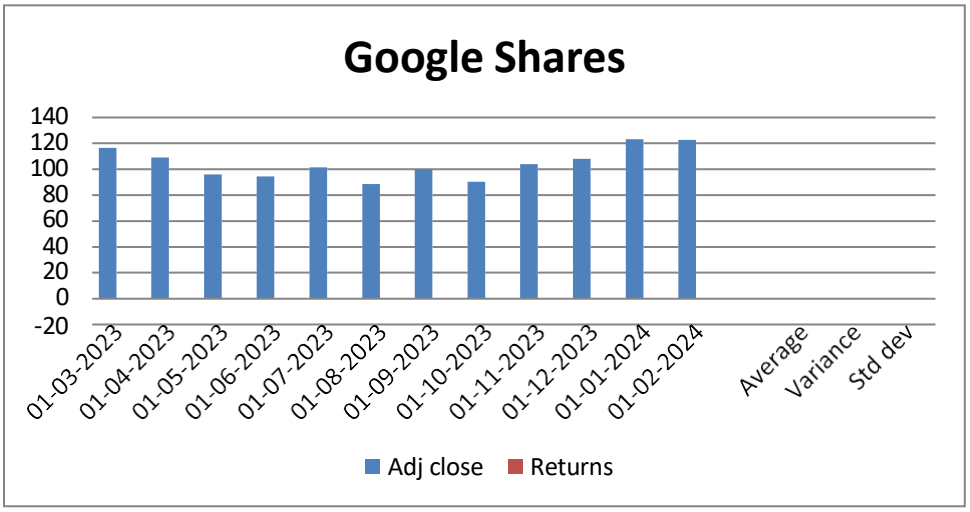
Table:3.3

Google		
Date	AdjClose	Returns
01-03-2023	116.64	7%
01-04-2023	109.15	14%
01-05-2023	96.15	2%
01-06-2023	94.66	-7%
01-07-2023	101.45	14%
01-08-2023	88.73	-11%
01-09-2023	99.87	11%
01-10-2023	90.3	-13%
01-11-2023	104	-4%
01-12-2023	108.22	-12%
01-01-2024	123.37	1%
01-02-2024	122.67	
Average		0%
Variance		0.00963
Std dev		10%

CHART 3.3; GOOGLE COMPANY RETURNS 2024.



INTERPRETATION: The Google company average turn is 0% and standard deviation is 10%.

FINDINGS

➢ Above three companies the Reliance and Tesla has given higher returns than remaining.

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➢ The Google are giving minimum returns with high risk.

➢ The Reliance is giving maximum returns with minimum risk.

➢ The correlation between Tesla and Reliance is 22%.

Suggestions:

• If the investor wants to invest in individual sectors they can invest in IT sector which gives high and low risk.

• Risk taking investors can invest in IT and SERVICE sector which gives high return with high risk.

• Investors should not invest in individual sectors like automative sector which gives high risk with low return.

Conclusion:

Risk and return are the two sides of the coin. Both are important while takinginvestment decisions. In this research what I conclude that the RELIANCE is given effective returns from IT sector than remaining two sectors.

Reference:

Sun, Xiqing, Baichuan Li, and Huatian Pang. "Portfolio Construction for Pharmaceutical Industry." E3S Web of Conferences 275 (2021): 03032.

Tan, Ruipeng. "Changes in the Portfolio Management and Construction under the Pandemic Era." E3S Web of Conferences 275 (2021): 01005.

Feng, Yifei, Kexin Li, and Yingxuan Wang. "Portfolio Construction of Energy-Related Assets." E3S Web of Conferences 275 (2021): 01001.

Rutkowska-Ziarko, Anna. "Fundamental Portfolio Construction Based on Semi-Variance." Olsztyn Economic Journal 8, no. 2 (June 30, 2013): 151–62.

Uchiyama, Yusuke, Takanori Kadoya, and Kei Nakagawa. "Complex Valued Risk Diversification." Entropy 21, no. 2 (January 28, 2019): 119.

Ainslie, Lee S. "Portfolio Construction and Risk Management: Long-Short Portfolios." AIMR Conference Proceedings 2002, no. 2 (April 2002): 47–49.

Ciliberti, Stefano, and Stanislao Gualdi. "Portfolio Construction Matters." Journal of Portfolio Management 46, no. 7 (May 6, 2020): 46–57.