

Hedging Using Digital Currencies Against Inflation Risks In Light Of The Globalization Of Economic Activity: A Theoretical Study

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Abstract:

This theoretical study explores the potential of digital currencies as a hedging tool against inflation risks in the context of globalized economic activity. With the increasing interconnectedness of economies and the volatility of traditional currencies, investors and businesses are seeking alternative ways to protect their wealth from the eroding effects of inflation. Digital currencies, with their unique characteristics such as decentralization and limited supply, have emerged as a potential solution. This research investigates the theoretical underpinnings of using digital currencies for inflation hedging, analyzing their correlation with traditional assets and their performance during periods of high inflation. By examining the factors influencing the effectiveness of digital currencies as a hedge, this study aims to provide insights for investors and policymakers seeking to navigate the complexities of the global economic landscape.

Keywords: digital currencies, inflation hedging, globalization, economic activity, theoretical study

1- Introduction and Research problem

Inflation is an important investment risk because it reduces the real value of assets and investment returns. The average annual global inflation rate from 1981 to 2020 was 5.4%. In 2020, the global inflation rate was 1.94%. Inflation is a critical investment risk and one of the most important challenges facing business organizations in the coming years. Hence, investors are urged to formulate strategies to mitigate inflation risks, where effective protection involves incorporating portfolio assets that rise in value along with inflation. This need has gained greater importance given the recent general increase in prices in different parts of the world, including advanced economies, where low interest rates and controlled inflation have coexisted for decades (De Jong & Yilmaz, 2023).

The inflation rate varied greatly between countries, ranging from -2.7% in Qatar to 2360% in Venezuela. The reasons for the differences in inflation levels between countries are complex. Inflation differences between countries may be due to heterogeneity in structures, and shocks on both the supply and demand sides, as well as monetary policies. Therefore, it is necessary for investors to develop strategies to reduce inflation risks (Phochanachan, Pirabun, Leurcharusmee, & Yamaka, 2022). Enterprises are exposed to various financial risks, including market risks, which are the risks of financial losses arising from changes in market conditions, such as interest rates and currency exchange, stock and commodity prices, and for this reason, it is common for these enterprises to use operations using financial instruments to mitigate risks and this practice of protecting against risks is called hedging (Amaral, 2020)

In practice, this constitutes what is called economic hedging, the formation of hedging transactions, regardless of the adopted accounting practice, and in these transactions the most widely used financial instruments for hedging relationships are derivatives due to their versatility and variety of options, which makes it possible to reverse the process of hedging. The subject of reasonable hedging, as these financial instruments protect against risks, whether interest rate risks, exchange rates, or price risks, and mainly aim to ensure the achievement of future cash flow, whether for asset positions or liabilities. The main goal of hedging is to mitigate positive or negative changes in income and, consequently, in the operations conducted by enterprises and by neutralizing the risks of these operations (DANTAS, LEITE, & TEIXEIRA, 2023).

2- Digital Currencies Hedging & Inflation

The objective of hedging is to mitigate potential losses or gains that may arise from the related investment. There are different effective hedging strategies to reduce market risk, which depend on the specific asset or portfolio of assets being hedged. There are also three dominant categories of portfolio assets, including options and volatility indices. The portfolio construction process

includes the strategic implementation of diversification techniques to form groups of assets, thus mitigating general volatility. One potential strategy is to use buying call options as a means of mitigating the negative impact. The potential associated with downward market movement, as options increase in value occurs when the price of the underlying securities declines. Investors also have the option of using the stock price volatility index (VIX) as a means of hedging, as the VIX determines the level of implied volatility associated with in-the-money call options (Ukpong, Akpan, & Gregory, 2023).

The interpretation and examination of inflation hedging is referred to as Fisher's theory, which states that the expected interest rate must move in the same direction and expected inflation must move in the same direction as expected inflation to mitigate the severity of inflation. There are three characteristics of an asset's ability to hedge against inflation: First: An asset can be viewed as an inflation hedge if the asset's return is at least equal to the inflation rate (Konchitchki & Xie, 2023; Kupfer, 2018). Second, it is an asset that reduces the variance or uncertainty about the future return of another asset. Third: The asset can be viewed as a hedge against inflation if there is a positive relationship between inflation and the asset return. If the relationship between expected inflation and the asset is positive, the asset is considered a hedge or partial hedge against inflation; Otherwise, it is a harmful hedge against inflation if the correlation is negative (Phochanachan, Pirabun, Leurcharusmee, & Yamaka, 2022).

According to (Bahjat, Hussain, & Saleh, 2023), the theory of purchasing power parity proposes the use of price indicators in determining the exact price of a similar product between countries. The theory assumes that there are no transaction costs or any barriers to trade, with the goods traded being homogeneous in nature. The theory states that homogeneous goods in different countries cost the same thing in the same countries when measured in the same currency. However, the main limitation of this belief is the purchasing power parity measurement based on price indices, given that different countries use different goods to determine their price levels. As for the theory of the international Fisher effect, this theory explains the purchasing power of each currency, which captures inflation within countries to ensure that exchange rates are balanced, so the price of goods and services purchased with one unit of the country's currency is equal to those purchased in the second country. The theory believes that relatively high interest rates foreign currencies tend to depreciate due to expected inflation resulting from higher nominal interest rates. (Chen et al., 2020; Zheng et al., 2023)

Inflation is a crucial investment risk and one of the most important challenges facing doing business in the coming years and, therefore, investors are urged to formulate strategies to mitigate inflation risks. Effective protection involves integrating portfolio assets that rise in value along with inflation, and this need has gained greater importance given the recent general

increase in prices in different parts of the world, including advanced economies. Recent consideration of Bit coin as an investment tool, coupled with growing interest among academics and policymakers, has positioned the crypto currency as a potential inflation hedge. Common justifications for this role include limited supply and a decentralized network, which gives scarcity and flexibility. However, existing theoretical and empirical studies have not reached a consensus on Bit coin's ability to hedge against inflation (Rodriguez & Colombo, 2024).

While the study (Blau, Griffith, & Whitby, 2021) supports Bitcoin as a powerful inflation hedge, most studies indicate that the inflation hedging properties of Bitcoin are specific to a specific context, as he pointed out that the market value of Bitcoin recently exceeded one trillion dollars, Practitioners and some researchers have suggested that Bitcoin is an effective hedge against inflation. For example, in May of 2020, Bloomberg News reported that hedge fund manager Paul Tudor Jones responded to concerns about the expansionary policy of many of the world's central banks during the Covid-19 pandemic by purchasing Bitcoin.

It is believed that the crypto currency represents a "reliable store of value", in contrast to traditional currencies, as the strong demand for Bitcoin, its limited supply, and the possibility of converting it into liquidity gives it the ability to protect against rising prices, which fits the definition of inflation hedging, and indicates The findings of a study (Blau, Griffith, & Whitby, 2021) indicate that Bitcoin can be used as a means of hedging against inflation, as it is positively related to the rate of future inflation expectations. (Boons et al., 2020)

Future expectations of dividend growth also serve as a good hedge against expected inflation, while other assets, such as commodities, rely on supply and demand dynamics that provide strong hedging benefits.

Although crypto currencies are also affected by supply and demand factors, they obtain price-related information from several more obscure sources, many of which are not related to expected inflation, and provide diversification benefits when total demand exceeds total supply. There is another consideration regarding Bitcoin and Ethereum. These are persistent problems regarding energy use. Changes in Bitcoin Granger cause changes in the forward inflation rate, suggesting that Bitcoin may act as a hedge against forward inflation expectations.

Findings from (Conlon, Corbet, & McGee, 2021) support a relationship between Bitcoin and future inflation expectations but show that this hedging potential is limited outside of a crisis period. The temporary positive correlation that has existed between crypto currencies and future inflation expectations since the beginning of the coronavirus (COVID19) pandemic can be understood from different perspectives. Bitcoin can be considered a speculative asset, as its value declined along with other speculative assets with the start of the pandemic, and in conjunction

with this, future inflation expectations declined rapidly, affected by the change in expectations arising from the lockdown restrictions. The subsequent sharp synchronized recovery in both crypto currencies and future inflation expectations may have followed the initial announcements regarding unconventional monetary policy to support the economy. (Banerjee et al., 2024; Montes & de Hollanda Lima, 2022)

3- Results, recommendations and future research

- Inflation hedging assets are time-varying and may only act as a hedge against inflation in specific market situations, and do not work well in highly efficient financial markets.
- The relationship of inflation to Bitcoin returns depends on the size of inflation shocks and Bitcoin market conditions. Bitcoin can also be considered as a total hedge against inflation achieved in the rising euro, British pound, and Japanese yen markets, which offer higher returns during very low periods.
- The necessity of creating a new set of accounting standards and principles to address the gaps in the accounting requirements for digital assets, as they have economic and accounting features and functions.
- Digital assets should be reflected in financial statements as investment assets due to their advantages and prevalence, as this will increase the validity of the accounting treatment of digital assets.
- The researcher recommends conducting studies on the relationship between exchange rate liberalization and the value of companies.
- The relationship between inflation and stock price fluctuations in emerging economies.

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