Determining Asset class in stock market for generating long-term return.

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➢ Abstract

Through an examination of historical data available in the market and a comprehensive statistical analysis using various calculations, this research aims to analyze and compare the performance of different asset classes to identify which asset class can be efficient in delivering better returns. At the same time, this thesis will also consider factors such as risk, volatility, and correlation with market indices, covering the period from the year data is available to the present, to make a statical decision.

In simple terms, researcher would make a deeper analysis to know if stocks, bonds, real estate, or alternative assets offer a favourable source of return on a long-run basis as compared to investment in other unregulated asset classes like collectibles or cryptocurrencies. Further, researcher would analyze which asset class among traditional or unregulated asset classes will generate a higher return as compared to each other in the long run. At the end, the findings of this study will not just help investors make well-informed decisions regarding their investment portfolios but will also provide valuable insights for financial professionals and policymakers as well.

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I. CHAPTER – 1: Introduction

1.1 – Overview

With a long history dating back centuries, the stock market has grown to become a vital component of the world financial system. Since its modest origin was in the 17th century, the stock market has seen tremendous expansion and many changes, that is interrupted by a number of turning points and periods of uncertainty. The stock market is assumed to be stable right now, although there may be some sporadic swings caused by geopolitical and economic issues. Technology breakthroughs and growing retail investor engagement have made the market more dynamic and approachable. Given that the stock market continues to be a venue for investment opportunities and wealth generation, its future prospects seem to be bright in a country where geopolitical stability is noticed. In 2020, the Covid -19 pandemic has caused both severe drops and a quick recovery. Looking ahead, a number of factors, such as global geopolitical stability, economic policies, technological breakthroughs, changes in regulations, and investor attitudes, will determine the stock market's future possibilities. As a result, all types of investors must remain informed and adjust to changing market conditions at all times; (*Harper, D.R. 2022 and Beattie, A. 2022*).

Several key factors should be considered when identifying asset classes with the potential to generate higher long-term returns. For example, historical performance can provide insight into how various asset classes have performed over time. Analysing past returns can also help identify trends and patterns, but it should be noted that past performance cannot guarantee future results. It is also critical to evaluate the fundamental characteristics of each asset class. Risk, volatility, and correlation with other assets should all be considered while making a decision. Understanding the risk-reward trade-off of each asset class can also help determine their long-term potential for higher returns. Diversification is another important factor to be considered, and creating a well-diversified portfolio that includes a mix of asset classes can help to manage risk and potentially enhance overall returns. By spreading investments across different asset classes, investors can mitigate the impact of any single asset's performance on their portfolio. But in this thesis project, it would only discuss analysis in isolation within asset classes, not based on the mixing of different asset class approaches. Additionally, staying informed about macroeconomic trends, market conditions, and geopolitical factors is a crucial element, and rapid changes in these areas can have a significant impact on overall returns. It is critical to remember that investing is always risky, and no asset class can guarantee greater results. Thorough research, forecasting, and gathering the company's information can help in finding appropriate asset classes that correspond with the long-term investing goals of clients; (*Damodaran, A. 2012, Black Rock, Wiley – CFA*)

This thesis report will explain each asset class in detail and show how each asset class plays a critical role in different scenarios (during inflation and normal market conditions) when it comes to generating returns for its investors in the long run. Also, before audience understand the nature of returns and conduct any further analysis, it must first understand the various types of investors and their characteristics. It would be difficult to make an asset allocation analysis to select the best asset class if audience were not clear on the return objective. When it comes to investing, selecting the right asset class is essential for obtaining long-term returns and meeting financial goals. Investors are usually faced with the dilemma of determining which asset class produces the best long-term returns. Determining which asset class produces the best long-term returns is becoming increasingly important for individuals wanting to maximize their investment portfolios. While no asset class can guarantee greater returns on a constant basis, historical data and existing research can provide insights into the performance of various asset classes over long periods of time. Past performance, however, is not a guarantee for a future result, and stock market returns may change at any time owing to economic conditions, geopolitical events, market sentiment, or a variety of other external variables.

Because the capital market is a component of the financial sector, determining which asset class would assist individual and institutions in creating long-term returns is challenging. Another concern that comes to mind is: when some studies are currently available on the market, why it is needed to conduct additional studies on the same? The reason is that, in order to generate maximum return and minimize risk, individuals or institutions have focused more on investing in a mix-structure in modern times. This involves combining different asset classes altogether (e.g., a portion in bonds, a portion in equity and balance in derivatise or real-estate), but this is not possible in all market scenarios or in all nations where the market is transactionally, operationally, and financially inefficient, such as Brunei, Monaco, Yemen, Cuba, and many other nations.

To summarize, in short, determining which asset class is better for long-term investment and provides superior returns is influenced by a variety of factors. All asset classes have different characteristics and return potential. A thorough assessment of risk, historical performance, and diversification is required to perform better analysis to determine which asset class is better for generating long-term returns. This thesis project would be divided into two parts. The first part would be to analyze by considering various factors to know which asset class offers a better source of return. In the second part, it will examine how various external parties will benefit from the above analysis in making long-term and short-term investment decisions.

1.2 – Research Aim

This study seeks to address a gap in existing research based on the opinion of the various authors, that an asset class return that are generated are in specific point of time for specific time zone and it tends to remain ineffective during market turmoil like Covid or any other crises; (*Siegel J.J, 2008*). Through a rigorous analysis of existing literature, research articles, news articles, and the opinions of industry professionals, this research seeks to identify whether it is possible to generate a return via investing in various modern asset classes (traditional asset class including alternative investments, and real state) in the long run as compared to non-regulated asset classes (like collectables or cryptocurrency's). Then based on above analysis researcher will find out which is that asset class that would generate outstanding performance as compared to all other classes? The goal of the research would also be to determine which asset class provides the best returns. This would entail comparing the performance of various asset classes, such as stocks, bonds, real estate, and commodities, to determine which has historically delivered higher returns over a given time period, even during an uneven business cycle.

Various financial metrics and statistical techniques, such as calculating average annual returns, assessing risk-adjusted returns, and examining historical price data, can be used to conduct this analysis. In order to gain a comprehensive understanding of the performance of each asset class, factors such as market conditions, economic indicators, and behavioural finance has to be kept in mind.

1.3 – Research Objective

The research object of the thesis report could be to help a large audience make investment decisions based on this research report in a specific scenario when an individual, due to specific circumstances, could not invest in the portfolio of an asset class and would like to just invest in an individual asset class. Due to an uneven economic cycle, the market would not be predominantly open for investment. There are many countries in the world that have transactionally, financially, and operationally inefficient stock markets and do not have sufficient listed shares or bonds to form a portfolio of various asset classes. These research reports should help them make investment decisions in isolation.

This thesis should also help various government entities to make investment decisions and to make a framework for various government policies. It should also help various other corporate entities to make investment decisions about investing surplus funds to generate additional sources of return. It should also help individuals seek advice and guidance in terms of investing their personal funds, and at the same time A non-profit-making organization can also take suggestions in identifying an appropriate asset class for investment based on their objective to generate a stable periodic return. The bank can also take suggestions on how they could channel the funds from the area of surplus to the deficit region.

It is very crucial for the researcher to perform the research because it would really help a large audience make decisions.

Research Question would be to analysed…….

1) *Do modern asset classes (traditional asset class including alternative investment and real-estate) really contribute in generating returns in the long run as compared to other unsymmetric, unregulated asset classes like collectibles or cryptocurrencies?*
2) *Based on the above analysis researcher would find out which asset class would contribute to generating a return in the long run, whether it is stocks (equity), fixed-income (bonds), real estate, or alternative investment?*
3) *How would the statistical analysis will benefit the third party?*

II. CHAPTER – 2: Literature Review

2.1 - Brief overview

A comprehensive examination of the prospects for various asset classes to generate superior long-term returns is the subject of past historical outcome and analysis technique used by each author. The goal is to identify the asset class with the greatest long-term growth potential. This analysis aims to provide insight into the asset class that provides the most profitable returns over time by examining historical data and diving into the intricacies of financial markets.

Finding the asset class that yields the highest long-term return necessitates a careful examination of a number of variables. Although they have the potential to grow significantly, stocks are inherently volatile (*Ibbotson, R.G. & Sinquefield, A. 1976*). They can have a restricted potential for long-term returns, bonds offer stability (*Fama, E.F. & French, K.R. 1992*). Even when market dynamics can be unpredictable, real estate offers tangible assets with potential for appreciation and rental income (*Geltner, D & Fisher, J. 2007*). Commodities can be used as a hedge against inflation and a source of diversification, their supply and demand dynamics can also lead to burstiness. Even they present special opportunities, alternative investments are more complicated and riskier (*Lhabitant, F.S. 2004*). The asset type that best suits an investor's long-term wealth accumulation ambitions will ultimately depend on their time horizon, investing goals, and risk tolerance. In an effort to produce higher returns over a prolonged period of time, a diversified portfolio comprising a variety of asset classes may offer the ideal balance between burstiness and perplexity (*Brinson, P.G; Hood, L.R. and Beebower, L.G. 2018*).

This literature review will focus on the core concepts of asset diversification, types of investors, asset classes and their characteristics, and other significant concepts based on the opinions of the various authors in both positive and negative aspects. researcher would find a research gap exists between the opinions of the authors for this specific study. Several statistical elements, analytical tools, ratio calculation, market sentiment, geopolitical events, historical data, and more will be taken into account in this study to draw a final conclusion.

2.2 - Key concepts

The key concepts are very essential for this thesis project. Without the key concepts, it would be very difficult to understand the terminology and few author perspectives. Thus, understanding the key concepts would help to quickly flow through the knowledge of this thesis project.

a) What is an asset class?

b) How asset class behave during different market conditions?

c) What is a modern asset class vs. a non-regulated asset class?

d) What are the different types of investors in the capital market?

e) What is the investment horizon (short vs medium vs long term)?

f) Investing in an asset class in isolation vs in combine mix-structure.

g) Factors to be considered in making an analysis for identifying asset classes?

This all-over aspect has to be understood in detail before a final conclusion is drawn based on a literature review and analysis of the research gap.

After this key concept the researcher have made literature review analysis section separately where researcher justify the research objective of the thesis.

In this thesis report, the modern asset class is considered to be stocks (common equity), bonds (fixed income), real estate, alternative investments, and, to some extent, commodities as per suggestion of some authors; which is combination of traditional and non-traditional asset classes. Non-regulated asset classes are categorized as digital currencies and collectables only.

Also, the word modern asset class is interchangeable with traditional asset class in this context.

2.2.1 – Type of Asset classes

The asset class is a collection of investments and are governed by the same rules and laws, as a result, instruments that frequently exhibit comparable market behaviour make up asset classes. It also refers to combining similar financial instruments into groups. As an illustration, the equities of Google, Microsoft, and Apple are grouped together. Within multiple asset classes, there is typically relatively little correlation and occasionally it may be a negative correlation; (*Riyazahmed, K. 2023*). Equities, bonds, real estate, and alternative investments are examples of common asset classes. (*Bodie, Z; Kane, A; Marcus, A.J. 2014*).

A. Equity: Equities (called common stock) represent ownership interest in the company, which is issued by publicly traded firms. They trade on stock exchanges. Equities are sometimes classified into small-cap, mid-cap, and large-cap stocks based on market capitalization; (*Park. M. 2023*). Upon purchasing stock, an individual gains ownership stake in that business; (*Graham, B. & David, D. 2008*).

B. Bonds: Bonds (called Fixed Income securities) are the debt obligations of corporations, governments, and municipalities. Purchasing a bond indicates that a buyer is taking on a portion of the debt of the issuing company and that they will be paid interest on the bond on a regular basis as well as get the money back when it matures; (*Graham, B and David, D. 2008*). Bonds also include notes, debentures, Treasury bills and note are also included; (*Murphy, C.B. 2023*).

C. Real estate: Real property such as real estate are believed to be an asset class that provides inflation protection. These assets are also regarded as more "real" assets due to their tangible nature. They are not same as the assets that only exist as financial instruments, like derivatives; (*Park, Meeyeon. 2023*).

D. Alternative Investment: A financial asset that does not fit into one of the traditional investment categories is called an alternative investment. Venture capital & private equity, hedge funds, managed futures and derivatives contracts are examples of alternative investments. It Enable investors to pursue returns that are less correlated with the stock market and to further diversify their holdings; (*Chen, J. 2023*).

Additionally, some authors have also included Commodities as well under asset class.

E. Commodity**:** Commodities can be bought and sold directly by traders and investors in the spot (cash) market or through derivatives like options and futures. Soft commodities are typically agricultural products, whereas hard commodities are energy and metal products. (*Fernando, J. 2023*).

Refer appendix section to know about what is Cryptocurrency and Collectables.

2.2.2 – Asset class behaviour (Inflation vs normal market scenario)

Inflation and normal market conditions have varied effects on asset class behaviour. Understanding how various asset classes react to these conditions is critical for investors looking to optimize their portfolios. On the other hand, inflation denotes a persistent rise in the average cost of goods and services. The purchasing power of money is diminished by inflation, which has varying effects on the performance of different asset classes. It is important to note that asset class behaviour during inflation & normal market conditions can be influenced by a variety of factors, including economic indicators, central bank policies, and investor sentiment; (*Fernando, J. 2023*).

A. Equities (Common Stocks): When the market is functioning normally, corporate profits, investor sentiment, and strong economic growth all together contribute to the success of stocks. However, the performance of stocks can be inconsistent during inflationary times. Higher input costs for businesses due to inflation may have a detrimental effect on their profitability. Nevertheless, some industries, such as materials, energy, and commodities, might profit from increasing prices, thus minimizing the effect of inflation on stocks; (*Allianz SE, 2023 & Investopedia team. 2022*).

B. Bonds (Fixed Income): During Standard market circumstances in general, bonds; especially government bonds, are seen as safer investments. Central banks typically keep interest rates reasonable during periods of economic stability, which helps to keep bond prices stable. When nominal interest rates rise during inflationary conditions, it is because inflation reduces the buying power of upcoming bond interest payments. Lower-interest-rate bonds that are already in place may lose value, but other inflation-protected instruments can act as a hedge by factoring in inflation; (*Allianz SE, 2023 & Investopedia team. 2022*).

C. Real Estate: In a normal market, as demand for real estate rises during economic expansions, property values frequently rise as well. Housing markets can also rise as a result of low interest rates, resulting in rising consumer confidence. However, during inflationary times, real estate is frequently regarded as an inflation hedge. The replacement cost of physical properties increases along with the general price level, which could result in higher real estate values; (*Allianz SE, 2023 & Creedon, N. 2022*).

D. Alternative Investments: Hedge funds and private equity are examples of alternative asset classes that may provide uncorrelated returns and diversification advantages over traditional asset classes under normal market conditions. However, in an inflationary environment, alternative investments may perform differently. Certain strategies, may be intended to act as a hedge against inflation, but same time they cannot ensure successful returns; (*Allianz SE, 2023 & Investopedia team. 2022*).

In conclusion, to the above points A, B, C, and D, it is critical for investors to comprehend how different asset classes respond to normal market conditions and inflation. Real estate, bonds, and stocks all typically follow their own performance patterns in a typical market. It's important to realize that many factors can influence these broad trends and that individual assets within each class may respond differently to shifting economic conditions. A few other important elements that affect changes in asset prices are investor sentiment and market expectations; (*Nielsen, B. 2023, Investopedia team. 2022*).

*Refer the (**Chat – i**) in appendix section to understand the over view for this concept.*

2.2.3 – Investing in Modern asset class vs Non-regulated asset class

Investing in contemporary asset classes offers different opportunities and risks for investors than non-regulated asset classes like collectibles and cryptocurrencies. Stocks, bonds, alternative investments and real estate are considered to be modern asset classes (together with traditional asset class including alternative investment and real estate) that provide regulated and well-established investment options. This asset class frequently have extensive historical performance data and precise valuation techniques. However, non-regulated asset classes are less regulated. Although these asset classes have greater risks, and they might have special investing opportunities. Collectibles' subjective worth is determined by a number of variables, including market trends, desirability, and rarity. Because they are decentralized and extremely volatile, cryptocurrencies don't offer investors the same level of safety as regulated assets and are subject to large price volatility; (*Tambe, N. and Aashika, J. 2023, Ermey. R. 2021*)

Real estate investments like real estate funds and real estate investment trusts (REITs) are two regulated options for purchasing real estate. These asset classes are frequently governed by regulatory frameworks that protect investor interests and ensure market transparency. While traditional financial instruments are frequently more liquid and traded on reputable exchanges, these asset classes provide diverse investment opportunities within regulated frameworks, facilitating efficient portfolio diversification; (*Bodie, Z. and Marcus, A. J. 2014, Geltner, D., Miller, N.G., Clayton, J., Eichholtz, P. 2007*)

The majority of non-regulated asset classes are collectibles and currencies. Investments in art, antiques, and other collectibles are unregulated and subject to personal preferences such as aesthetics and trends, but investments in cryptocurrencies such as Bitcoin and Ethereum are decentralized and unregulated by traditional financial authorities. Non-regulated asset classes may lack to safeguard investor interest, leaving them more susceptible to fraud, market manipulation, and regulatory ambiguity. Non-regulated assets may experience more volatility and liquidity difficulties, particularly in markets with less transparency and well-established trading platforms; (*Adriano, P. 2022, Narayanan, A. and Bonneau, J. 2016*)

2.2.4 – Different type of Investors

The stock market is a complicated financial ecosystem in which many parties participate, each with specific roles, motivations, and investment goals. These parties all play different roles in the buying and selling of securities. Together, these players support the stock market's efficiency, liquidity, and smooth operation. Anyone involved in the stock market, from investors to policy makers, has to know the roles and relationships among these participants. Some of these participants includes,

A. Individual investors, or retail investors are those individuals who invest their personal money in the stock market on day-to-day basis. They can be as casual as investors who trade once in a while or as active as traders who keep a close eye on the market and buy and sell stocks frequently; (*US: SEC. 2007*). According to (*Malkiel, B.G. 2019*); retail stock investors who use their own money to purchase stocks. Beginners, seasoned investors, and active traders may be among them.

B. Institutional investors are organizations that manage large sums of money on behalf of their clients or shareholders. These organizations include pension funds, mutual funds, insurance companies, endowments and hedge funds. Institutional investors frequently have expert investment teams & use specialized techniques to meet their financial objectives at given time horizon; (*Fabozzi, J. and Drake, P. 2009*).

C. Investment banks are vital as middlemen between investors and companies. By supporting initial public offerings (IPOs) and facilitating the issuance of stocks, they help businesses raise money. Investment banks carry out research and analysis on a range of stocks and industries in addition to offering advisory services to institutional investors; (*Rosenbaum, J. and Pearl. J. 2009*).

D. Market makers are specialized companies or people who help the stock market stay liquid. They guarantee that there is a market for those securities by offering constant buy and sell quotes for particular stocks. Market makers are essential to preserving a productive and well-organized trading environment; (*Harris, L. 2002*).

E. High-frequency traders (HFTs) are knowledgeable market participants who execute trades at extraordinarily fast speeds using cutting-edge technology and algorithms. HFTs seek to profit from minor price differences and inefficiencies in the market. They frequently take advantage of brief price fluctuations by making a lot of trades in a short amount of time; (*Chen, J. 2021 and Aldridge, I. 2010*).

F. Brokers and brokerage firms acting as intermediaries between investors and the stock market facilitate the buying and selling of securities. In addition to performing trades on behalf of their customers, they offer beneficial services like portfolio management, market research, and investment guidance. These organizations get paid in fees or commissions for their services; (*Hayes, A. 2022*).

G. Regulatory bodies monitor and control the operations of the stock market to preserve the fairness and integrity in the markets. These organizations, which include example like the Securities and Exchange Commission (SEC) in the US, SEBI in India implement laws, rules and regulation to safeguard investors right and at same time encourage openness. They keep an eye on adherence, look into possible irregularities, and implement their power in levying charges and penalty; (*Caclin, F. 2023 and Schmidt, M. 2021*)

2.2.5 – Investment horizon

In the stock market, the investment horizon refers to the amount of time an investor is willing to hold onto their investments until expected to achieve their desired financial objectives. It denotes the time frame in which an investor expects to see a return on their investment or achieve a specific goal. The investment horizon varies greatly from person to person, depending on their financial goals, risk tolerance, and investment strategy. Some investors focus on the short term, hoping to profit from short-term market fluctuations or seize specific opportunities. Others have a long-term perspective, hoping to accumulate wealth over time by investing in well-established companies or diversifying their portfolios. It's crucial to remember that the investment horizon might vary depending on the kind of investment instrument; (*Bodie, Z, Kane, A., Marcus, J. 2014 and Chen, J. 2020*)

A. Short-term investments are those that are expected to last less than five years. These investments are suitable for investors who are nearing retirement or who will require a large sum of cash in the near future. Money market funds, savings accounts, certificates of deposit, and short-term bonds are excellent short-term investments because they can be easily liquidated for cash; (*Chen, J. 2023*).

B. Medium-term investments that are intended to be held for three to ten years fall under this category. Examples of these include savings for a first home, marriage, or college. Because medium-term investment strategies typically strike a balance between high- and low-risk assets, a combination of bonds and stocks would be a good way to safeguard your wealth from inflation; (*Chen, J. 2023 and Bogle, J.C, Swensen, D.F. 1999*).

C. Long-term investment is those which are intended to be held for ten, twenty, or even more years is considered to be within the long-term investment horizon. Retirement savings are among the most popular long-term investments. Generally speaking, long-term investors are more willing to take on more risk in order to generate larger rewards; (*Chen, J. 2023 and Bogle, J.C, Swensen, D.F. 1999*).

2.2.6 – Investing in asset class in isolation vs combination

When it comes to investing, people can choose to make separate or combined investments in different asset classes. Every strategy has pros and cons of its own, and the choice is based on a number of variables like market conditions, financial objectives, and risk tolerance. If investors invest in an asset class in isolation, then they will only be making one kind of investment. This strategy enables focused exposure to a particular asset class, which may be advantageous if the investor possesses in-depth knowledge or experience in that field. Additionally, it reduces the need for constant monitoring and rebalancing and streamlines the investment strategy. On the contrary, investing in a variety of asset classes, commonly referred to as diversification, entails distributing your money among a range of asset classes. By spreading out exposure to different sectors, industries, or geographical areas, this strategy seeks to lower risk. Investors may be able to reduce volatility and improve their portfolio's overall risk-adjusted returns by combining assets with varying risk and return profiles. Combining stocks, bonds, real estate, and other alternative investments can help achieve diversification and generate a better return; (*Palmer. B. 2022 and Graham. B, Buffet. W, Zweig. 2006*).

Investing in just one asset class exposes the investor to greater risk in the event that the asset has underperformed, even though it may in future offer the possibility of higher returns if the asset performs well. On the other hand, by possibly profiting from the performance of other asset classes, a diversified portfolio can help reduce the impact of poor performance in one of them. It is important to remember that every person will have a different ideal strategy for investing, whether it be in isolation or in combination. When choosing the best investment strategy, factors like time horizon, financial goals, risk tolerance should be taken into account; (*Malkiel, B.G. 1973*)

Context:

A. Investing in Isolation involves:

i. *Simplicity generated*
ii. *Specialized knowledge required*
iii. *Targeted Objectives achieved*
iv. *Concentration Risk*
v. *Market Volatility increases*

B. Investing in Combination involves:

i. *Diversification benefit*
ii. *Risk management possible*
iii. *Market Opportunities*
iv. *Long-Term Stability*
v. *Complexity increases*

In conclusion, to the context **A** & **B** above, there are a variety of factors to take into account when investing in asset classes individually or in combination. To find the strategy that fits their objectives and risk tolerance, investors should assess their unique situation and make a decision; (*Chaddha. P. 2014, Bogle. C.J. 1999 and Bernstein, W.J. 2000*).

2.2.7 – Factors to be considered for asset allocation

Asset allocation refers to the strategic distribution of investment funds among various asset classes, such as stocks, bonds, cash, and alternative investments. It is a critical component of investment portfolio management that diversifies investments in order to maximize return while minimizing risk. According to (*Malkiel, B.G. 2020*), asset allocation is an important component of portfolio building and is also important to long-term financial success, whereas individual securities selection is not as important in determining portfolio performance under the asset allocation process.

According to (*Malkiel, B.G. 2020*), Investors should allocate their assets based on their risk tolerance, time horizon, and financial goals. Also, it is important to diversify across asset classes to spread risk and potentially boost returns. Investors can create a well-balanced portfolio that aligns with their specific investment objectives by combining assets with varying risk and return characteristics. The concept of asset allocation is widely accepted in the investment community. According to different studies, asset allocation accounts for a significant portion of portfolio performance; thus, investors can reduce the impact of volatility and improve risk-adjusted returns by diversifying across asset classes.

According to an investment report published by (*Vanguard - Investment management company*), the following variables should be considered during the asset allocation process. By carefully considering these factors, investors can develop an asset allocation strategy that is tailored to their specific circumstances and goals.

A. Risk Tolerance**:** The ability and willingness of an investor to tolerate variations in the value of their investments is referred to as risk tolerance.
B. Time Horizon**:** An investor's time horizon is the amount of time they have left before they expect to need the money from the investments they have made.
C. Financial Goals**:** When allocating assets, an investor's specific financial goals, such as funding education, saving for retirement, or buying a property, should be taken into account.
D. Market Conditions**:** When allocating assets, one should consider the current state of the market, which includes inflation, borrowing costs, and the outlook for the economy under differing market conditions, different asset classes exhibit varying levels of performance.
E. Investment Diversification**:** A portfolio that is well-diversified has the potential to improve risk-adjusted returns by reducing the impact of market downturns and generating gains from various other sources.

2.3 - Literature Review Analysis: Positivism/Deductive & Research gap analysis

OBJECTIVE – 1: ***Traditional/Modern assets offer a favourable source of return in the long run as compared with other investments in unregulated asset classes like collectibles or cryptocurrencies?***

2.3.1 – Positivism and Deductive – (for asset class)

As per the renowned author (*"A Random Walk Down Wall Street": by Malkiel, B.G. (2019); edition*) – In the time series strategy for successful Investing section; author mentions that stocks (means equity) have a track record of providing investors with favourable returns over the long run and same time author stresses on the value of having a long-term investing strategy and the possible advantages of holding stocks for extended periods of time. This author backs up his claim with the fact that stock market returns have historically beaten those of other asset classes like bonds and cash. By demonstrating the historical growth and compounding effect of stock investments, author provides evidence of how investors who have held diversified stock portfolios for extended periods of time have significantly increased their wealth. Author also explores the idea of market efficiency, which believes that stock prices accurately reflect all available information. As an alternative, author supports a passive investing strategy that offers low costs and diversification and at same time, authors perspective is consistent with his conviction regarding the stock market's capacity for long-term growth as an asset class.

According to (*"Investment Valuation: Tools and Techniques for Determining the Value of Any Asset" by Damodaran, A. (2012)*), conventional assets like stocks and bonds have the potential to yield profitable returns in the long term. The author emphasizes the importance of evaluating the cash flows and income generation potential of these assets, as these factors greatly influence their value over time. Overall, the author's viewpoint aligns with the belief that traditional assets can offer favourable long-term returns when their cash flows and income-generating potential are carefully examined. However, the author is skeptical about investing in non-regulated asset classes, as there is insufficient historical evidence to suggest that they have consistently generated profits in the long run. Therefore, investors should exercise caution when considering investments in non-regulated asset classes like collectibles or various forms of digital currency, unless they are risk-seeking investors with a long investment horizon and sufficient knowledge to manage their risk exposure through other hybrid securities.

In the opinion of another author (*"The Intelligent Asset Allocator": How to Build Your Portfolio to Maximize Returns and Minimize Risk" by Bernstein, W. J. (2000)*); When contrasting regulated and unregulated asset classes, author highlights the potential returns provided by traditional asset classes. According to author in this context, conventional asset class like stocks have historically produced positive long-term returns. These asset classes, have well-established markets, historical data, and underlying fundamentals that empower investors

to make better-informed investment choices. The potential for long-term capital appreciation and income generation through dividends or interest payments has been shown by these asset classes, particularly stocks. *Bernstein, W.J. (2000);* claims, that non-regulated asset classes which might include cryptocurrencies or collectibles do not have the same standards of transparency, regulation, or past performance information. These non-regulated asset classes have higher risks and frequently uncertain potential returns because of their speculative nature and inadequate market infrastructure.

A one more author in (*"Real Estate Riches": How to Become Rich Using Your Banker's Money" by Roos, De.D. (2001)*); explain that there are a number of benefits to investing in conventional asset classes over non-regulated asset classes, especially real estate. Investors can obtain physical assets with inherent value through real estate. Real estate assets have physical properties that can provide income through rental payments or possible capital appreciation, unlike cryptocurrencies or collectibles, which might be subject to speculative pricing and lack underlying fundamentals. In the medium and long terms, real estate investments can generate a consistent income stream through rental payments. Compared to non-regulated asset classes, real estate markets are typically less volatile and more stable. According to (*Roos, De.D. 2001*), when there are long enough investment horizons, the regulated nature of the real estate market enables investors to reduce risk and make better-informed decisions. Author advises against making all the investments in unregulated asset classes, such as collectibles or cryptocurrencies, since their values are prone to large volatility and can be very speculative. Author advices investors to think about the advantages of conventional asset classes, especially real estate, which has a history of producing wealth over the long investment horizon.

Unlike another author, this author here makes comparison in his study. (*"Unconventional Success: A Fundamental Approach to Personal Investment" by Wensen, D.F (2005)*); makes a comparison between traditional asset classes like stocks and bonds and non-regulated asset classes. The author highlights the advantages of traditional asset classes, as they operate within established regulatory frameworks, providing investors with oversight and transparency. On the other hand, non-regulated asset classes, such as collectibles and cryptocurrencies, have less regulation, which increases the risk of fraud for investors. Traditional asset classes have extensive historical performance data, enabling investors to analyze trends, make informed decisions, and set reasonable expectations. Stocks and bonds have demonstrated long-term growth and income potential within specific time frames. In contrast, non-regulated asset classes often lack robust historical data, making it challenging to accurately assess their long-term performance and potential returns. Traditional asset classes also offer greater liquidity, allowing investors to easily buy and sell their investments at fair prices.

In the above similar author study in different context; In (*"The Four Pillars of Investing: by Bernstein, W.J. (2010)*); the author provides information about the restricted long-term investment potential of unregulated asset classes such as cryptocurrencies and collectibles. Author argues that these asset classes might not provide consistent returns in the long run because of their speculative nature and shortage of historical data, rather the

investors should concentrate on assets that have established markets and track records. Cryptocurrencies and collectibles might attract attention and provide a brief rush of excitement, but they lack the essential elements that are needed for successful long-term investing. At same time author draws attention to the following causes of their limited long-term potential, the price of collectibles and cryptocurrencies is frequently speculative, driven more by market sentiment than by intrinsic value. There may be a great deal of price volatility as a result of this speculation. In comparison to traditional asset classes, collectibles and cryptocurrencies operate in less regulated and mature markets.

("*Cryptocurrencies: A Brief Thematic Review" by Chohan, W. C. 2018*); Cryptocurrencies have shown the potential for huge returns, particularly during certain periods. Bitcoin, for example, saw significant price growth in the years following its birth. Investing in unregulated assets such as cryptocurrencies or rare collectibles can help with diversification. Their returns may not be strongly associated with traditional asset classes such as equities and bonds, which might help with overall portfolio risk management. Unregulated assets are breakthrough technology and ideas that have the potential to disrupt existing industries. Investing in these assets allows investors to participate in technical breakthroughs and market changes. However Unregulated assets are sometimes viewed as speculative investments with a limited track record and considerable volatility.

("*Is Bitcoin a Real Currency? An Economic Appraisal" by Yermack, D. 2015*); The cryptocurrency market has grown a lot in the last several years, with increased liquidity and a smaller bid-ask gap. The issue of price quotations becoming unfeasible is being resolved by the evolution of highly automated trade platforms and exchanges. In terms of intrinsic value, the ability of cryptocurrencies to store value is demonstrated by the increased security of computers and trading platforms, as well as by the stabilization of volatility, which drastically reduces the danger of financial loss. The price of cryptocurrencies is known to change greatly over short periods of time due to their high volatility. During bullish times, this volatility might result in significant gains, but there is also a greater chance of losses as well. Overall, from the author's viewpoint, this growing digital currency market is providing a higher return than traditional asset classes, backed by higher risk and volatility in the short run.

2.3.2 – Research gap analysis - (for Asset class)

Authors such as *Damodaran, A. (2012)* and *Bernstein, W.J. (2000)* have discussed the historical performance of traditional asset classes, but there is a research gap in comprehensively comparing the historical returns of stable market situations (*but other market situations have been ignored*) to those of unregulated asset classes such as collectibles or cryptocurrencies. It would be difficult to determine whether traditional assets consistently outperform these unregulated alternative asset classes over time in an unstable market (*unstable economical and geopolitical situation*). It would be better if author had considered all the market scenarios rather than only focusing on stable or normal market situations.

As per Mayur's research opinion, few authors like *Malkiel, B.G. (2019)* have ignored this risk aspect to explain differences between the asset class in the context of the risk factor. Thus, Mayur's research opinion suggests that it would be better if a statistical test were used to prove the point in order to extend this research project further. In current scenario Mayur's research opinion suggest that unregulated asset class are also providing more return than other modern asset class as mentioned by *Chohan, W. C. (2018) and Yermack, D. (2015).* Despite the fact that some writers advise against investing in unregulated asset classes because of their unregulated nature and speculative nature, there is a lack of systematic data when it comes to evaluating the risks associated with these assets in comparison to traditional asset classes. To give a more thorough understanding of the relative risk levels of these asset classes more analysis is required to assess their risk-return profiles detail as well.
Also, some authors (*Bernstein, W.J. (2010)*) argue that traditional asset classes provide income-generating potential through dividends, rental income, or interest payments. There is, however, a research gap in determining the income potential of unregulated asset classes without a risk factor being considered (risk and return go hand in hand, and ignorance of the risk element is a concern). In real life scenario it would be difficult to determine whether collectibles or cryptocurrencies can provide alternative sources of income or cash flow as compare to traditional assets with respect to risk and return constraints considered in group.

On the other aspect Authors such as *Bernstein, W.J. (2010)* emphasize the liquidity and market efficiency advantages of traditional asset classes. However, there is a research gap in investigating market efficiency for unregulated asset classes. Further study is needed to evaluate the liquidity, transparency, and efficiency of collectibles and cryptocurrency markets, as well as their impact on pricing and returns in all three situations when the market is transactionally, operationally, and financially inefficient.

Diversification is often highlighted as a primary advantage of investing in traditional asset classes; however, there is an absence of research on the advantages of including unregulated asset classes in a portfolio, as mentioned by *Chohan, W. C. (2018)*; particularly when the portfolio mix structure is built between regulated and non-regulated asset classes. In a certain study by certain authors like *De, Roos. (2001)*, it is specified that assets like real estate have only the potential to generate stable income; are they not in such a position to combine with other classes to get diversification benefits? More research is

needed to determine whether incorporating collectibles and cryptocurrencies with traditional assets like real estate in REITs in a mixed asset allocation structure can improve portfolio diversification and provide risk management in fragile market situations, even *Chohan, W. C. (2018)* doesn't provide clear statical calculation on the same.

In conclusion, the reasons for and against investing in stocks, bonds, real estate, or alternative assets as opposed to unregulated asset classes like collectibles or cryptocurrencies highlight the complexity of investment decisions. The choice ultimately boils down to financial goals, an in-depth understanding of the unique characteristics and risk factors associated with each asset class, and an individual's risk tolerance capacity, which is highly subjective to determine. However, in research opinion, the authors have provided their opinion based on historical data, and no one has ever considered short-term horizons that may have existed in the past to show that return possibilities for asset classes may be possible. Thus, it would be necessary to present statistical presentation for research gap analysis based on *historical evidence* to conclude the point that traditional asset classes have proven to be more crucial in generating better "*risk-adjusted, systemic returns*" in the long run.

2.3.3 – Statistical presentation based on findings on research gap analysis.

Traditional asset classes, such as stocks and bonds, frequently have a longer track record of performance. Because non-regulated asset classes, such as cryptocurrencies, are relatively new, extensive historical data for similar analysis may be lacking. Traditional asset classes operate in mature markets with solid infrastructure. This consistency can lead to more predictable returns. Non-regulated asset classes may face market infrastructure challenges, resulting in potential inefficiencies and higher return uncertainty. Traditional asset classes are governed by regulatory frameworks that can offer investor protection and market stability. Non-regulated asset classes lack such oversight, exposing investors to greater uncertainty and risk. Variations in returns can also be attributed to differences in investor behaviour. Traditional asset classes may attract a more investor, including institutional investors, whereas non-regulated asset classes may be subject to speculative behaviour, resulting in lower short-term returns.

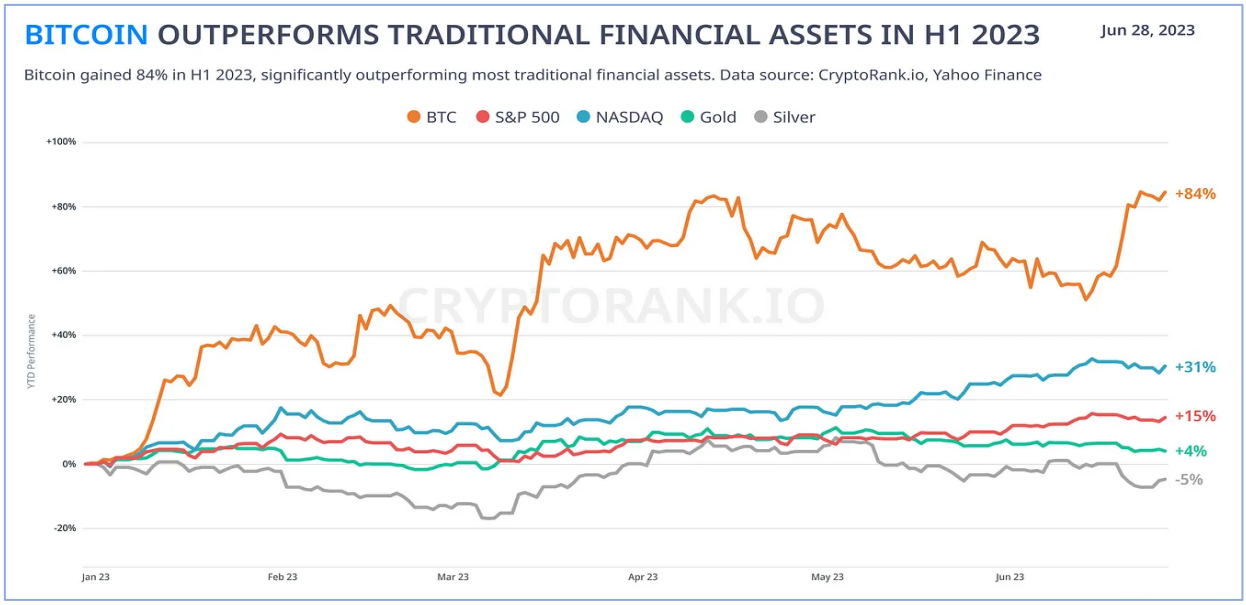
In the below (*Figure 1*), it can be noticed that when data is extracted with respect to cryptocurrency (Ethereum USD [ETH-USD]) versus S&P 500 US stock and NASDAQ composite for 5 years, the cryptocurrency has outperformed compared to other asset classes after 2018, but before this year, Ethereum was underperforming. After the pandemic, the global market has seen a sudden rise in the value of cryptocurrency when global equity was underperforming. But when the overall long 5-year investment horizon is analysed, it is clearly evidenced that equity index returns are much more stable as compared with cryptocurrency. And also, volatility in cryptocurrency can be noticed as compared to equity indexes. It is evidenced that returns from unregulated asset classes (here in this case crypto currency) are highly volatile and limited, which makes them less attractive sources of investment as compared with long-term stable performing asset classes. Overall *risk-adjusted return* of cryptocurrency is lower than equity asset class.

(*Figure 1*) – Crypto currency return vs. Equity asset class return (S&P 500 and Nasdaq)

Available: Yahoo Finance comparison (^GSPC, ETH-USD, ^IXIC) https://finance.yahoo.com/chart/%5EGSPC

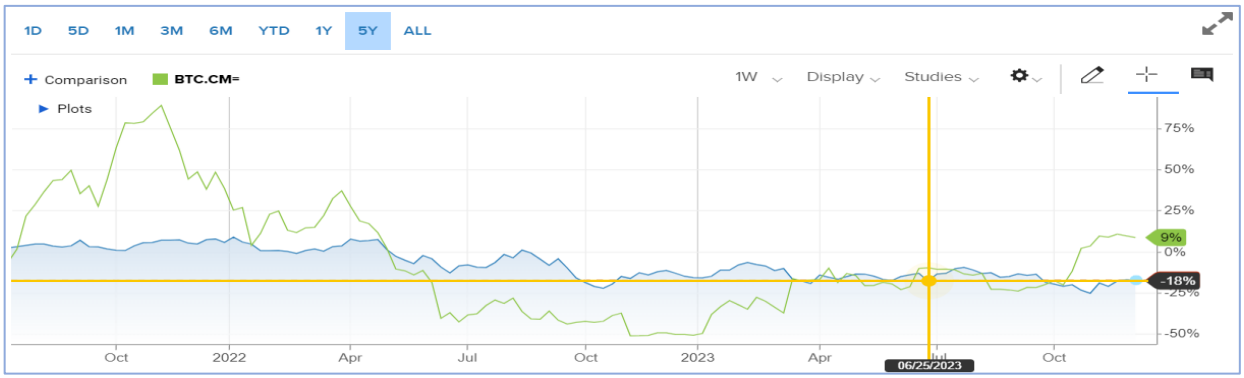
Note this above figure is designed by researcher in yahoo finance website. The researcher has chosen two separate company ticker id and made comparison; thus, it has to created again if needed to audience.

The graph in (*Figure- 2*) represents the performance of the cryptocurrency. Here, Bitcoin is taken as an example. It has been noticed from the below graph that crypto has outperformed due to popularity as compared to stock indexes and other collectables. The researcher wants to explain that despite the fact that the crypto currency is growing in demand and producing a higher return, it is only in the short run (time horizon) and has very high volatility (risk) factored into it, which makes it a less efficient and ineffective source of investment. On the other hand, other asset classes such as commodities and other two indices (S&P 500 and NASDAQ) have shown returns on average between -20% and 20% (less volatility). Also, (*Figure 3*) represents the return of the Real-estate index versus bitcoin as a cryptocurrency; unlike the above explanation, this digital currency has been outperforming in the short run, having extreme volatility. Then the overall period return is average considering even negative losses during the period of June to October 2022. Overall, it would be noticed that cryptocurrency has provided a less risk-adjusted return compared with the real estate asset class. (*refer appendix sec*.)



(Figure – 2) – "Return comparison among various asset class"

Source: *CryptoRank (2023), "Crypto Market Recap Q2,2023", medium.com, available at: https://medium.com/@cryptorank/crypto-market-recap-q2-2023-1077c757f4ea (accessed on 28th November, 2023)*



(Figure – 3) – "Return comparison among ALPS active REIT ETF and Bitcoin"

Sourced from – (*CNBC.com*) - https://www.cnbc.com/quotes/REIT?qsearchterm=reit

Note this above figure is designed by researcher in CNBC website. The researcher has chosen two separate company ticker id and made comparison; thus, it has to created again if needed to audience. And, thus, is does not have proper referencing format.

OBJECTIVE – 2: ***Among traditional assets which asset class offers favourable source of return in the long run as compared with other investments in unregulated asset classes like collectibles or cryptocurrencies?***

2.3.4 – Positivism and Deductive – (about type of asset)

In the famous publication called (*"A Random Walk Down Wall Street" by Malkiel, B. 2019*) discusses the benefits of long-term investing in equities (common stock) and makes arguments for the potential for higher returns when compared to other asset classes. The author emphasizes the principles of efficient markets and advocates for long-term investors to have a diversified portfolio that includes equities, at same time author also emphasis on the broader equity market rather than individual stocks, the principles discussed in the authors book generally align with the idea that a well-diversified portfolio of equities can provide superior long-term returns when compared to other asset classes.

Another author in (*Investopedia -What are Asset class? More the just stock and Bonds: by Ganti, A. 2023*); suggests, long-term returns are higher in the stock market, as evidenced by past performance. Taking into account inflation adjustments and reinvested dividends, the S&P 500's compound annual growth rate (CAGR) from the late 1920s is approximately 6.6%. Stated differently, an investment of $100 in the S&P 500 on January 1, 1928, would have yielded an approximate value of $42,500 (in 1928 dollars) by December 31, 2022, assuming there were no adjustments made for inflation. As of 2022, the sum would have increased to $727,560. To put it another way, the same $100 placed in five-year Treasury bonds would have only increased in value to slightly over $7,000 in today's dollar.

John Bogle, the founder of Vanguard Group explains in this book called (*"The Little Book of Common-Sense Investing" and "Common Sense on Mutual Funds"*) which emphasize the equity market as a whole rather than individual stocks. The fundamental concepts of these books support the idea that common stocks, when included in a diversified portfolio, can yield returns that are competitive with other asset classes. His investment philosophy was based on the idea that, in the long run, a well-diversified portfolio of common stocks could provide investors with competitive returns. Author believed in the power of market indexing, which involves investors holding a broad market index in order to track the overall performance of the stock market. Author focused on the larger equity market and promoted a long-term approach to investing. His ideas suggest that common stocks can be an important part of a well-built, diversified portfolio for many investors to generate higher return in long investment horizon.

As specified in the (*Schroder Investment Management Australia Limited by schroders.com.au in the "Investor Guide to Fixed Income",*) the fixed income security specifically Bonds, for example, are well-known for paying regular interest and returning the principal amount at maturity. When compared to the potential volatility of equity returns, this can provide more predictable income. Interest rate changes have an impact on bond prices, which are

generally more stable than stock prices, particularly in times of economic uncertainty. Because bonds are frequently chosen by investors as a somewhat safe haven during recessions, they are thought to be less volatile. Bondholders receive regular interest payments (coupon payments) for the duration of the bond, with the principal amount returned at maturity. This predictable income stream contrasts with the potential volatility of equity returns, where dividends are not guaranteed and capital gains and losses fluctuate, making equity a less attractive investment than bonds.

As per (*Ausenbaugh, E. & Gersch, T. 2023; "The case for alternative investing"- JP Morgen; Private bank*) Alternative investments, such as hedge funds and private equity, are considered to be a more modern way of investing to generate a better return than equity. In similar way unlike the (*"Connection capital an UK based firm – Capital connection.com*); the Alternative investment frequently highlights the diversification benefits which they can bring to a portfolio. Alternative assets, such as real estate or commodities, do not always move in conjunction with traditional equities, which can reduce overall portfolio risk. Some alternative investments are less correlated with broader market movements, which may be beneficial during times of economic uncertainty or market volatility. This non-alignment with traditional markets (like bonds and equity) may serve as a hedge against specific risks. Certain alternative investments, such as real estate or infrastructure projects, may provide consistent income in the form of rent or dividends.

As per (*"Why Real Estate is Less Volatile than the Stock Market" by Rohlfs, C. 2020; Fundrise.com*) Americans have preferred real estate as their long-term investment for eight years running, despite the fact that many investors place a lot of emphasis on the stock market. In actuality, the US stock market has more money invested in real estate than in stocks. In 2018, the total equity capitalization of the US stock market was $30.4 trillion, while the estimated value of US real estate was $49.3 trillion ($33.3 trillion in residential and $16 trillion in commercial). It's evident that real estate is a consistently attractive investing option even though the average investor pays less attention to it on an everyday basis. Also, in one of the authors publications (*"Real Estate Investment Trusts: A Review of the Financial Economics Literature" by Corgel, J.B; Mcintosh, W. and Steven, H. 1995*); Tax benefits are another benefit that real estate investments may provide. Compared to other forms of investment income, rental income from real estate properties, for instance, might be subject to reduced tax rates. Investors can also benefit from tax deductions for things like mortgage interest and depreciation. Leveraging investments is one more benefit of real estate. This implies that investors may finance a portion of their investment in the property with borrowed funds and can increase their returns if the value of the property rises. As compared to equity, this asset class would be able to generate a higher return.

2.3.5 – Research gap analysis – (about type of asset)

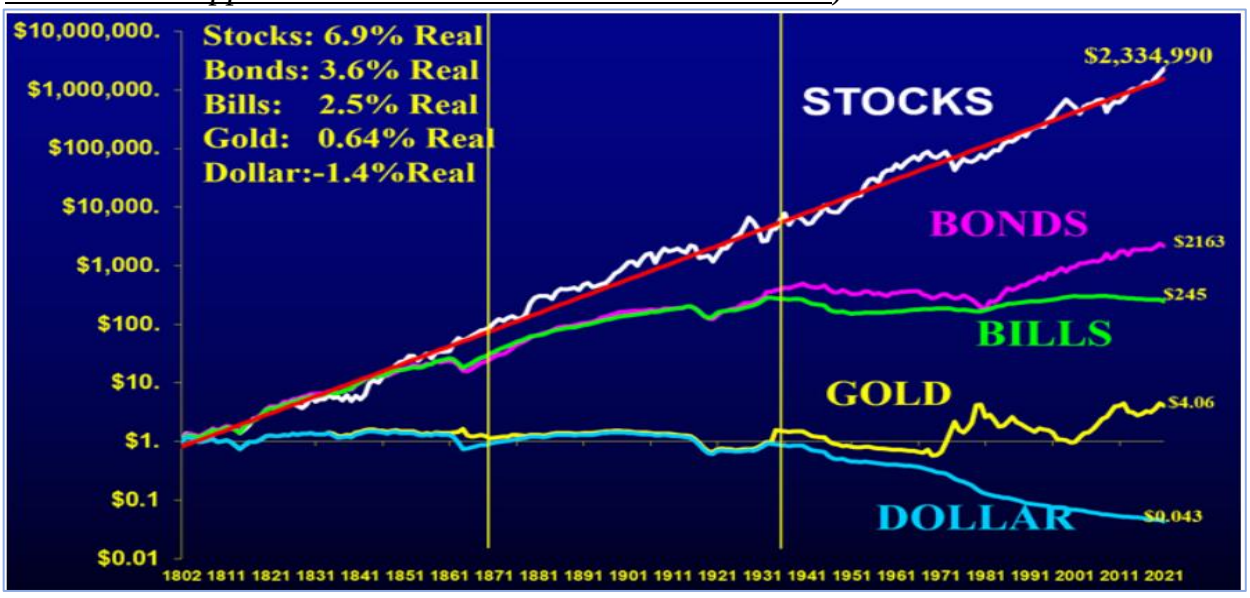
As various author and various publications specifies the positive and negative view point about various assets as compared to equity. In comparison to other asset classes like bonds or real estate, some researchers claim that the equity asset class generates superior returns. They contend that historically, the long-term performance of equities has outpaced that of other asset classes. On the other hand, some researchers contend that market and economic conditions have a significant impact on the performance of the equity asset class. while some other authors contend that other asset classes, like bonds or real estate, might yield higher returns under specific market circumstances. Furthermore, it is stated in a few articles and on the website of the investment company that comparing the returns of various asset classes alone is insufficient when taking the associated risks into account.

Thus, in Mayur's opinion, neither the authors nor published articles or news journals have specified which asset class is better at generating revenue in the long or short run; all of the explanations are thematic and lie based on various conditional factors. However, the most crucial point that researchers found is that determining which asset class is better in terms of generating better returns depends on various factors, including the investor's risk tolerance, investment goals, time horizon, market conditions, and also diversification and asset allocation strategies. But risk tolerance level (the ability to take risks at an individual level) was a major element that was not given more importance or focus while justifying the opinion. While (*Ganti, A. 2023*) and (*John Bogle, the founder of Vanguard Group*,) did not place much emphasis on the tolerance level or risk ability of individuals, However, *("A Random Walk Down Wall Street" by Malkiel, B. 2019*); specifies the time horizon and skips the risk factor, which must be aligned with the investment goal of the investor which is also, influenced by various market conditions.

In conclusion, the equity asset class in the long run which comprises stocks and company shares has a historical track record of providing better returns than other asset classes. This is because there is a chance for dividends and capital growth, or capital appreciation. But there are also greater risks and volatility associated with it. Thus, in a real-life scenario, some aspects have to be ignored to determine the best asset class or what the investor needs. The first step is to understand the investment constraints; determining which asset would be better for him to invest in terms of investment preference would be solely based on individual choice of investments and needs; for institutional investors, it would be based on risk and return constraints and investment goals. But as per historical evidence and the availability of sufficient existing data, the equity has proven to provide better returns in the long run, but at the same time, it has also failed to cover all the aspects that are essential to meeting the long-term investment objective as per the opinion of various authors and investment professional. Thus, it would be more important to look at statistical presentation for research gap analysis to prove equity asset class are better source of return then other asset class.

2.3.6 – Statistical presentation based on findings on research gap analysis.

We would analyse and compare the return of various asset class and understand how return have fluctuate over time horizon and determine which asset class historically have provided better return and have satisfied the investment objective and constraints.
In the *figure – 4* it clearly evidenced that stocks have been excellently outperforming market as compared to other asset class in the long run. The data ranges from the year 1802 to the 2021 and in the chart, stocks have been generating 6.9% p.a of return as compared with other asset class (Fixed income securities – 4.85%, commodities – 0.64% and cash equivalent – 1.4%; p.a) in real term basis after nominal return is adjusted for inflation. Also, as per *figure – 5*, It is very clearly evidenced that the equity asset class has provided better cash in hand for saving for individuals despite inflation. The total real-term return was higher for the equity asset class from 1946 to 1981 (5.3% after inflation) and 10.2% before inflation as compared with other asset class. (*Note please consider Chart – iii in appendix section to understand in more detail*)



(Figure – 4) – "Real -Term return of various asset class from 1802 to 2021"

Source: *Wisdomtree Investments (2022), A New Gold Standard in Capital Efficiency: Moden Alpha Channel, VettaFi ETF Trends, available at: https://www.etftrends.com/model-portfolio-channel/a-new-gold-standard-in-capital-efficiency/ (accessed on 27th Nov'2023).*

After-Inflation Returns					
	Stocks	Bonds	Bills	Gold	U.S. Dollar
1946-1981	5.3%	-2.5%	-0.5%	2.2%	-4.5%

Nominal Returns					
	Stocks	Bonds	Bills	Gold	U.S. Dollar
1946-1981	10.2%	2.0%	4.1%	7.0%	4.7%

(Figure – 5) – "Real return and nominal return of various asset class from 1946 to 1981"

Source: *Wisdomtree Investments (2022), A New Gold Standard in Capital Efficiency: Moden Alpha Channel, VettaFi ETF Trends, available at: https://www.etftrends.com/model-portfolio-channel/a-new-gold-standard-in-capital-efficiency/ (accessed on 27th Nov'2023).*

III. CHAPTER – 3: Data and Research Methodology

3.1 - Data and research methodology - Brief

The set of ideas that determine the perspective or point of view from which research is conducted are known to as research philosophy. Of the three main philosophical schools: pragmatism, interpretivism, and positivism; the current study adheres to positivism. This philosophy was chosen because it was argued that since identifying asset classes requires extensive statistical analysis and a variety of analytical techniques based on actual and objective data, it would be inappropriate to gather the opinions or personal thoughts of other academics (*Bouchrika, I. 2023*). This philosophical approach makes it easier to gather factual data through empirical research and perform the analysis to prove the research objective.

In the context of analysing the which asset class contribute more in percentage as compared to other asset class the secondary research data would involve in collecting statical numbers reviewing and studying existing literature, reports, and studies to find the method of valuation (study does not involve human participants). This may include data from the various financial websites like Bloomberg, yahoo finance, CNBC etc. including reports by research organizations, government publications, academic journals, and industry analyses may be used if required to justify the final conclusion.

The research methodology employed for this thesis adopts a qualitative and quantitative mix approach, utilizing secondary data sources. These sources have been thoughtfully chosen to provide a comprehensive understanding of the given subject matter and integrate their findings with the research conducted. Given the limited availability of valuation method and accurate financial figures, the sophisticated data source will be used to analyse the statistical figures especially about risk and return numbers. (*Creswell, J.W, and Creswell, J.D. 2018*)

The data gathering process will adopt a holistic approach, incorporating a diverse range of sources while maintaining a focus on the credibility and reliability of the information. Thus, it would be difficult to acknowledges the vast amount of available data and the potential for information collected. To mitigate this, a filtering and trimming process will be carried out if required, ensuring that key information is not overlooked while eliminating any irrelevant or extraneous elements.

3.2 – Research Philosophy.

This research paper mostly focuses on the positivist philosophy. The reason behind adapting this methodology was that in this research, the researcher believes that the objective reality of this thesis project can be observed, measured, and examined using empirical methods. Researchers assume that objective truths can be identified through scientific investigation. However, the scientific method has been used in positivist research, which emphasizes quantitative data, statistical analysis, and the search for regularities and patterns in social phenomena. The researcher is also being neutral and dispassionate about the study process while drawing a final gap analysis from the literature review. Personal prejudices have been avoided to some extent, and more emphasis has been given to the observable facts so that final conclusions can be drawn for final readers.

Type of Research Philosophy which can be used in this thesis for evaluation.

A. *Empirical Analysis*: This involves studying historical data and using statistical analyses to identify patterns and correlations between various asset classes.

B. *Fundamental Analysis*: It involves assessing the intrinsic value of various asset classes using financial statements, industry trends, and macroeconomic considerations

C. *Quantitative evaluation or analysis*: Furthermore, quantitative research can be utilized to create mathematical models and algorithms that examine asset classes and their ability to generate returns.

It is vital to remember that each research perspective has its own set of strengths and weaknesses, and that combining methodologies may provide a more thorough knowledge of the contribution of equities asset classes compared to unsymmetric, unregulated asset classes. However, the researcher under this thesis project has chosen to consider empirical analysis method to evaluate and justify the research objective.

3.3 – Empirical Analysis.

Examining how much time frame an investor holds equities affects possible returns is important for analysing the relationship between time horizon and return for the equity asset class.

Short-term market sentiment, economic reports, geopolitical developments, and other variables can all have an impact on share prices. Returns for investors with a short investment horizon could fluctuate significantly. Historically, the long-term potential for better returns has been demonstrated by stocks. Also, psychological elements like news stories and market mood might have an impact on short-term investors. It's possible that long-term investors are more concerned with fundamental research and the underlying advantages of the businesses they invest in.

At the same time, bull and bear markets may have a greater impact on short-term returns than on other market circumstances. Returns may be larger in bull markets, but losses may occur in bearish markets. Investors with a longer time horizon might be better equipped to handle market cycles.

In summary, there is a complex link between time horizon and return for the equities asset class that is influenced by a number of variables. Long-term investors may profit from the *compounding and growth potential of stocks*, while short-term investors may face more volatility. Individual goals, risk tolerance, and investment objectives all play a role in determining which short-term or long-term investing strategy is best.

Statistical Evidence

Over the past century, the U.S. stock market has outperformed all other investment categories, including financial instruments, real estate, commodities, and collectible art. For this reason, it has long been regarded as the source of the highest returns for investors. Compared to bonds, the stock market has demonstrated that it generates larger gains over extended periods of time. As an illustration, a 1928 investment of $100 in the Standard & Poor's 500 Index (S&P 500) would have grown to be worth almost $700,000 by 2021. By contrast, over the same length of time, the same $100 placed in 10-year Treasuries would have only increased in value by a small amount to $8,500; (*Investopedia team at Investopedia.com, 2022*)

Analysis of Time Horizon for Investment

Naturally, not everyone keeps the same stocks for a long time. Many people experience short-term financial losses in the market. Long-term investing is the key to earning large rewards from the US stock market. This requires holding out brief volatility with your money still invested. For example, compared to longer terms, the S&P 500 is far more volatile over any one 12-month period. That implies that, should you decide to sell, you run a higher chance of losing money over the course of a year. Economic recessions are usually preceded by and accompanied by dramatic drops in stock prices. If investor time the market incorrectly, then losses may be excruciating. Investors are more likely to

profit if they extend the holding time from a year to five years. Just a few five-year intervals from 1945 to 1995 would have seen a loss in the S&P 500. The performance was considerably better over a 10-year holding period, with returns averaging almost 13% and no negative returns. Thus, the likelihood of profit increases with the length of the holding time; (*Investopedia team, 2022 and Kenton, W. 2023 at Investopedia.com*)

Graphical presentation

Researchers have considered a well-known U.S.-based index, the "S&P 500," which is considered a proxy for equity stock that is traded on the stock exchange. This index was incorporated in 1928 and was available to the public for investment on the New York Stock Exchange from 1952 onwards. Researchers have extracted data from "Stooq.com" and verified it on the S&P website. The data has been filtered, trimmed, and explained in a graphical chart to show the increment growth of the S&P 500 return from inception to date. The data is extracted on a yearly basis and graphically presented in the X-axis and Y-axis (dates vs. closing price for the index).

(Figure – 6) represents the data available for analysis about how equity asset classes tend to outperform in the long run compared to other asset classes in the short run.

Historical values of ^SPX

<< | < | > | >>

No.	Date	Open	High	Low	Close	Change		Volume
96	31 Dec 2023	3853.29	4607.07	3794.33	4514.02	+17.57%	+674.52	533,364,536,239
95	31 Dec 2022	4778.14	4818.62	3491.58	3839.5	-19.44%	-926.68	627,379,804,535
94	31 Dec 2021	3764.61	4808.93	3662.71	4766.18	+26.89%	+1010.11	558,593,424,213
93	31 Dec 2020	3244.67	3760.2	2191.86	3756.07	+16.26%	+525.29	691,944,886,249
92	31 Dec 2019	2476.96	3247.93	2443.96	3230.78	+28.88%	+723.93	495,704,111,121
91	31 Dec 2018	2683.73	2940.91	2346.58	2506.85	-6.24%	-166.76	503,732,216,669
90	31 Dec 2017	2251.57	2694.97	2245.13	2673.61	+19.42%	+434.78	475,826,738,893
89	31 Dec 2016	2038.2	2277.53	1810.1	2238.83	+9.54%	+194.89	546,732,483,336
88	31 Dec 2015	2058.9	2134.72	1867.01	2043.94	-0.73%	-14.96	511,788,111,113
87	31 Dec 2014	1845.86	2093.55	1737.92	2058.9	+11.39%	+210.54	469,669,572,224
86	31 Dec 2013	1426.19	1849.44	1426.19	1848.36	+29.60%	+422.17	470,255,327,777
85	31 Dec 2012	1258.86	1474.51	1258.86	1426.19	+13.41%	+168.59	504,399,599,997
84	31 Dec 2011	1257.62	1370.58	1074.77	1257.6	-0.00%	-0.04	575,267,816,672
83	31 Dec 2010	1116.56	1262.6	1010.91	1257.64	+12.78%	+142.54	639,711,994,438
82	31 Dec 2009	902.99	1130.38	666.79	1115.1	+23.45%	+211.85	780,249,055,553
81	31 Dec 2008	1467.97	1471.77	741.02	903.25	-38.49%	-565.11	707,447,444,439
80	31 Dec 2007	1418.03	1576.09	1363.98	1468.36	+3.53%	+50.06	450,048,249,995
79	31 Dec 2006	1248.29	1431.81	1219.29	1418.3	+13.62%	+170.01	333,901,533,333
78	31 Dec 2005	1211.92	1275.8	1136.15	1248.29	+3.00%	+36.37	268,786,511,106
77	31 Dec 2004	1111.92	1217.33	1060.72	1211.92	+8.99%	+100.00	199,248,527,771
76	31 Dec 2003	879.82	1112.56	788.9	1111.92	+26.38%	+232.10	193,823,138,889
75	31 Dec 2002	1148.08	1176.97	768.63	879.82	-23.37%	-268.26	200,063,694,444
74	31 Dec 2001	1320.28	1383.37	944.75	1148.08	-13.04%	-172.20	169,751,544,447
73	31 Dec 2000	1469.25	1552.87	1254.07	1320.28	-10.14%	-148.97	144,828,477,786
72	31 Dec 1999	1229.23	1473.13	1205.46	1469.25	+19.53%	+240.02	113,167,877,784
71	31 Dec 1998	970.43	1244.93	912.83	1229.23	+26.67%	+258.80	94,116,638,896
70	31 Dec 1997	740.74	986.25	729.55	970.43	+31.01%	+229.69	73,882,766,667
69	31 Dec 1996	615.93	762.12	597.29	740.74	+20.26%	+124.81	58,055,950,001
68	31 Dec 1995	459.21	622.88	457.2	615.93	+34.11%	+156.66	48,468,527,778
67	31 Dec 1994	466.51	482.85	435.86	459.27	-1.54%	-7.18	40,804,633,339

(Figure – 6) – Historical data represents for S&P 500 stock downloaded from Stooq.com *Available at*: https://stooq.com/q/d/?s=%5Espx&c=0&d1=19280101&d2=20231120&i=y

Note this above data is manually extracted by researcher himself from Stooq website. The researcher has chosen two different time range and company ticker id and downloaded into separate excel file, thus is does not have proper referencing format.

Researcher's Analysis

In (*Figure – 7*) it can be observed that the return on the equity asset class is a closing price of 4514.02 US dollars in 2023 as compared to 24.35 dollars in 1928.

The total percentage rise in the value of equity can be calculated using the holding period return of 7.478% before inflation, and as per the CPI (consumer price index) influence calculator, the inflation has been (3.24% - 1.72% = 1.52%), and the S&P 500 return after inflation adjustment in real terms would be (7.478% - 1.52% = 5.958%, which is rounded to an average of 6%), which is the same provided in Wikipedia.com by some authors, as it is unverified source the researcher decided to perform own calculation.
Wikipedia.Com: *https://en.wikipedia.org/wiki/S%26P_500#:~:text=Since%20its%20inception%20in%201926,same%20time%20period%20being%2020.81%25.*

It is clearly evidenced that equity asset classes tend to outperform in the long run as compared to other asset classes because of inflation, compounding effects, and also due to the economic development of the county where companies are listed and which are part of these indices. (*Note below analysis is done by researcher himself using figure -6 data*)

Date	Open	High	Low	Close	Volume	Return
31-12-1928	17.76	24.75	16.95	24.35	-	
31-12-1929	24.27	32.24	17.37	21.45	-	-11.91%
31-12-1930	21.55	26.26	14.1	15.34	-	-28.48%
31-12-1931	15.36	18.53	7.51	8.12	-	-47.07%
31-12-1932	8.17	9.42	4.27	6.89	-	-15.15%
31-12-1933	6.9	12.4	5.41	10.1	-	46.59%
31-12-1934	10.06	11.94	8.27	9.50	-	-5.94%
31-12-1935	9.46	13.53	8.04	13.43	-	41.37%
31-12-1936	13.4	17.8	13.27	17.18	-	27.92%
31-12-1937	17.15	18.8	10.09	10.55	-	-38.59%
31-12-1938	10.55	13.82	8.37	13.21	-	25.21%
31-12-1939	13.18	13.34	10.1	12.49	-	-5.45%
31-12-1940	12.55	12.81	8.86	10.58	-	-15.29%
31-12-1941	10.52	10.92	8.28	8.69	-	-17.86%
31-12-1942	8.75	9.84	7.45	9.77	-	12.43%
31-12-1943	9.81	12.7	9.81	11.67	-	19.45%
31-12-1944	11.66	13.33	11.55	13.28	-	13.80%
31-12-1945	13.3	17.77	13.17	17.36	-	30.72%
31-12-1946	17.34	19.33	14	15.3	-	-11.87%
31-12-1947	15.27	16.23	13.58	15.3	-	0.00%
31-12-1948	15.36	17.12	13.74	15.2	-	-0.65%
31-12-1949	15.12	16.82	13.5	16.76	-	10.26%
31-12-1950	16.66	20.43	16.65	20.41	3E+08	21.78%
31-12-1951	20.77	23.85	20.69	23.77	3E+08	16.46%
31-12-1952	23.8	26.59	23.09	26.57	2E+08	11.78%
31-12-1953	26.54	26.66	22.71	24.81	2E+08	-6.62%

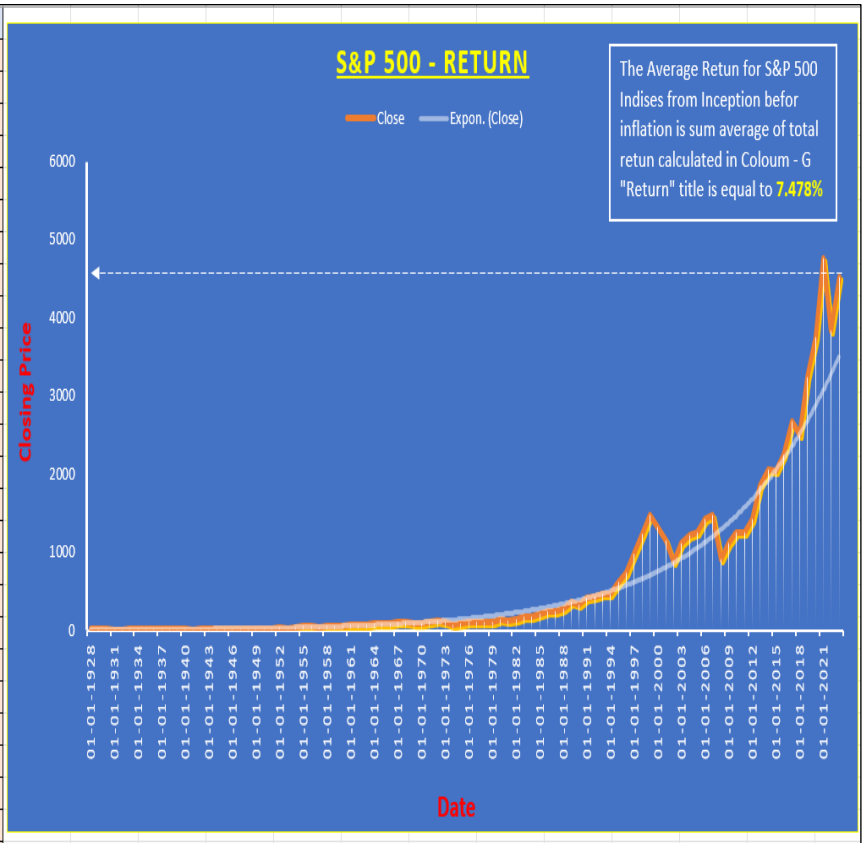


Figure – 7 data is uploaded in researcher Google drive; downloaded at (*https://www.google.com/drive/*)

Link: *https://docs.google.com/spreadsheets/d/174i01i17K82xMhsZLvq1Qvc0PhdStFN-/edit?usp=sharing&ouid=104403414581086061099&rtpof=true&sd=true*

Refer to the appendix section (chart – ii) to find the reason for this (rise and decline) caused at various years due to which mountain-like structure is formed in the above line chat.

3.4 – Qualitative and Quantitative examination

It can be difficult to compare the returns of regulated asset classes like stocks with unregulated asset classes since it depends on a number of variables, including the state of the market, the economy, and the objectives of each investor. It's crucial to remember that the terms "unregulated asset class" and "equity asset class" are extremely inclusive and cover a vast spectrum of financial products. Any given investment within these categories may perform very differently.

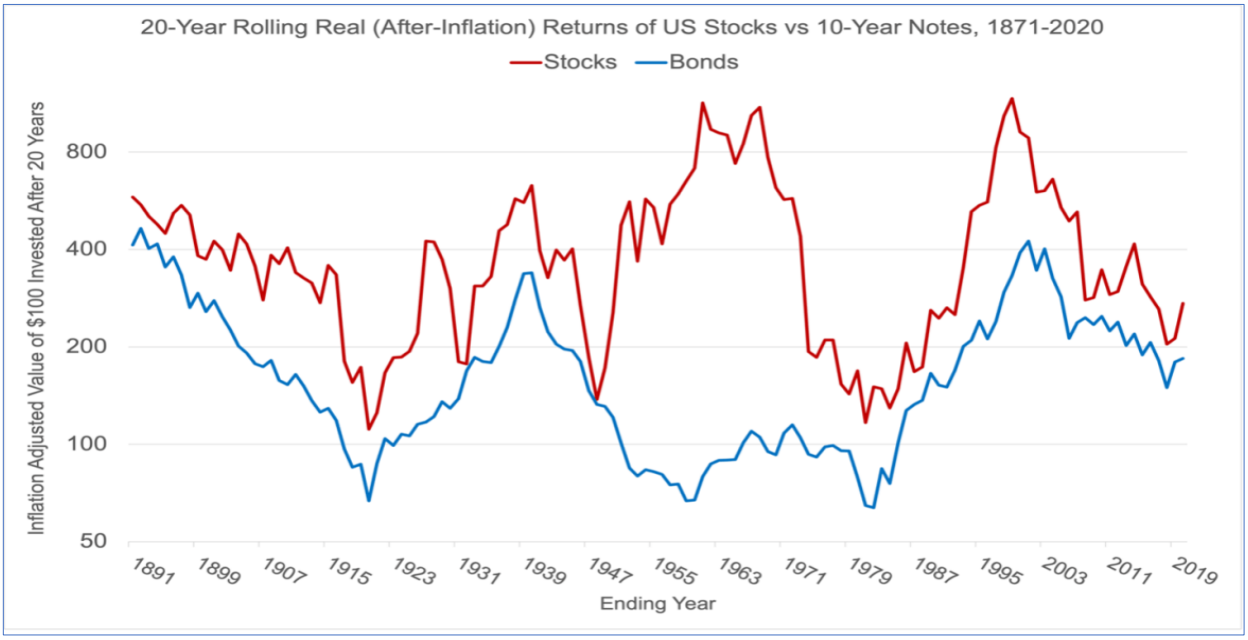
Higher risk is typically correlated with higher rewards. Although stocks have the potential to yield higher gains, they also carry a higher risk of market volatility. There are many different types of investments in unregulated asset classes, each with a different risk-return profile. An asset class's performance is influenced by various elements, including diversity. diversity in equities can occur amongst industries, sectors, and geographic regions, although unregulated asset classes could not offer the same benefits of diversity. Market and economic factors have a big influence on returns. Equities may perform better than unregulated assets under some market conditions, and vice versa. The risk and return characteristics of an asset class can be influenced by regulations. The oversight and safeguards that regulated assets, like stocks, frequently have may not be present in unregulated assets. Return evaluation takes the investment horizon into consideration.; (*Instruments of Monetary Management by Tomás J. T; Balino and zamalloa, M.L 1997*)

While certain unregulated assets may present short-term opportunities, equities may have a larger potential for long-term growth. A crucial factor to consider is liquidity. When opposed to certain uncontrolled assets, stocks that are traded on organized exchanges frequently have greater liquidity. Investors vary in their goals and their level of risk tolerance. While some may choose stability and less risk, others could be more interested in larger profits even in the face of greater volatility; (*Mohammed, J.I and Chikwira, C. 2023*)

Researcher's Analysis

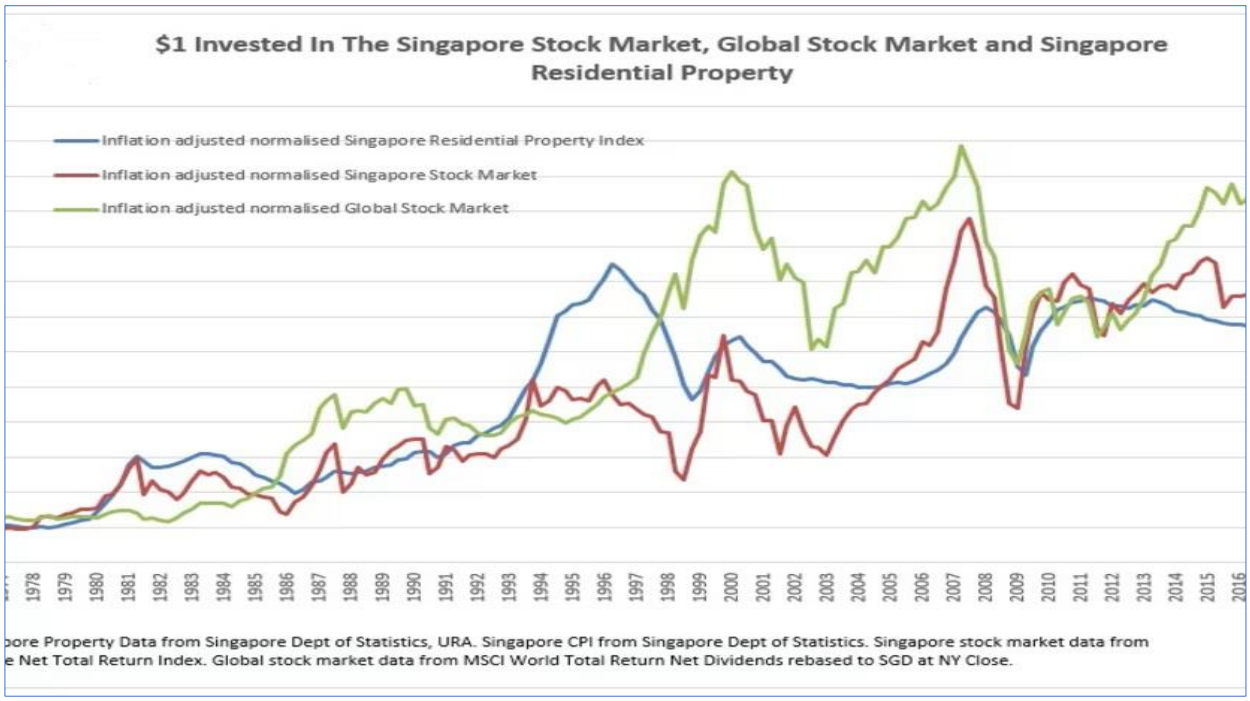
Under this research methodology the researcher wanted to analyse the return on the equity asset class as compared with other asset class. A number of variables, such as risk, the state of the market, and the characteristics of the assets within each class, can cause the return on equity for one asset class to differ from that of other asset classes. It's important to remember, though, that depending on certain investments and market conditions, the return on any asset class might differ significantly due to multiple factors. Although they may yield larger returns than certain other asset groups, equities are frequently seen as riskier. Economic considerations, market conditions, and corporate events can all affect returns. ("*Stocks for the Long Run" by Siegel, J.J. 2014, "The Intelligent Asset Allocator" by Bernstein, J.W 2000, "Real Estate Finance & Investments" by Brueggeman, B.W. and Fisher, J. 2010*)

In the short run, bonds might be less risky than stocks, but over time, they might be more dangerous in terms of volatility. This (*figure – 8*), which compares the rolling 20-year returns of US stocks to bonds using data from Shiller, demonstrates that, since 1871, there has never been a 20-year period in the US where US bonds have underperformed equities. Future outcomes cannot be predicted based on past performance; (*Quantofasia, 2021*). However, it is very clear from the historical evidence that equity asset class tend to outperform bonds (fixed income) securities in the long run.



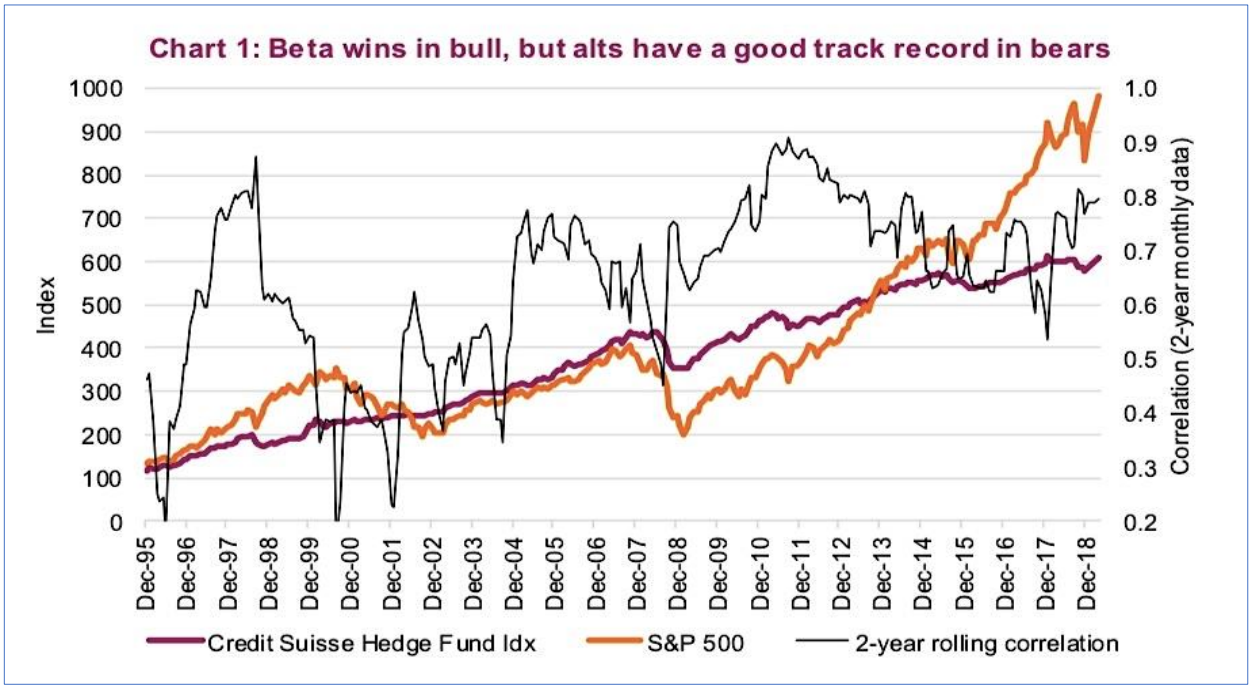
(Figure – 8) = The line char representing Bond and Equity return for 128 years.
Source*: Quantofasia (2021), "Quick Chart: 20-Year Rolling Returns of Stocks vs Bonds" GFM Asset Management, available at: https://gfmasset.com/2021/05/quick-chart-20-year-rolling-returns-of-stocks-vs-bonds/ (accessed on 26th November, 2023).*

The (*figure – 9*) represents calculated that investing S$1 in residential property for nearly 42 years would have yielded a return of 6.58 times (S$6.58) after inflation, using inflation and residential property data from the Department of Statistics in Singapore dating back to 1975. While that doesn't sound too miserable, we conducted a replication of the same time period analysis on the stock markets and discovered that, after accounting for inflation, investing in the local stock market would have generated a return of 9.04 times (S$9.04) and 12.53 times (S$12.53) if invested in the global stock market during the same period. Whereas in (*figure – 10*) represents a good proxy for the long-term performance of hedge funds or alternative investments is the Credit Suisse Hedge Fund Index. This index of all hedge funds over a specific size is asset-weighted. Although gains have not been as strong as those of the US equities market (yellow line), the trend performance has been far smoother and less volatile. It's also important to note that during times of weakness in the equity market, there is typically less connection between equities and this hedge fund index (black line dips lower during bearish markets). Thus, it's been noticed from both the below figure that equity asset class have outperformed both real estate and alternative investment in long run risk-adjusted basis. *(Kindly note that statistical numbers are not presented for this graph; rather, in a real-life scenario, the average holding period return [HPR] is calculated from inception, which makes the risk-adjusted graph appear lower than others, and in this case, these charts are extracted to show how returns have fluctuated and provided less return as compared to their co-related asset class.)*



(*Figure – 9*) - Equity return verses real estate retune over 38 years in Singapore

Source: *HUI, C. A (2017), "Which are better long-term investments — properties or stocks?", M today.com, available at: https://www.todayonline.com/singapore/which-are-better-long-term-investments-properties-or-stocks (accessed on 27th November, 2023)*



(*Figure – 10*) - Equity return outperforms the Alternative investment return over 24 years.

Source: *Connected Wealth (2019), "Alternative Investments Yearly Insights & Outlook: 2019 versus 2018", See it Market.com, available at: https://www.seeitmarket.com/alternative-investments-yearly-insights-outlook-2019-versus-2018/ (accessed on 26th November 2023).*

IV. CHAPTER – 4: Conclusion, Recommendation & Limitation

4.1 – Conclusion

In summary, contemporary asset classes, such as real estate and alternative investments, have proven to generate returns over an extended period of time. In contrast, asymmetric and uncontrolled asset classes like cryptocurrency or collectibles carry more risk and uncertainty. While they can potentially yield large profits, they are not as stable or established as traditional asset classes. To create a well-rounded and potentially lucrative long-term investment strategy, it is advisable to diversify one's portfolio by incorporating a combination of both traditional and alternative asset classes.

In situations where diversification is not possible, such as in the case of this thesis project objective, investors may choose to invest in just one asset class. As mentioned earlier in the key concept and literature review, the equity asset class has historically outperformed other asset classes. However, it is important to note that equity investments also come with a certain level of risk, which can be mitigated through hedging or diversification. Therefore, the investment theory suggests that it is generally more beneficial to invest in a diversified portfolio rather than solely in one asset class in order to maximize returns and to minimizing risk.

In this thesis project, the researcher observed that in certain countries, it may not be feasible to invest in a diversified portfolio due to inefficiencies in the market. In such cases, individual investors may choose to *invest solely in equity asset classes for the long term only*. The researcher also noted that in the short term, equity asset classes tend to provide lower returns but higher risk as compared to long term, while other asset classes may offer higher returns but also carry more risk. This aligns with the principles of behavioural finance, which suggests that investors are typically risk-averse and are willing to take on risk only if they are adequately compensated with higher returns. Thus, whichever type of audience is willing to take an investment decision and has market, geopolitical, and economic restrictions, they can choose to invest in the "equity (common stock) asset class" rather than prefer other asset classes to generate a higher long-term risk-adjusted return. If, in exceptional cases, investment in the equity asset class is not possible, they can give preference to other modern or traditional asset classes, considering diversification, if possible, but never give preference to investing in an unregulated asset class as it carries a large amount of risk unless the investor is well informed and has knowledge of the unregulated market or is a risk-seeking investor. For normal risk-averse investors, it is advised to stay away from this unregulated asset class.

4.2 – Recommendation

It was critical to draw a final conclusion in the literature review for this thesis project when analysing the argument for and against the view that modern/traditional asset classes provide a better long-run return than investment in other unregulated asset classes such as collectibles or cryptocurrencies. Mayur's research opinion is that it was critical to identify areas where there was a conflict in the opinion of the authors and a conclusion that was based on certain assumptions. Thus, the researcher feels additional investigation is required to improve comprehension of this thesis project and explain the gaps that may be further focused on to work towards resolution by examining the works of various writers.

As per Mayur's research opinion, authors could not cover all the elements while justifying their opinion; some authors could consider some elements (like liquidity, time horizon) and ignore others (like diversification benefit, risk component) under the different scenarios of various market situations in various geopolitical regions. External factors also play an important role when the market is fragile and not systemically organized. In such a case, how can a conclusion be drawn based on the question about which asset class is better in comparison? Thus, the researcher feels that it would be better to limit the opinion of the authors while justifying such a research objective in any such type of thesis project and emphasize more statistical evidence to prove the thesis objective than the author's opinion in some context.

4.3 – Limitation of Research

This thesis study report may have various shortcomings. The availability of data was a big concern. The research's scope and depth were limited due to a lack of access to relevant and accurate data. This was especially difficult for researchers because data availability is frequently restricted due to privacy concerns or proprietary data constraints. Another constraint was the time frame, which forced the researcher to reduce the focus and make general sensible conclusions. The sample size was not a huge issue, the size and representativeness of the sample used in the research did not much impact in generalizability the findings. As the stock market has a long history, plenty of data was available, but with respect to the unregulated market (the cryptocurrency and collectables have less available data from verified sources). Also, another concern was that author opinion was limited in nature, and the same author was providing two different contradicting opinions in the same scenario.

Research in the finance and investment domain often involves making assumptions and simplifications to model complex phenomena. However, there is no such case where researchers need to make assumptions except in the case where above specified small countries have no regulated stock exchange and their financial management is transactionally, operationally, and operationally inefficient as per market analyses. These assumptions did not cause bias or limit the validity of the findings. External factors were not a major concern in this thesis project. However, the researcher has noticed subjectivity and bias, which were influenced by the various author perspectives. This subjectivity has caused limitations in the interpretation and analysis of the final conclusion of these thesis projects. Also, the researcher has tried to ensure transparency and validity of various author opinions, but in some cases, the audience may notice limitations in certain aspects to draw a final conclusion from these thesis projects.

4.4 – Benefits of this thesis report

This research report is being recommended to different types of audiences to gain benefit or achieve objective. Different audiences can use this thesis report on the investment component in a number of ways to benefit from investments. First and foremost, the research report can be used by individual investors to help them make decisions with respect to investments. In order to help people evaluate the potential risks and rewards of investing in stocks, bonds, or other opportunities, the report may offer analysis and recommendations. This is particularly useful in markets or countries where there is geopolitical instability and where not all asset classes are readily available to the public, allowing for risk diversification across different asset classes.

Professional investors, such as portfolio managers or financial advisors, might use the thesis report to improve their investing strategy as well. The report may provide insights into market efficiency or macroeconomic issues that might help inform portfolio allocation or asset selection decisions, especially in those market where stock market is inefficient.

Furthermore, institutional investors, such as pension funds or endowments, can use this study report to analyze potential investment features in terms of the advantages and disadvantages of various asset classes in various market conditions. In addition, the report may give in-depth analysis of individual market segments in relation to each asset class, allowing institutional investors to make informed judgments on where to put their resources.

It can also assist governmental or regulatory organizations in keeping an eye on the stability and general health of the financial markets. They can spot trends and patterns that can point to systemic risks or market vulnerabilities by examining the aggregate data from these reports. The financial system can then be protected by developing and implementing the necessary regulatory actions using the information provided. This thesis reports, taken as a whole, offer insightful information that can improve the decision-making processes of governmental or regulatory organizations, increase accountability and openness in the investment sector, and support investor protection and financial market stability if it is operated under inefficient market.

Furthermore, investment banks or brokerage firms can utilize the project report to provide counsel and suggestions for their clients' investments if they live in a location with inefficient markets. The study may be used as a foundation for investing guidance, assisting clients in navigating the intricacies of financial markets and identifying prospective investment backgrounds for each asset class, including the most recent investment vehicles.

Overall, this investment thesis project report can be a beneficial tool for many audiences to obtain insights, make informed decisions, and potentially profit from investment opportunities.

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➢ Appendix

▪ Chart – i

As per given below chart referring to sub-section 2.2.2 (Asset class behaviour (Inflation vs Normal market scenario), the audience can understand that nature of various asset class under three different inflation scenarios. The below mentioned bar graph shows historical real returns for stocks, nominal bonds, inflation-linked bonds (ILBs), bank loans, energy stocks, basic materials stocks, and commodities that exceed three-month T-Bill returns in three distinct inflationary scenarios. The left panel represents periods of declining inflation, or months in which inflation fell by more than 0.20% on an annual basis. Months that have a year-over-year change in inflation of not more than 0.20% are represented in the center panel as those with stable inflation. The right panel represents rising inflationary situations, or months in which inflation grew by more than 0.20% in comparison to the previous year. Between January 1974 and March 2013, the left and right panels roughly correspond for a quarter of the months, while the center panel roughly corresponds for half of the months. It is evident that in periods of steady inflation, all asset classes have historically generated positive excess returns. During periods of declining inflation as opposed to rising inflation, stocks and nominal bonds have performed better. Historically, natural resource stocks such as energy and basic materials companies, commodities, inflation-linked bonds, and bank loans have been the best hedges against increasing inflation; (*North Peak Asset Management team 2013*).

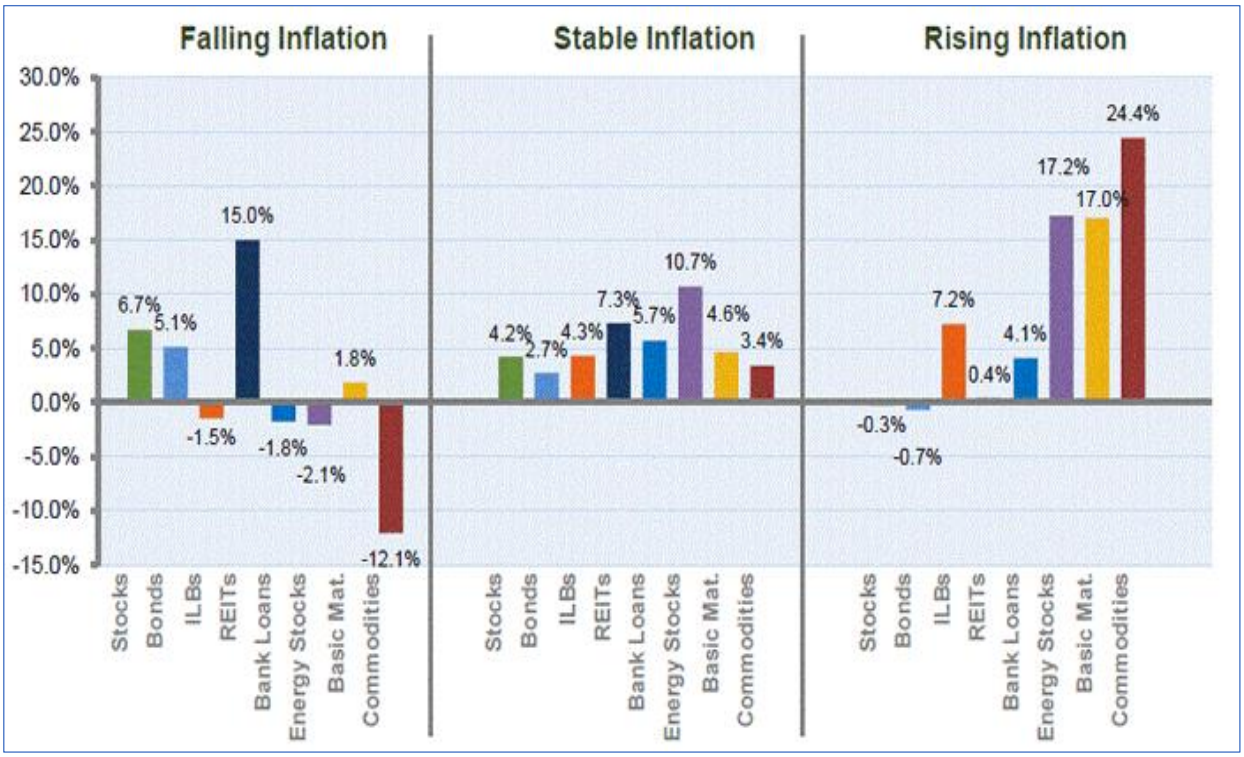

Chart – i: Asset class return at various phase of inflation

Source: *North Peak Asset Management (2013), "Inflation Update: Historical Asset Class Sensitivity to Inflation Shocks", Vettafi advisor perspectives", available at: https://www.advisorperspectives.com/commentaries/2013/10/26/inflation-update (accessed on 27th November, 2023).*

- Chart – ii

As per below chart under (*3.3 – Empirical Analysis: Researcher analysis section*) the (*figure – 7*) justifies the various reason for this fluctuation for equity asset class

This is how the major collapses appear, and this is how the S&P 500 has grown. "Black Monday of 1987": That year marked the first significant crash that can be recalled. It is noticed that there has been evidence of investor trouble in various articles due to the 1987 crash. "Dot Com Bubble of 2000": This was the second significant crash that the audience can recall. The Great Recession was caused by the most recent financial crisis, known as the "Financial Crisis of 2008". And even so, it is nothing compared to the previous ten years' Great Bull Run; (*Bhulipongsanon, P. 2019*),

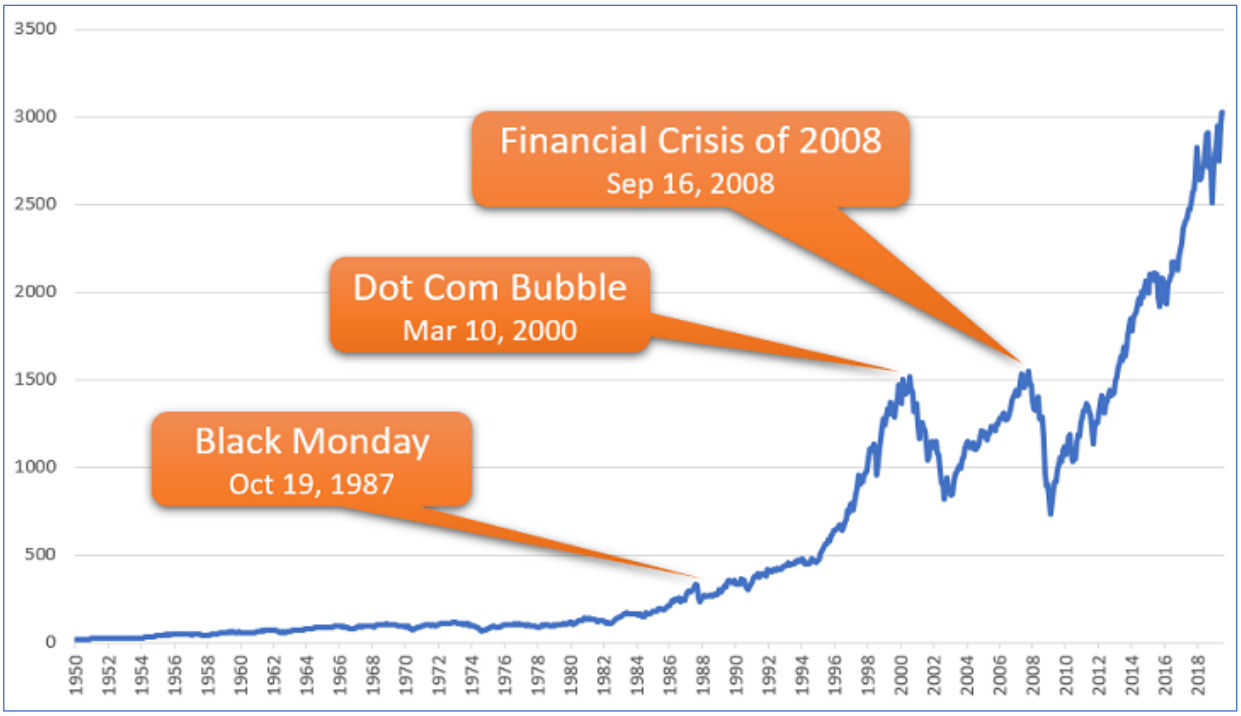

Chart – ii: Reason for fluctuation in the S&P 500 (proxy for equity asset class) performance

Source: *Bhulipongsanon. P (2019), "The S&P 500 Index Historical Returns: Three Major Stock Market Crashes", Moolanomy the science of money, available at: https://www.moolanomy.com/5924/sp500-index-historical-returns/ (accessed on 27th November, 2023).*

Based on the available market data, researchers have performed analysis in a excel tool, researchers have made a line graph resembling the return for the equity asset class as a S&P 500 proxy. The above chat is similar to the researcher chat, which just explains the reason for the fluctuations caused in the equity return over various years in the market.

- Chart – iii

In the below Chart, with respect to (*2.3.3 – Statistical Presentation based on Gap Analysis*) the performance of various asset class stocks, bonds, bills, gold, and Doller (mostly traditional asset class return performance) from the 18th century to the 20th century onwards. Researchers noticed that stocks have always overperformed in the long run as compared with other asset classes, as the return could be seen steeply rising from Doller 1 to 1,000,000 over the past century, which means that on average, stocks (called common equity) have provided an average return of 6.7% p.a on a real-term basis as compared to other asset classes. On the other hand, bonds and bills (called fixed-income securities) have performed on average between 100 and 1200 Doller, for an average return of 4.85% p.a in real terms. It is very disappointing that cash at some point provided a negative return after the mid-19th century. This may be due to inflation in the global economy, as the purchasing power of liquid assets might have fallen. Whereas gold could make an average of 0.6% p.a return on a real-term basis from inception.

It is very clear that stocks have provided the highest return in the long run, which could be because of the diversification benefit and degree of correlation with other asset classes, which have caused them to generate returns 618 times as high as compared to any other asset class. However, after the 18th century, the concentration of equity in the global market increased to 43%.

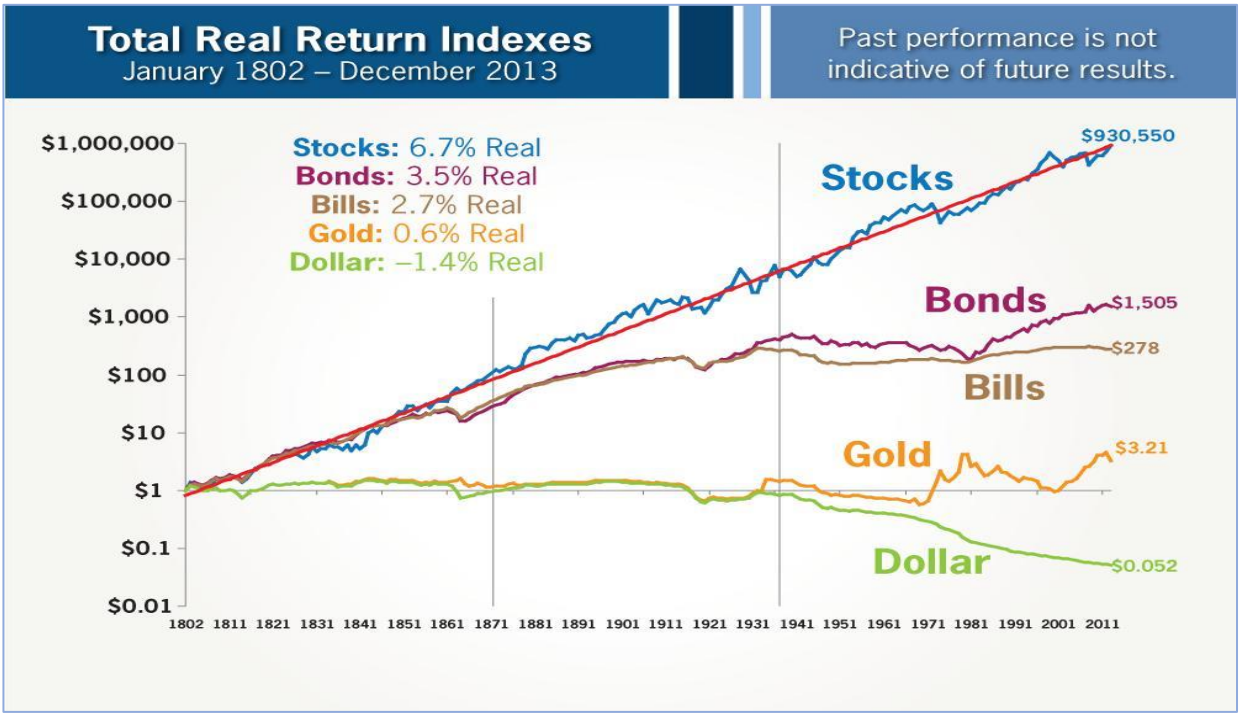

Chart – iii *– "Return comparison from the year 1802 to 2011 of traditional asset class"*

Source: *MI Research team (2015), "Dynamic vs. Fixed Asset Allocation: The Dangers of Fixed Allocations", Model Investing, Available at: https://modelinvesting.com/articles/dynamic-vs-fixed-asset-allocation/ (Accessed on 27th November, 2023).*

Limitation: The biggest problem with this secondary data is the lack of availability of historical data or verified information in continuity after the year 2011. The lack of sufficient evidence creates a problem in drawing a final conclusion about tradition asset class vs. unregulated asset class in terms of return prospect

- Chart – iv & Chart – v

Same time in (*Chart - iv*), it's been noticed that the sudden rise in performance of Bitcoin (cryptocurrency) was after the year 2021; till then, before 2021, the crypto was fragile and ineffective in producing the return as compared to stocks, bonds or real-estate.

Chart – iv *– "Price Return performance of Cryptocurrency (Bitcoin)"*

Source: *CryptoRank. (2023), "Crypto Market Recap Q2, 2023: Market Performance", medium.com, available at: https://medium.com/@cryptorank/crypto-market-recap-q2-2023-1077c757f4ea (accessed on 28th November, 2023).*

It should be noted that returns on both traditional and non-regulated asset classes can vary significantly depending on market conditions, economic factors, and global events. At the same time, there is another chat that represents the return performance of various digital currencies in (*Chart - v*), which shows that the return performance is volatile and has seen a sudden rise in performance after the year 2000, with a higher risk factor.

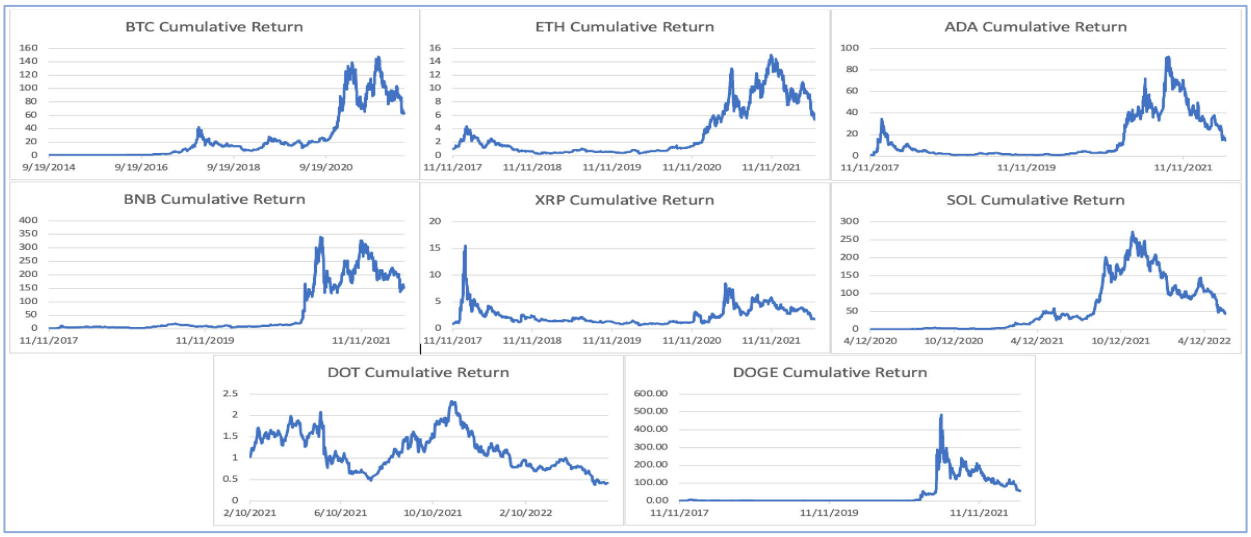

Chart – v *– "Performance of various Cryptocurrency"*

Source: *Wuthisatian, P. (2022), "Cryptocurrencies and Portfolio Performance. Does Cryptocurrency Help Improve the Portfolio Performance?, IAFA Accounting, Finance & Governance Review, available at: https://afgr.scholasticahq.com/article/74267-cryptocurrencies-and-portfolio-performance-does-cryptocurrency-help-improve-the-portfolio-performance (accessed on 25th November, 2023).*

Shortform / Abbreviations

*** IMF – International monetary fund.*
*** NASDAQ – National Association of Securities Dealers Automated Quotations*
*** SEBI – Security exchange commission of India.*
*** BTC – Bitcoin; ETH – Ether - also known as (Ethereum) ADA – Cardano; BNB – Binance Coin; XRP – Ripple; SOL – Solana; DOT – Polkadot; DOGE – Dogecoin.*
*** Risk adjusted Return - Investment's return is measured using a risk-adjusted return, which takes into account the level of risk incurred to attain the profit. (Chen, J. 2023)*
*** p.a – per annum (per year)*
*** Cryptocurrency - A cryptocurrency, often known as a crypto, is a type of digital currency that operates independently of a governing body, like a bank or govt. via a computer network. (Wikipedia, Cryptocurrency: https://en.wikipedia.org/wiki/Cryptocurrency)*
*** Collectables - A collectible is an item that, due to its rarity and appeal, is worth far more than it was originally sold for. The quantity and general condition of a collection determine its price. Coins, toys, comic books, antiques, and stamps are examples of common collection categories. (Chen, J. 2023; "What is collectables", Investomedia.com, available: https://www.investopedia.com/terms/c/collectible.asp)*