In August of 1710, Great Britain had a debt amounting to roughly 31 million pounds.

The scheme the British Government came up with was the South Sea Company, a trading company that would assume all of the government’s debt. The Company would incentivise people to buy South Sea Stock by offering loans up to 3000 pounds for individuals looking to buy, overinflating its value to the public.

After a few years, the company would be valued at close to 300 million pounds, which is around ten times the amount of government debt the company was originally supposed to take on. And unbeknownst to the public, the company has still not made a single cent selling goods in the South Sea. But at last, the company had ceased its meteoric rise and began to go south. With confidence vanishing and nothing left in its coffers, the stock began to plummet, falling hundreds of pounds a week.

Anybody who had invested late or had taken out loans to do so was ruined. Bankruptcies, financial chaos, and suicides were rampant among those who had invested in the South Sea Company. Even Sir Isaac Newton who was caught in the South Sea craze declared that he “could calculate the motions of the heavenly stars, but not the madness of people”.

Throughout history, ownership and the herding mentality generated many financial fortunes and disasters. I believe that history does not necessarily repeat, but it does rhythm. Those who seek a quick and easy profit are often enticed by opportunities like the South Sea Company, which can either make one abundantly rich or lose all of their initial investments.

In modern times, this type of investment is manifested in the form of cryptocurrencies, and more specifically, Memecoins. But first, what exactly is cryptocurrency? Well, crypto is a technology that has evolved erratically and at an unprecedented speed over the past decade. Cryptocurrencies are digital decentralised assets, meaning that they are stored as 1s and 0s in a computer and are not subject to financial and institutional control.

They can be traded on decentralised exchanges or be used to purchase goods and services. Since 2008, the crypto market has grown to a market capitalisation of over 2 trillion USD. A cultural meme, is a behaviour or concept that spreads throughout a community even faster. Moreover, when this is attached to exchangeable assets, digital currency based on memes could theoretically be given inherent value according to DeMatteo from CoinDesk in 2021.

Memecoins are a niche group of cryptocurrencies that are produced and derived through meta humour and community attention, rather than a business model or project. An example of a Memecoin is Dogecoin, which is based on the Doge dog meme.

So basically, instead of buying assets such as stocks, housing, bonds or even traditional stable cryptocurrencies such as Bitcoin, investors hope to use the wild and sudden price movements of Memecoins to their advantage.

However, despite the considerable spikes in value, Memecoin prices can also unpredictably drop. For example, according to CoinMarketCap (a trusted price tracking website for crypto assets), the worst performer among the top 100 meme coins by market capitalisation saw a 100 per cent drop in value over a seven-day period from June 28 to July 5, 2021.

On the other hand, the best performer climbed a full 246.27 per cent during that same period of time. Therefore, my investigation aims to explore whether Memecoins holds potential fortunes or are just “fool’s gold” overinflated by meta-humour and community attention from the general populous. Currently, the theoretical literature on cryptocurrency suggests several factors influencing its prices and movements.

For example, a paper built models stressing network effects in cryptocurrency by Cong, Li, and Wang from the National Bureau of Economic Research in 2019, which emphasized the price movements induced by the network effect. Another example is a paper tying cryptocurrency price trends to those of traditional asset classes by Athey and his team from the Stanford school of business in 2016. Nonetheless, the results shown by such studies may not correlate with the extremely volatile nature of Memecoins.

And thus, this research would be necessary to account for this, providing deeper insight into the nuances of the cryptocurrency realm. The research, through data analysis, was conducted on three popular Memecoins (Dogecoin, Shiba Inu and Dogelon Mars). And, the data presented in this paper was characterised by the Standard Deviation, Sharpe ratio, kurtosis and skewness, and log return.

Which will now be explained. The standard deviation is a statistic that measures the dispersion of a data set relative to its mean (Ghysels et al., 2004). In finance, the standard deviation is often used as a measure of the relative riskiness of an asset.

Where xi is the value of the point in the data set, x̅ is the mean value of the data set, and n is the number of data points within the data. A volatile investment has a high standard deviation, while the deviation of a stable investment is usually low

The standard deviation is an integral variable in most of the calculations made in this paper, such as the Sharpe Ratio. The Sharpe ratio is one of the most widely used methods for calculating risk-adjusted return. The greater an investment’s Sharpe ratio, the better its risk-adjusted performance (Fernando, 2022).

Where Rp is the return of the portfolio, Rf is the risk-free rate, and 𝜎p is the standard deviation of the portfolio’s excess return. The Sharpe ratio is one of the most widely used methods for calculating risk-adjusted return. If the analysis results in a negative Sharpe ratio, it either implies the risk-free rate is greater than the portfolio’s return, or the portfolio's long-term return is expected to be negative.

When the data set is graphed, the kurtosis and skewness can be calculated to indicate risk and returns. Kurtosis refers to the degree of presence of outliers within a distribution. In finance, it is used as a measure of financial risk. A large kurtosis is associated with a high level of risk for an investment because it indicates a high probability of substantial and minimal returns (Gawali, 2021). On the other hand, a small kurtosis signals a more moderate level of risk because the probabilities of extreme returns are relatively low.

Skewness is a degree of asymmetry observed in a probability distribution that deviates from the symmetrical normal distribution in a given data set. Positively Skewed Distribution is a type of distribution where the mean, median, and mode of the distribution are positive rather than negative or zero. Likewise, Negatively Skewed Distribution is a type of distribution where the mean, median, and mode of the distribution are negative rather than positive or zero, representing the direction of outliers in a set of data. Therefore, according to the definitions of skewness and kurtosis made by by Jondeau & Rockinger from the university of lausanne in, 2003, a high level of skewness implies many outliers within a data distribution.

Finally, the logarithmic return is a way to calculate the rate of return on investment. Because the formula for log return takes the duration of the investment into account, it can be used to compare multiple assets that cover different lengths of time. Using a Python script, the price data of Dogecoin, Shiba Inu and Dogelon Mars from April 23, 2021, to April 23, 2022, 366 days, was automatically collected. Exporting and plotting the data into Google Sheets, the data was presented as three histograms with normal distribution curves for log return and frequency, which can be seen here.

The Sharpe ratios of all three Memecoins are negative, meaning that the risk one might encounter is not offset well enough by its return. This indicates that Memecoins are not reliable long-term investments since the returns are likely to be negative per unit of risk. The skewness for Dogelon Mars and Shiba Inu are both negatively skewed, defining the outliers of the distributions on the left. Negative skewness suggests that investors may expect frequent small gains and a few significant losses (Jiménez et al., 2022). However, Dogecoin has a positive skewness, which indicates that an investor may expect frequent small losses and few significant gains from the investment (Jiménez et al., 2022). Finally, Shiba Inu has the highest kurtosis value (62.3) out of the three coins. Since it is used as a measure of financial risk, a larger kurtosis is associated with high-risk, high-reward investments (Jondeau & Rockinger, 2003).

Compared to the results of three traditional cryptocurrencies found by Liu & Tsyvinsky (2020), Bitcoin, Ethereum and Ripple, it can be concluded that the Memecoins investigated in this research are more volatile investments when comparing the respective standard deviation, Sharpe ratios, kurtosis, skewness and mean. All the Sharpe ratios for the traditional cryptocurrency assets are positive, which is superior to that of the Memecoins but is still considered a risky long-term investment since its value is below 1 (Hayette Gatfaoui, 2009). However, the general trend of standard deviation, kurtosis, skewness and Sharpe ratio trends show that Memecoins are more volatile investments, but are also more likely to give a substantial return.

This suggests that the data collected in this research supports the risk-return tradeoff theory and the research conducted by Ghysels and his team from the University of California in 2004, stating that the amount of return to be earned from an investment should increase as the level of risk goes up. The current short life period of Shiba Inu and Dogelon Mars poses some limitations to the research. Since most Memecoins are even newer than the two mentioned above, the data collected do not necessarily represent its risks and returns in the foreseeable future.

Corbet and colleagues from the Dublin City University in 2020 found that periods of financial market fear can act as a contagion to financial market stress in cryptocurrency. And, the macroeconomic aggregates caused by COVID-19 may have induced more financial market fear, generating more crooked results in the period chosen (Fang et al., 2020). Therefore this investigation could have focused more on Dogecoin, an asset with a decade long life expectancy, which can provide more accurate and precise data. Furthermore, as Dogecoin has been a cryptocurrency asset in the market since 2013, it may exhibit more stable behaviour than current circulating Memecoins due to the Lindy effect, which may have decreased the average risk. The Lindy effect is a phenomenon that could drive the price of Memecoins.

And, the theory states that the future life expectancy of certain non-perishable goods, such as a technology or a concept, is proportional to their current age (Tandon et al., 2021). An example of this would be Dogecoin, a meme cryptocurrency that has survived since 2013, proving itself to be one of the most resilient Memecoin in internet history (Noyes, 2014). The Lindy effect suggests that for this reason alone, Dogecoin is more likely to persist into the future. Just as the U.S. dollar is backed by America’s hegemonic power, Dogecoin, and its associates are backed by some of the most powerful memes in existence and the communities behind them.

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