

Mean variance analysis report example

[Finance](#), [Investment](#)



Introducing the Scenario

Investment analysis is always been a challenge for the analysts, as it has a large trade-off related to return and risk. The management of investment is a topic which is high in demand from number of years, as it has the most important significance associated with it, which is yield. In the field of financial management, a yield is referred as an output or return which ultimately emerged as one of the essentials for the analyst or a researcher (Chandra, Comora & Cole, 2003).

There are two different kinds of investors are there, Active Investor and passive investor. An Active Investor is an investor who has high power and inclination to adopt and absorb risk, while passive investment is referred as an investment in which an investor would not absorb high amount of riskiness in their analysis. However, mitigating risk is important for each of the types of investor, but active investor has high risk absorption power, while passive has low risk absorption power. By far and large, making and managing of a portfolio is always been a sign of effectiveness in the field of investment, as it is the thing through which an investor can decrease the level of risk accordingly, and it is an active planning field of investment as well (DeFusco, McLeavey, Pinto & Runkle, 2007).

In this assignment, it is required to recommend a client about the investment opportunity, but with mitigating the risk exposure. There are four different securities in which the client is planning to invest their money which are Australian Equity, Cash, Long term bonds and the US Equity. The risk exposure of the client would be analyzed through the questionnaire. As per the scenario, the client has \$ 10 million, and he is willing to invest the entire

sum of money for 10 years of time horizon. He is maneuvering to have a total of \$ 15 million at the end of 10 years to buy a large Vineyard in the Southern Australia.

Analytical Framework

The allocation of funds have been done on the basis of risk and return trade off, along with the actual risk taking power of the investor, which will be analyzed through the Questionnaire.

Questionnaire

Which Statement has described the degree of loses you are willing to take?

(OPTION-3)

- Minimal Amount of loss
- Moderate loss
- High Capital Loss

Are you willing to have a stop loss on your equity? (YES)

Yes

No

What type of investor are your? (Aggressive)

Aggressive

Moderate

Slow

The affects of the Questionnaire

US-Equity Selection and its Importance

The economy of the United States (US) is known as the largest economy of

the world in terms of Purchasing Power Parity (PPP), and buying power as well. Financial strength and financial effectiveness are some of the major part of the economy of a country, and the U. S. has an idea related to the same. The entire economy of the country depends upon their escalating financial markets, in which hundreds of securities and shares have been traded accordingly (Kolbe & Greer, 2006).

There are thousands of companies which are registered in different regional and domestic exchanges of the country, and among those exchanges, the name of New York Stock Exchange (NYSE), NASDAQ, Standard & Poor (S&P) are some of them. Before the arrival of the current economic crisis, many of the equities registered and traded on different stock exchanges of the United States was growing positively and effectively, however a serious decline has been envisaged after the current economic slump. The importance of investing the money in these stocks of the companies would be essential, as it gives an opportunity to the investor to put their money in the right stocks at the right time, and to gain effectiveness in particular. This particular aspect and rationale makes this investment opportunity eminent than any other investment opportunity. It is required to analyze the mean return, standard deviation, correlation and other information of the market.

Mean and Standard Deviation

The US Equity has an effective fluctuation, and it is analyzed that the mean return of the US Equity is quite low, and it is representing a figure of 0.0097%, while the standard deviation of the same is 0.045%. It means that the amount of risk is quite low in the stocks of the US, with minimum amount of return.

Co-Variance and variance analysis

Any square of standard deviation is known as variance, and it is referred as variation from the mean. Likewise standard deviation, it also analyzes the level of variation from the mean return. The mean variance of the security is 0.00265%, and it is quite low like the standard deviation of the US Equity. Co-Variance is a term that used for analyzing the level of relationship among two or more than two equities. In this analysis, the co-variance of US Equity has been analyzed with Australian Equity, Bonds and Cash Securities. The co-variance of these securities is 0.0013%, 0.00018% and 0.0000067% respectively. The co-variance among the securities is showing that the levels of relationship among the values are quite low and in effective as well (Kolbe & Greer, 2006).

The Analysis of Correlation

Correlation coefficient is somewhat identical to co-variance, and it is one of the most important types of relationship analysis. This particular relationship will analyze the level of relationship among different variables particularly. As per the analysis, it is found that the level of relationship among the US Securities and other securities are positive, and it is found that the relationship are 0.58, 0.16 and 0.14 with Australian Securities, Fixed Income and Cash respectively (Razin, Helpman & Sadka, 2003).

Modeling through Dividend Discount Model (DDM)

Dividend Discount Model (DDM) is a method which analyzes the actual amount of price of the security, and the formula of the same is as follows

$$P = D / KE - G$$

KE = For the Cost of Equity, CAPM model has been used

$$P = 34.09 / 11.1\% - 1.925\%$$

$$= 34.09 / 9.175\%$$

$$P = 371.55 \$$$

Australian-Equity Selection and its Importance

Australian economy is known as 6th largest economy of the world, and it has emerged as one of the largest financial hubs of the world. The power of the US-Equity is powerful, and it is equally beneficial for the Australian economy as well. The financial capital and effectiveness of Australia lies heavily over the capital and financial markets of the Australian region. Due to the high growth and potential of the Australian Equity market, high numbers of investors are focusing on this particular market for the investment purpose.

Mean and Standard Deviation

The Australian Equity has an effective fluctuation, and it is analyzed that the mean return of the Australian Equity is quite low, and it is representing a figure of 0.01038%, while the standard deviation of the same is 0.053%.

Co-Variance and variance analysis

The mean variance of the security is 0.00287%, and it is quite low. The Co-variance of Australian Equity has been analyzed with Bonds and Cash Securities. The co-variance of these securities is -0.0000058%, and -0.00000363% respectively. The co-variance among the securities is showing that the levels of relationship among the values are quite low and ineffective as well (Reilly, Brown, Lin & Zhao, 2005).

The Analysis of Correlation

As per the analysis, it is found that the level of relationship among the Australian Securities and other securities are positive, and it is found that the relationship are -0.039 and -0.00000067 with Fixed Income and Cash respectively.

Modeling through Dividend Discount Model (DDM)

$$P = D / KE - G$$

KE = For the Cost of Equity, CAPM model has been used

$$P = 76.8 / 14.3\% - 0.925\%$$

$$P = 574.2 \$$$

Long term Bond Selection and its Importance

Fixed Income bonds is one of the most important investment vehicles used by the investors for the investment purpose. The long term bond is known as the fixed income bond from which a constant amount of money would have been received by the investor in a given time frame. In the current economic scenario, investment in the fixed income securities can be essential and effective. It is one of the most important mediums that come under the ambit of mitigating risk accordingly (Reilly, Brown, Lin & Zhao, 2005).

Investor prefer long term investment bond for mitigating the riskiness among the securities and increasing the investment return consequently. In this way, all of the mean and standard deviation would be analyzed accordingly

Mean and Standard Deviation

The Fixed Income Security has an effective fluctuation found in the analysis, and it is analyzed that the mean return of the Fixed Income or Bond Equity is

quite low, and it is representing a figure of 0.0042%, while the standard deviation of the same is 0.025%. It is again lies in a lower region accordingly.

Co-Variance and variance analysis

The mean variance of the bond security is 0.000618%, and it is quite low. The Co-variance of Fixed Income Equity has been analyzed with the Cash Securities. The co-variance of these securities is 0.000246. The co-variance among the securities is showing that the levels of relationship among the values are quite low and in-effective as well.

The Analysis of Correlation

As per the analysis, it is found that the level of relationship among the Fixed Income Security and cash is positive, and it is found that the relationship 0.90 with Cash respectively. The relationships among these securities are effective and positive as well.

Modeling through Dividend Discount Model (DDM)

$$P = D / (KE - G)$$

KE = For the Cost of Equity, CAPM model has been used

$$P = 60.12 / (13.9\% - 0.01\%)$$

$$P = 435.65 \$$$

Cash Securities Selection and its Importance

Cash Securities are essential for the sake of an organization and for the investment purpose as well. Investment in the cash securities can be essential and effective for the sake of the investors, and they will get added

advantage from the analysis.

Mean and Standard Deviation

The Cash Security has an effective fluctuation found in the analysis, and it is analyzed that the mean return of the Cash Security is quite low, and it is representing a figure of 0.0039%, while the standard deviation of the same is 0.0011. It is again lies in a lower region accordingly.

Co-Variance and variance analysis

The mean variance of the Cash security is 0.000121 and it is quite low. The Co-variance of Fixed Income Equity has been analyzed with the Cash Securities. The co-variance of these securities is 0.000246. The co-variance among the securities is showing that the levels of relationship among the values are quite low and in-effective as well.

The Analysis of Correlation

As per the analysis, it is found that the level of relationship among the Fixed Income Security and cash is positive, and it is found that the relationship 0.87 with Cash respectively. The relationships among these securities are effective and positive as well.

Modeling through Dividend Discount Model (DDM)

$$P = D / (KE - G)$$

KE = For the Cost of Equity, CAPM model has been used

$$P = 56.78 / (12.78\% - 0.01\%)$$

$$P = 444.64 \$$$

Management of Portfolio

Management of Portfolio is essential for the sake of mitigating risk and increasing return accordingly. The management of the portfolio not only decreases the level of risk, but also increases the level of return as well. It is required to allocate the funds accordingly on the basis of the return and risk. Investment and portfolio management depends upon the mean return and standard deviation accordingly, by allocating a certain amount of money accordingly (Reilly, Brown, Lin & Zhao, 2005). Investment vehicle is essential for the sake of an investor and investment purpose as well. From the questionnaire, it is found that the investor is an active investor and has the ability and tendency to take high amount of risk association. The allocation of the investment is mentioned below

The allocation has been high in possession of 50%, while it is 40% for US Equity. Fixed Income and Cash has 5% allocation each. This particular aspect is showing that the effectiveness of the proportion is high, and risk can be mitigated accordingly. The computation of the risk and return is as follows

$$= 1,000,000 * 0.95\%$$

$$= \$95,000 \text{ in the period of 1 year, and the amount would be}$$

$$= 950,000 \$$$

The total equity would become

$$= \$10,950,000$$

It is found that the equity would be lower than that of the prescribed equity. According to the analysis, the equity would be lower than that of 15 million, which is showing that the client don't have sufficient amount to buy the Vineyard in the Southern Australia.

Conclusion

Risk and return are some of the major aspects from the viewpoint of investment, and investment could have been done accordingly. Investment vehicles are essential for the investment purposes, and investors would take into account from different viewpoints. Every investment vehicle is essential for the purpose of investment, and most of the times, it is found that securities are essential. It is essential for the investors to check and value down the things accordingly, and risk can be mitigated accordingly.

Managing portfolio is an essential thing and it is used for different purposes in particular. In this particular analysis, it is required to manage the portfolios accordingly, by allocating a particular amount of proportion of investment on different investment vehicles. It is found that the amount of investment is \$ 10 million, and it is required to make the investment to \$ 15 million. US Equity, Australian Equity, Bond and Cash Securities are the one which will be effective. From the analysis, it is found that the return is \$ 950, 000, while the equity would be 10, 950, 000 \$. However, it is lower than the 15 million equity which is not enough to buy the Vineyard in Southern Australia, and it will not be effective for the investor.

References

Chandra, D., Comora, M., & Cole, B. (2003). *George Washington's teeth* (1st ed.). New York: Farrar Straus Giroux.

DeFusco, R., McLeavey, D., Pinto, J., & Runkle, D. (2007). *Quantitative investment analysis* (1st ed.). Hoboken, NJ: Wiley.

Kolbe, P., & Greer, G. (2006). *Investment analysis for real estate decisions* (1st ed.). Chicago, IL: Dearborn Real Estate Education.

<https://assignbuster.com/mean-variance-analysis-report-example/>

Razin, A., Helpman, E., & Sadka, E. (2003). Economic policy in the international economy (1st ed.). Cambridge, U. K.: Cambridge University Press.

Reilly, F., Brown, K., Lin, H., & Zhao, X. (2005). Investment analysis and portfolio management, 7e =(1st ed.). Beijing: Gao deng jiao yu chu ban she.