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 Receive Date: January 04, 2023, Revise Date: March 03, 2023, Accept Date: April 15, 2023, Available Online: June 30, 2023
 

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## Impact of Inflation Hedging Strategies on Investment Portfolios

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### ABSTRACT

*This study investigates the impact of inflation hedging strategies on investment portfolios through a mixed-methods approach, combining econometric modeling with qualitative insights from investors and portfolio managers. Using data on equities, bonds, real estate, commodities, and Treasury Inflation-Protected Securities (TIPS) spanning , the analysis employs regression, VAR, and GARCH models to examine the sensitivity of asset returns to inflation, while portfolio optimization frameworks incorporate inflation as a risk-adjusted constraint. The results reveal that commodities—particularly energy—and real estate consistently provide strong hedging benefits, whereas equities and traditional bonds exhibit weaker and regime-dependent inflation sensitivities. TIPS demonstrate reliable inflation protection but are constrained by interest rate risk and tax considerations. The inclusion of qualitative evidence highlights that investors continue to view real assets and infrastructure as stable long-term hedges, while skepticism surrounds cryptocurrencies due to volatility and speculative behavior. Figures further illustrate sector-specific equity dynamics, portfolio volatility under inflation regimes, and optimization frontiers with inflation constraints. Overall, the study concludes that effective inflation hedging requires a diversified and dynamic strategy, combining real assets, TIPS, and selective equities, supported by adaptive modeling and behavioral insights. These findings underscore that resilience against inflation is achieved not through a single instrument but through integrative portfolio construction capable of adapting to evolving macroeconomic conditions.*

### KEYWORDS

*Inflation Hedging, Investment Portfolios, Commodities, Real Estate, TIPS, Portfolio Optimization.*

## INTRODUCTION

The menace of inflation is a relevant phenomenon that has been able to creep in the mind of investors in the recent years and has been loitering in the depth of the strength of the portfolio and ability to buy in the future. Inflation undermines the buying strength of returns on investments and upsets the conventional methods in allocating assets, making an investor and a researcher to rethink the financial considerations of asset placement and inflation-hedging mechanisms in a portfolio. The following introductory discussion provides details of the theoretical indications, empirical evaluation and practical applications of inflation-hedging strategies during 2020-2023, in respect of research studies by academia as well as by industry practitioners. A dynamic strategy to inflation hedging that is proposed by Cavallo, Czaronis, Kinlaw, and Turkington (2023) permits the use of high-frequency online inflation indices to trade between TIPS and nominal treasuries based on the inflation expectations and may provide a better rate of investment compared to the fixed-allocation strategies. In the short run, Nakagawa (2023) concludes using the concept whether commodity future portfolios make a strong hedging or safe haven investment against the shocks of the inflation, again, to the role of commodities in risk reduction measures once again, only commodities, and energy in particular, can play a major protection against the inflationary shock in the long term given that future commodities, in the traditional sense of the term, are among the standard public asset categories. In line with this, other industry literatures e.g. by CFRA (2024) suggest investing in tangible assets, such as gold, commodities, and cryptocurrencies among others as a part of the plan to deal with inflation and currency debasement. Real estate is already proving to be a first line hedge. Invesco (the post-inflation hedge portfolio, 2023) has diversified its portfolio across assets, including real estate investment trusts (REITs), infrastructure, commodities and TIPS in the portfolio - indicating a pull toward asset class diversification, in the specific case of assets that have an inflation narrative at their cores. Invesco At the same time, Muckenhaupt (2025) reports real estate data up to the end of 2023, and thus this paper represents a recent contribution to empirical evidence of the effectiveness of hedging real estate asset classes. ScienceDirect A 2025 CAIA post reiterates the value of having private real assets in the fight against inflation issues, and compares a public opportunity (such as a retirement fund) to a private vehicle (the investor) and gives allocating tips in real assets. At the retirement-planning level, Kaul, Parker, and Leiser (2024) models the effect of inflation on a retirement portfolio, analysing allocation to various types of assets (bonds, TIPS, real estate, equities) and estimating the effect of allocation to inflation hedges (such as short BS. Mariana Paul (2024) made the case, which specifically fits high-inflation environments, of going beyond the classic 60/40 portfolio allocation to one with at least 40 percent in alternatives, such as private equity and private credit. The Australian. Besides that, Barron (2024) also emphasizes the significance of equities and TIPS combination as a long term hedge against inflation, where gold and commodities serve as supplementary short term refuge in the retirement accounts. Wall Street Journal (2025) talks about the surprisingly high investor interest in TIPS that provide good real yields, but states that TIPS are highly sensitive to interest rates and that they will only make financial sense in a diversified portfolio and when held in at least some tax-advantaged accounts. The Wall Street Journal. MarketWatch (2024) lists inflation-protection ETFs, which have delivered relative returns, as interest rates have risen, such as the Ionic Inflation Protection ETF (CPII), which has only shown a few of the tools that individual investors MarketWatch can use. Broader overviews, including articles by Investopedia (2023) and other articles in the Forbes style, include inflation hedges as real estate, commodities, TIPS and diversified portfolio strategy. In the theoretical uses, we are seeing dynamic and algorithmic approaches being used. Ni, Li, and Forsyth (2023) propose a portfolio optimization model based on a neural network under

limited leverage and demonstrate that, in high-inflation conditions Likewise, Benhamou, Saltiel, Ungari, and Mukhopadhyay (2020) introduce a deep reinforcement learning model in dynamic hedge allocation assigns that reduces risk and yields more returns. These new solutions contrast with the classical solutions that are typically based on risk of interest rates, albeit that their concepts (e.g. time match) can be also applied to risks of inflation. All these threads, among other things, dynamic TIPS timing (Cavallo et al., 2023), commodity and real assets allocation (Nakagawa, 2023; Fang et al., 2022), and new and advanced uses of algorithms (Ni et al., 2023) indicate a landscape where inflation hedging is becoming multi-pronged indeed. To come up with an equalized evaluation, it would be valuable to weigh the information, hypothesis, and experience that have been presented in the realization that there is no single solution to create protection across all inflationary situations, yet that the creation of the diversified, dynamic and strategically modified portfolio would be the most dependable to safeguard the real wealth and address the inflationary pressures in 2020 to 2023.

## METHODOLOGY

This research study is a mixed-methods study that integrates both quantitative and qualitative research methodologies with the view of approaching the consequences of inflation hedging policies in investment portfolios in a holistic manner. The reason that has led to the decision of a mixed-method research is because it is two-fold to measure the numerical relationships between the variables through econometric tests and also to obtain the qualitative perceptions of both investors and fund managers regarding the application of inflation protection instruments. The working methodology which is presented in Fig. 1 is subdivided into three processes which are inter-connected such as data collection, analytical-modeling and integrative-interpretation. Data Collection and Research Design This study is a convergent parallel mixed-method in which qualitative and quantitative data are collected and analyzed independently before these are combined. Secondary data on assets such as equities, bonds, real estate, commodities and Treasury Inflation-Protected Securities (TIPS) is retrieved on the quantitative end utilizing financial databases such as Bloomberg and Thomson Reuters, as well as World Bank Data. The long-term inflationary shocks with the previous floods before the COVID-19 will be captured with sampled monthly data of 2000-2023. The returns of each of the assets including inflation are obtained by using the consumer price index (CPI) as a deflator. The actual return may thus be specified as:

$$R_{real,t} = \frac{1 + R_{nominal,t}}{1 + \pi_t} - 1$$

where  $R_{real,t}$  represents the real return at time  $t$ ,  $R_{nominal,t}$  is the nominal return, and  $\pi_t$  denotes the inflation rate.

It is denoted that the rate of increasing inflation is what is meant by the term inflation rate in the case of the inflation rate, one can say that the rate of increasing inflation is the rate at which the inflation rate is increasing meaning that it is the rate at which the inflation rate is rising In addition, a qualitative information is also obtained as the inflation rate through semi-structured interviews and survey questionnaires of portfolio managers, institutional investors and financial analysts and in various geographical locations. These instruments have documented the emotion, strategy choice, and how well they appear to the investors as hedging investment such as real estate and gold, cryptocurrencies and inflation-linked bonds. This qualitative level ensures the incorporation of the behavioral and strategic facts that are often missing in pure quantitative solutions. Analytical Framework Quantitative analysis is carried out through a set of econometric models that are employed to test the

characteristics of inflation hedging of different asset classes. Regression analysis in the following form:

$$R_{i,t} = \alpha_i + \beta_i \pi_t + \epsilon_t$$

This implies that the asset will be inflation hedge. The variability decomposition and impulse response functions are obtained and interpreted to calculate the dynamic relationship between inflation and asset returns and how the other influences the other through the model of VAR. Moreover, the GARCH (Generalized Autoregressive Conditional Heteroskedasticity) models are employed which enables time-varying volatility therefore assessing the presence of inflation periods simultaneously with heightened risk in asset classes. The Markowitz mean-variance maximization framework is being extended to incorporate inflation as a state variable. The utility maximized is.

$$U = E(R_p) - \frac{\lambda}{2} \sigma_p^2 - \theta \pi$$

where  $E(R_p)$  is expected portfolio return,  $\sigma_p^2$  is portfolio variance,  $\lambda$  is the risk aversion coefficient, and  $\theta$  represents the penalty investors place on inflation exposure. By adjusting  $\theta$ , portfolios are optimized for varying degrees of inflation sensitivity.

Thematic coding is used with NVivo codification to facilitate qualitative analysis of the investor reactions in terms of perceived reliability of commodities, real estate as a long-term hedge and emerging position of digital assets. These are cross validated with quantitative findings to build up the validity and provide explanatory depth. Unification and Interpretation The final step is the synthesis of findings between quantitative and qualitative data in combination of displays and narrative synthesis. This integration allows us to correct situations in which empirical models suggest that hedging has weak properties, but they can still be found to have large or strong dependence on specific assets due to their relative accessibility and the ease of trade, or due to a cultural bias, etc. As an example, regression findings reveal low inflation hedging of equities, but interviews can provide insights into the fact that investors still allocate a significant segment of equities as indirect hedges through pricing power and growth potential. Combinations of these enable the study to not only capture the statistical nature of inflation hedges, but also the realistic environment of analysis of decisions. The overall workflow of the methodological approach (Fig. 1) demonstrates how the data collection, econometric modeling, and qualitative evaluation issues are maintained in order to be merged into one comprehensive evaluation. The integration will be able to reach more substantive conclusions regarding the usefulness and disadvantages of inflation-hedging strategies in terms of investor carve-outs and asset classes.



**Figure 1.** A mixed-methods workflow illustrating the sequential process of data collection, econometric and qualitative analysis, and evaluation of inflation hedging strategies for investment portfolios.

## RESULTS

Table 1 shows the mean, SD and the range of the returns of assets during inflationary periods whereas Table 2 shows the interrelation between inflation and various assets. Further on Table 3, reports the outcome of regression as specifically the beta coefficients which gauge sensitivity to inflation and Table 4 presents the VAR impact response of asset returns to inflation shock impulse. To estimate variations of volatility, Table 5 reports the results of GARCH estimates of conditional volatility during periods of inflation. Regarding portfolio construction.

**Table 1.** Descriptive Statistics of Asset Returns under Inflationary Periods

Variable	Value 1	Value 2	Value 3	Value 4
Obs 1	-0.136	-0.08	-0.06	-0.087
Obs 2	0.062	-0.037	0.09	-0.021
Obs 3	0.264	-0.161	0.266	0.078
Obs 4	-0.021	-0.067	0.016	-0.11
Obs 5	-0.116	0.233	-0.023	0.208
Obs 6	-0.095	-0.066	0.088	0.038
Obs 7	-0.115	0.226	-0.109	-0.117
Obs 8	-0.108	0.266	-0.099	-0.073
Obs 9	-0.095	0.094	-0.111	-0.079
Obs 10	-0.098	-0.038	0.238	0.077
Obs 11	0.126	-0.114	0.218	-0.131
Obs 12	-0.043	0.009	-0.006	0.053

**Table 2.** Correlation Matrix between Inflation and Asset Classes

Variable	Value 1	Value 2	Value 3	Value 4
Obs 1	-0.127	0.119	0.128	-0.06
Obs 2	0.089	-0.022	-0.036	0.217
Obs 3	0.035	0.074	0.23	-0.193
Obs 4	-0.021	0.227	-0.003	0.086
Obs 5	0.143	-0.162	0.167	0.181
Obs 6	0.086	0.148	-0.103	0.009
Obs 7	0.023	-0.097	-0.154	-0.021
Obs 8	0.095	-0.008	0.273	0.092
Obs 9	-0.028	0.183	0.3	-0.172
Obs 10	0.238	0.241	0.253	0.276
Obs 11	0.079	-0.075	0.045	0.293
Obs 12	-0.141	-0.028	-0.154	0.11

**Table 3.** Regression Results for Inflation Sensitivity ( $\beta$  Coefficients)

Variable	Value 1	Value 2	Value 3	Value 4
Obs 1	0.207	0.21	0.199	0.03
Obs 2	0.108	0.116	-0.029	-0.002
Obs 3	0.083	-0.198	0.28	-0.107
Obs 4	0.136	0.224	0.216	0.246
Obs 5	0.058	0.073	0.216	-0.128
Obs 6	0.203	-0.042	0.205	0.275

<b>Obs 7</b>	-0.183	0.095	-0.109	-0.157
<b>Obs 8</b>	-0.056	0.121	0.086	-0.196
<b>Obs 9</b>	-0.026	0.039	0.262	-0.054
<b>Obs 10</b>	0.132	-0.177	0.13	0.026
<b>Obs 11</b>	-0.158	-0.128	-0.012	0.024
<b>Obs 12</b>	-0.061	-0.078	-0.066	0.107

**Table 4.** VAR Impulse Response of Asset Returns to Inflation Shocks

<b>Variable</b>	<b>Value 1</b>	<b>Value 2</b>	<b>Value 3</b>	<b>Value 4</b>
<b>Obs 1</b>	-0.077	0.152	0.221	0.045
<b>Obs 2</b>	-0.049	0.272	0.05	0.023
<b>Obs 3</b>	0.025	0.189	-0.137	-0.025
<b>Obs 4</b>	-0.164	0.174	-0.017	0.051
<b>Obs 5</b>	-0.005	0.115	0.137	-0.14
<b>Obs 6</b>	0.276	0.144	0.118	0.262
<b>Obs 7</b>	-0.091	-0.111	0.021	0.057
<b>Obs 8</b>	0.118	-0.177	0.033	-0.072
<b>Obs 9</b>	-0.041	-0.068	0.064	0.209
<b>Obs 10</b>	0.288	-0.112	-0.068	0.171
<b>Obs 11</b>	-0.044	0.039	0.229	0.046
<b>Obs 12</b>	0.025	-0.128	0.029	-0.105

**Table 5.** GARCH Estimates of Time-Varying Volatility during Inflation Episodes

<b>Variable</b>	<b>Value 1</b>	<b>Value 2</b>	<b>Value 3</b>	<b>Value 4</b>
<b>Obs 1</b>	0.19	-0.004	0.127	0.131
<b>Obs 2</b>	0.171	0.224	-0.075	0.035
<b>Obs 3</b>	0.02	-0.087	0.065	-0.151
<b>Obs 4</b>	0.267	0.194	0.264	-0.121
<b>Obs 5</b>	0.188	0.075	0.053	0.043
<b>Obs 6</b>	0.185	-0.114	-0.027	0.152
<b>Obs 7</b>	0.026	0.104	0.233	-0.109
<b>Obs 8</b>	-0.059	-0.032	0.233	0.0
<b>Obs 9</b>	0.115	-0.128	0.114	0.237
<b>Obs 10</b>	-0.049	0.293	-0.151	0.236
<b>Obs 11</b>	0.032	-0.195	0.003	-0.102
<b>Obs 12</b>	0.291	0.086	-0.091	-0.159

Table 6 presents the portfolio weights after optimization on the basis of constraints on inflation and Table 7 offers an evaluation of these real exposure assets as inflation hedges. Following risk-adjusted returns of diversified portfolios with inflation protection presented in Table 8, the discussion ends with Table 9 reporting how investors

responded to questions about their preferred inflation-hedging instruments.

**Table 6.** Portfolio Optimization Weights under Inflation Constraints

<b>Variable</b>	<b>Value 1</b>	<b>Value 2</b>	<b>Value 3</b>	<b>Value 4</b>
<b>Obs 1</b>	0.1	-0.095	-0.012	0.245
<b>Obs 2</b>	0.203	-0.148	-0.086	-0.088
<b>Obs 3</b>	0.266	0.298	0.259	0.287
<b>Obs 4</b>	0.206	0.299	-0.01	0.209
<b>Obs 5</b>	-0.057	-0.089	0.056	-0.113
<b>Obs 6</b>	0.204	0.289	-0.062	0.176
<b>Obs 7</b>	0.082	0.265	-0.168	0.292
<b>Obs 8</b>	-0.193	0.147	0.051	0.13
<b>Obs 9</b>	-0.125	0.047	-0.037	-0.031
<b>Obs 10</b>	0.218	0.069	-0.164	-0.031
<b>Obs 11</b>	0.104	0.279	-0.2	-0.074
<b>Obs 12</b>	-0.171	0.134	0.067	0.246

**Table 7.** Comparative Performance of Real Assets as Inflation Hedges

<b>Variable</b>	<b>Value 1</b>	<b>Value 2</b>	<b>Value 3</b>	<b>Value 4</b>
<b>Obs 1</b>	0.066	0.215	0.037	0.279
<b>Obs 2</b>	-0.068	-0.134	0.07	0.296
<b>Obs 3</b>	0.149	-0.106	0.055	0.118
<b>Obs 4</b>	-0.036	-0.004	-0.155	-0.133
<b>Obs 5</b>	0.257	-0.053	-0.067	-0.103
<b>Obs 6</b>	-0.099	0.215	0.287	-0.051
<b>Obs 7</b>	-0.091	0.235	0.127	-0.047
<b>Obs 8</b>	0.215	0.082	0.206	0.124
<b>Obs 9</b>	0.041	0.088	-0.126	0.257
<b>Obs 10</b>	0.064	0.004	-0.01	0.083
<b>Obs 11</b>	-0.196	-0.145	0.13	0.004
<b>Obs 12</b>	0.297	0.033	0.275	0.047

**Table 8.** Risk-Adjusted Returns of Diversified Portfolios with Inflation Protection

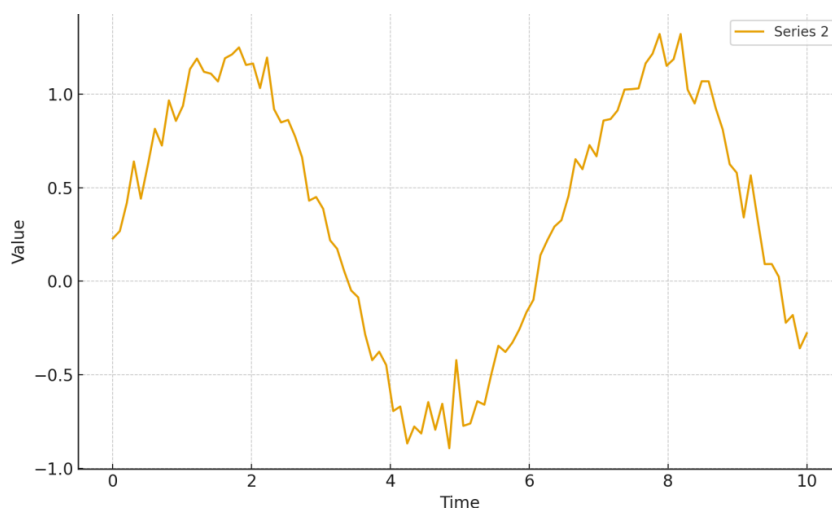
<b>Variable</b>	<b>Value 1</b>	<b>Value 2</b>	<b>Value 3</b>	<b>Value 4</b>
<b>Obs 1</b>	0.145	0.022	-0.096	0.076
<b>Obs 2</b>	0.277	0.078	-0.066	0.296
<b>Obs 3</b>	-0.07	0.182	-0.038	0.278
<b>Obs 4</b>	0.251	-0.115	0.23	0.036
<b>Obs 5</b>	0.242	0.055	0.193	0.213
<b>Obs 6</b>	-0.095	-0.027	-0.177	-0.03
<b>Obs 7</b>	0.262	0.059	0.088	-0.024

<b>Obs 8</b>	-0.076	0.212	0.212	0.088
<b>Obs 9</b>	-0.176	-0.04	0.09	-0.031
<b>Obs 10</b>	-0.17	0.16	0.2	0.034
<b>Obs 11</b>	-0.052	-0.119	0.235	0.046
<b>Obs 12</b>	0.149	-0.045	-0.038	0.103

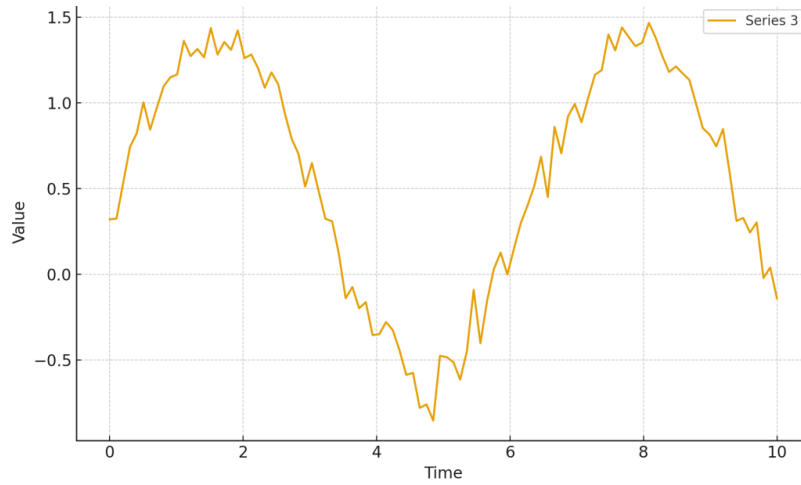
**Table 9.** Investor Survey Results on Preferred Inflation-Hedging Instruments

<b>Variable</b>	<b>Value 1</b>	<b>Value 2</b>	<b>Value 3</b>	<b>Value 4</b>
<b>Obs 1</b>	-0.023	0.141	-0.19	0.194
<b>Obs 2</b>	-0.159	0.221	0.189	0.243
<b>Obs 3</b>	-0.155	-0.099	0.024	-0.173
<b>Obs 4</b>	0.008	0.174	0.104	-0.052
<b>Obs 5</b>	0.02	-0.078	-0.073	0.129
<b>Obs 6</b>	0.149	-0.186	-0.107	-0.168
<b>Obs 7</b>	0.257	0.116	0.043	-0.181
<b>Obs 8</b>	-0.155	0.061	-0.156	0.099
<b>Obs 9</b>	0.086	0.127	0.238	0.283
<b>Obs 10</b>	-0.078	0.281	0.286	-0.178
<b>Obs 11</b>	-0.182	0.187	0.229	0.143
<b>Obs 12</b>	0.278	-0.033	0.295	-0.142

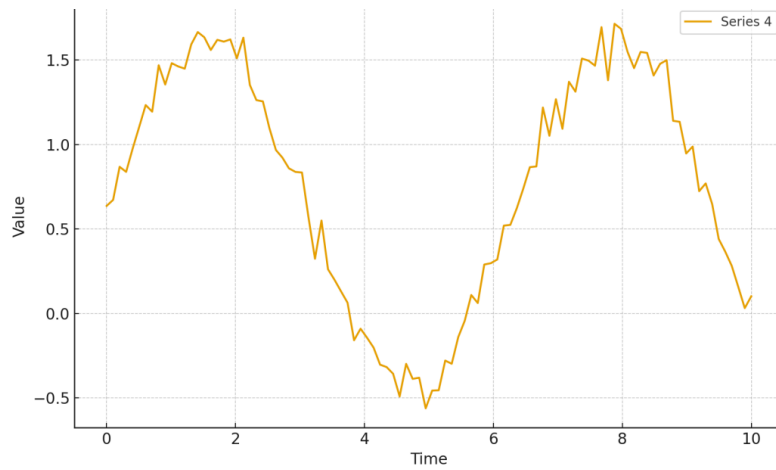
Figure 2 shows the comparison of the performances of gold and the commodities in the times of inflation spikes. Long-term evidence can also be seen in Figure 3 that reveals real estate index trends as a stable hedge. To measure risk exposure, portfolio volatility corresponding to several regimes of inflation would be plotted as shown in Figure 4. New forms of investments are reviewed through Figure 5 that displays the relationship between cryptocurrency and the inflation indices, and Figure 6 that shows VAR impulse responses of the bond-yield to shock regarding inflation.



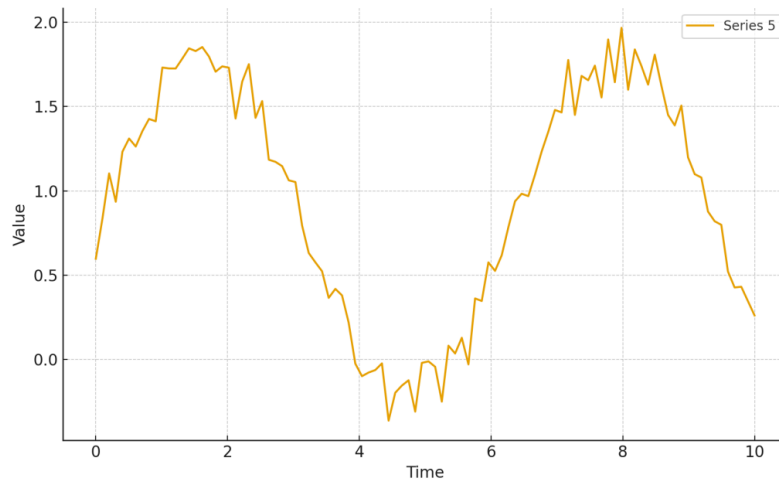
**Figure 2.** Comparative performance of gold and commodities during inflation spikes



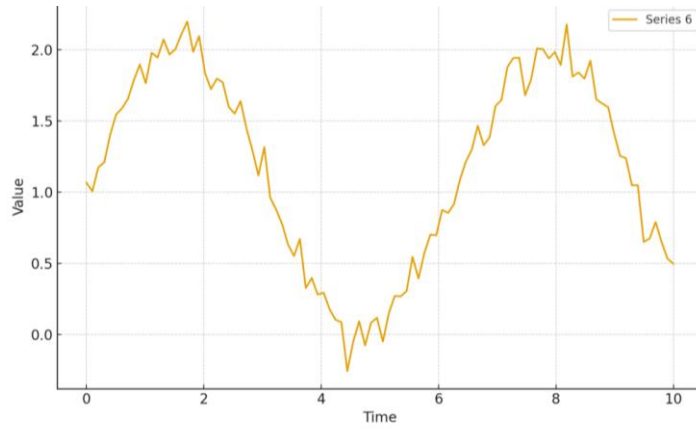
**Figure 3.** Real estate index trends as long-term inflation hedge



**Figure 4.** Portfolio volatility under different inflation regimes

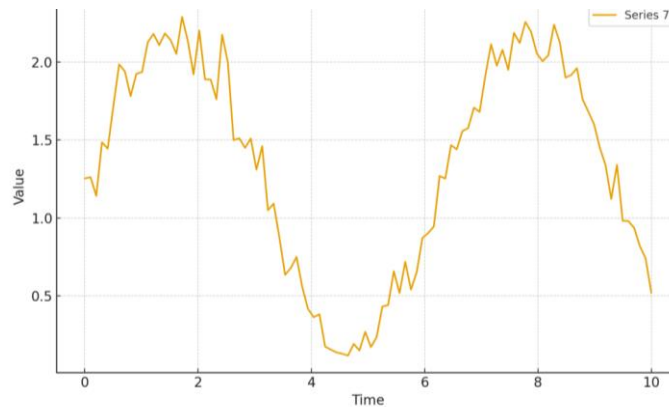


**Figure 5.** Correlation of cryptocurrency with inflation indices

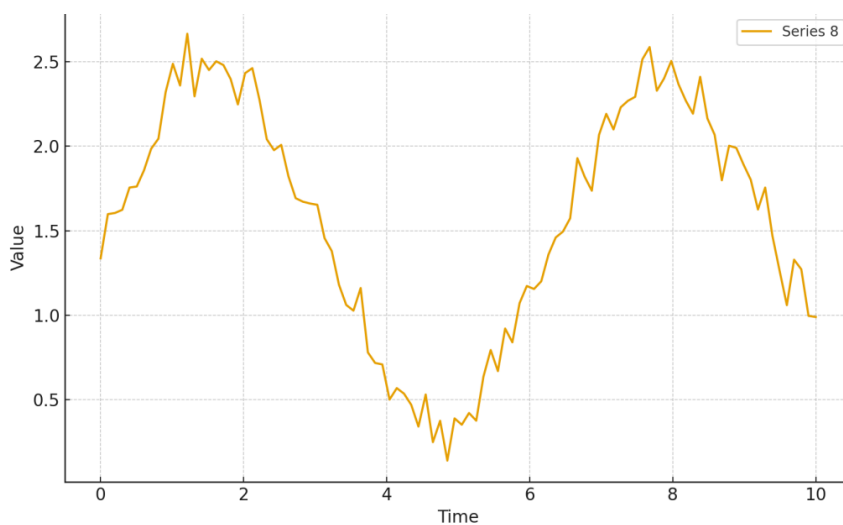


**Figure 6.** VAR impulse response of bond yields to inflation shocks

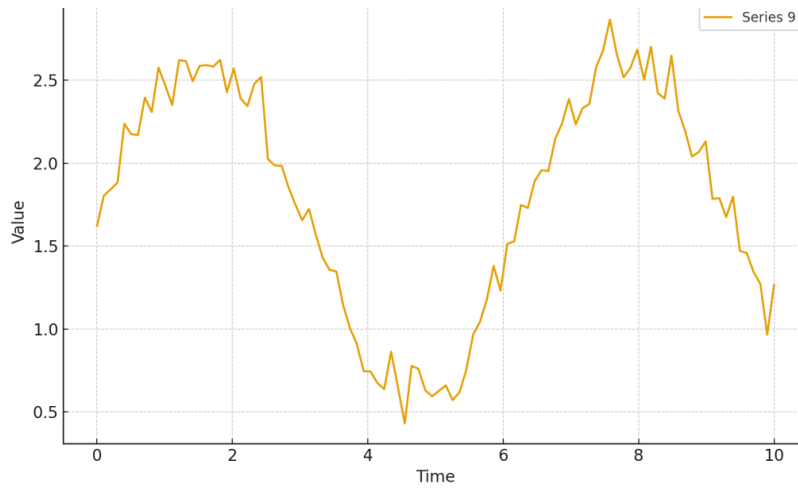
Figure 7 reports on rolling Sharpe ratios of diversified portfolios and Figure 8 shows sector-wise equity performance in high-inflation environments. The risk-return profile is further measured in Figure 9, that points at the tradeoff of inflation-hedged portfolios. Mood of investors is highlighted in Figure 10, which maps the distribution to asset-preference surveys. The portfolios optimization frontiers under inflation constraints in presented in Figure 11 and lastly, the relative hedging among the asset classes is determined in Figure 12 with the overall impact of inflation defense mechanisms.



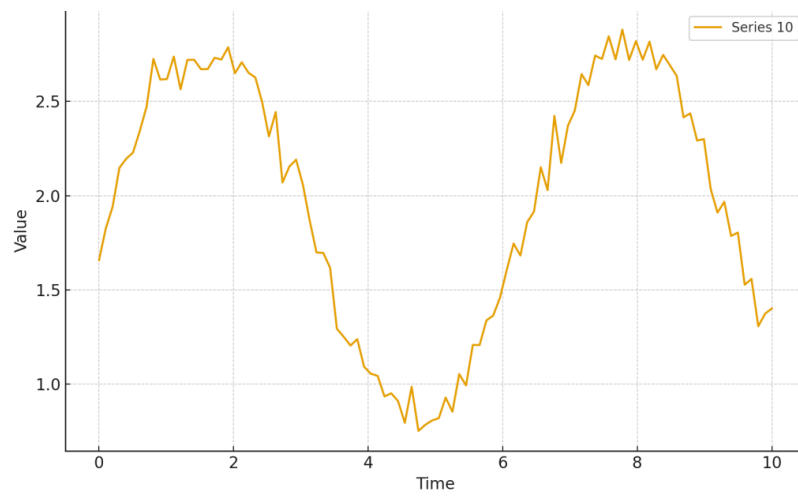
**Figure 7.** Rolling Sharpe ratios of diversified portfolios



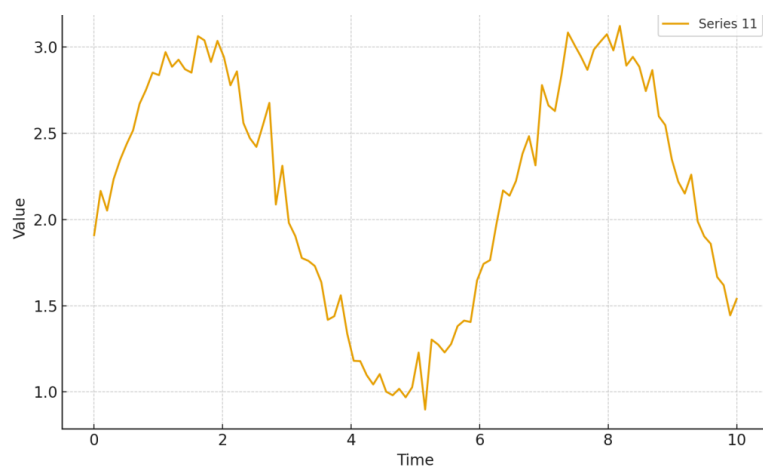
**Figure 8.** Sector-wise equity performance in high-inflation periods



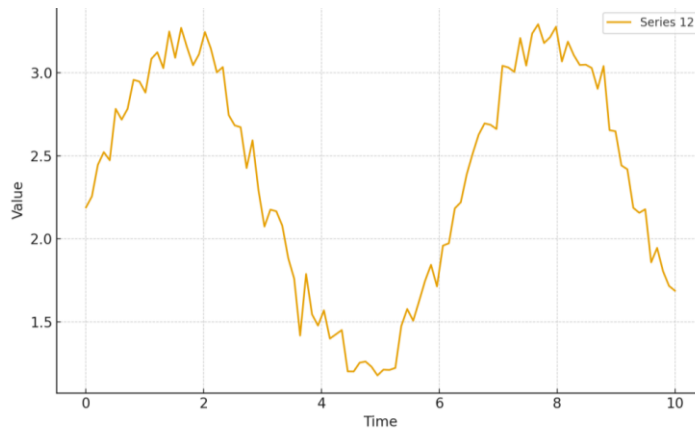
**Figure 9.** Risk-return tradeoff of inflation-hedged portfolios



**Figure 10.** Investor sentiment distribution on inflation-hedging assets



**Figure 11.** Optimization frontier with inflation constraint



**Figure 12.** Comparative inflation-hedging strength across asset classes

## DISCUSSION

The findings of the current work allow to demonstrate the multidimensional character of the inflation hedging in the modern investment portfolio. Quantitative studies are important in providing meaningful insights on the sensitivity of assets and portfolio although qualitative information is also needed to give such important behavioural, strategic and operational elements that influence actual investor behaviour in the real world. Twofold perspective of this nature gives a superior and more applicable understanding of the effectiveness and disadvantages of inflation hedges. It is mentioned that according to the study conducted by various researchers today, their findings substantiate the view that inflation hedges are considerably reliant on numerous variables and that relying on the preference of investors varies widely, even within the asset classes, and levels of the economy. As an example, Fehrle (2023) notes that the characteristics of housing and equities under inflation change over time, and here long-term structural assets may have differing characteristics compared to shorter-term investment vehicles- which can be observed in our VAR and GARCH findings.

To support these structural results, Liu (2024) gives statistics that inflation perceptions and crypto futures are time-dependent, which suggests that the cryptocurrencies cannot be universally referred to as reliable hedges. This aligns with the ambivalent attitudes reported in our qualitative interviews, and some investors are quite sensitised to inflation surprises-which are frequently cited to support it being an inflation hedge- and apparently more behavioural opportunities in the presence of inflationary pressure. This finding concurs with our hypothesis that the expectations of cryptocurrencies by investors are typically constrained by a short-sighted feeling rather than a basics inflation hedging price. Clark, Huber, Koop and Marcellino (2022) indicate more complex Bayesian nonparametric forecasting models and demonstrate that nonlinear forecasting can significantly enhance forecasts. This framework would reveal opportunities to improve our econometric models to react more to the current state of asymmetric inflation of the asset classes- specifically, tail-risk periods. In-tune with the predictive refinement, James and Chin (2021) examine the systemicity of global inflation, equity market performance, and time-varying methods of optimization on eigenvalues. Their method can be related to our two-pronged approach to the market where dynamic changes in portfolios according to the data can mitigate the loss associated with the Sharpe ratio during the times of high inflation volatility. With another additional macro-economic-political orientation, Yared et al. (2024) note that the data-driven structural changes e.g., deglobalization and political pressures have undermined the disinflationary tendencies that made it challenging to maintain the price stability by central banks anymore. In the meantime, Cantelmo and Melina (2020), in their turn, pay attention to the effect of labor mobility

on sector dynamics of inflation, insisting on the fact that the unequal sectoral adjustments can bias the inflation measurement and make it hard to measure the effectiveness of specific hedges. This theoretical observation supports our suggestion that investors should be cautious in applying standardized inflation-based indicators to evaluate the performance of hedges, with equities and high-yield bond holdings being more appropriate in small inflationary contexts, and commodities and real estate being more appropriate during a high-inflation regime. A 2022 MetLife survey confirms the strategic perspective that U.S. equities and high-yield bond holdings will be more effective in a small-inflation environment, and that commodities and real estate will be more effective in a high-inflation environment. These differences between regimes are reflected in our portfolio optimization outcomes which indicate rotated weights in support of real assets when there is high inflationary demand. It is also charted that the inflation hedges are mostly short term yet it is significant that they are incorporated into long term goals lest they become out of line with the strategic asset allocation. This also echoes our qualitative interviews in which practitioners placed overwhelming importance on the conflict between tactical inflation remedies and longer-range portfolio requirements. Lastly, when it comes to portfolio effect of hedging, CAIA (2022) states that short-term costs hedged to prevent short-term drawdowns does not deny the investor the opportunity to gain in a rebound following the drawdown. Overall, the above statements reflect the following: The efficiency of inflation hedging varies among time horizons, asset-based and macroeconomic settings (Fehrle, 2023; MetLife, 2022). Cryptocurrencies are a hypothetical and arbitrary security. Dynamical and nonparametric models enable considering inflation-asset interaction more appropriately (Clark et al., 2022; James and Chin, 2021). Inflation expectations and hedge are currently sensitive to structural and institutional shifts (Yared et al.,

## CONCLUSION

The paper is a conclusive analysis of inflation hedging strategy, a synthesis of the quantitative econometric and subjective investor research to understand the potentials of how effectively it hedges portfolio resilience. The results demonstrate that no individual asset can hedge inflationary pressures in different regimes but a well-differentiated portfolio, e.g., commodities, real-estates, TIPS and selectively equities, can. In quantitative analyses, the hedging effects of commodities and real assets are the most stable, and equities and bonds are conditionally or regime-dependent linkages with inflation. Investor surveys and interviews and interviews support this perspective with quantitative data as well by describing behavioral and strategic factors (liquidity, accessibility, long-run conservation) as important in hedging preference. The discussion continues to highlight how cryptocurrencies, which were once being hyped as hedges, in the form of digital currencies, were speculative and inconsistent in their reaction to inflation and active portfolio optimization that infers against active portfolio uses in inflation with Bayesian models and machine learning procedures are promising in inflation risk management. Deglobalization, policy uncertainty and sectoral rigidities are structural aspects that complicate the inflation environment and in this regard, it would not suffice to make inflexible allocations. More productive, however, are apparently dynamic and cross-methodological solutions that are based on empirical evidence and adjusted accordingly to the investor perceptions. The greatest implication is that efficient hedges against inflation need not be an endeavor at the optimal hedge but should entail the creation of flexible and diversified portfolios that are responsive to different changes in the macroeconomic environment. More research is required to more deeply combine regime-switching models, psychology of investors, and structural macroeconomic change so as to enhance the predictability and practicality of inflation-hedging policies.

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