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DIVERSIFICATION OF DIFFERENT ASSET CLASSES USING CRYPTOCURRENCY: Diversifying and Earning Higher Risk-adjusted Returns for Various Asset Classes Using Cryptocurrencies

Abstract

An upsurge in the use, exchange, demand and valuation of cryptocurrencies has led to it becoming a buzzword in the news. Cryptocurrency is the new form of digitized money where traditional money can be converted into digital money using blockchain technology which effectively helps to eliminate the need for intermediaries such as banks. Today, there are almost 500 types of cryptocurrencies with Bitcoin (BTC), Litecoin (LTC), Ripple (XRP) and Ethereum (ETH) with the highest trading volumes. The volatility of cryptocurrency makes it a speculative asset which attracts risk loving investors. However, Bitcoin's contingency may lead to unpredictable price changes, resulting in investors vulnerable to substantial risks. Therefore, this research paper aims to analyze the effect of multiple cryptocurrencies, excluding any other assets, for an optimal portfolio. For this purpose, daily historical data for the cryptocurrencies i.e. Bitcoin, Ethereum, Ripple, Bitcoin Cash and Litecoin was collected for the past five years, Furthermore, in order to keep the portfolios consistent in generating accurate results, data for equity, currency and commodity portfolios was also collected for the past five years. This helped achieve the optimal cryptocurrency portfolios with the appropriate return-risk for investors.

Key findings

The findings signified how cryptocurrency maximizes Sharpe ratios, that are used to explain investment returns in comparison to the associated risk, in a portfolio as results indicated that adding several cryptocurrencies to the equity portfolio can result in a potential risk reduction and an increased expected return of portfolio, whereas the estimation error in mean and covariances may offset the gains from optimal diversification. Such diversification helps in earning higher risk-adjusted return compared to the traditional portfolio of assets. Furthermore, the study supported that naive diversification is as good, if not better, than optimal diversification.
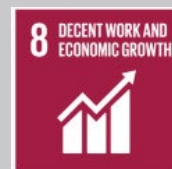
Implications

This study can help investors make more informed decisions since the conclusion that there can be potential risk reduction by mixing several cryptocurrencies in the portfolio may also attract risk averse investors to invest in cryptocurrencies in order to maximize their risk-adjusted returns. Furthermore, it indicates that investors should use more sophisticated portfolio techniques that consider the control of estimation errors in the input parameters when managing cryptocurrency portfolios and hence, they should invest in equally weighted CC-only portfolios for optimal results.

SDGs

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Keywords

Cryptocurrency	Equity
Investment	Commodity
Digital Money	Risk-adjusted Returns
Bitcoin	Risk Reduction
Ethereum	Risk-Averse Investors
Ripple	Diversification
Investors	Optimal Portfolio
Risks	Bitcoin Cash
Assets	

Citation

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