

Gold and Silver as Hedging Asset During Financial Instability in Lebanon

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Abstract:

This study examines the effectiveness of gold and silver as hedging instruments during Lebanon's prolonged financial crisis, characterized by severe currency depreciation, banking sector collapse, and high inflation. Using a quantitative empirical framework, the research analyzes international gold and silver prices alongside Lebanese pound exchange rate movements and inflation indicators to assess their role as wealth-preserving assets in a highly unstable economic environment. The study evaluates returns, volatility, correlation structures, cointegration relationships, and dynamic shock transmission using Vector Autoregression (VAR) models and impulse response functions (IRF). The results show that both gold and silver produced a positive payoff in the times of intense currency depreciation indicating that the purchasing power was partially retained. Nevertheless, gold was found to be more stable in prices and less volatile and thus its application as a classic safe-haven asset is supported, whereas silver was observed to have a higher potential of returns and much larger volatility because of its dual monetary and industrial characteristics. The weak correlation analysis indicates that precious metals and domestic financial indicators have weak connections, which is justified by their applicability in hedging during crisis situations. Also, the outcomes of cointegration tests indicate a long-term equilibrium between the price of gold and silver, whereas dynamic tests indicate that the responses to economic shocks are interdependent.

Overall, the study concludes that gold remains a more reliable hedge during systemic financial distress, whereas silver may serve as a complementary asset offering higher risk-adjusted potential returns. The research contributes to the limited literature on precious metals in emerging market crises, particularly within the context of Lebanon's unique financial collapse

.Keywords:

Gold, Silver, Hedging Strategies, Financial Crisis, Currency Depreciation, Emerging Markets, Vector Autoregression (VAR), Impulse Response Function (IRF), Wealth Preservation.

Introduction: "The What & Why"

Today, financial instability in Lebanon represents one of the most severe economic crises in modern history, characterized by currency collapse, banking sector paralysis, fiscal default, Surging inflationary forces, and a dramatic collapse of public confidence in financial institutions. In such an environment, traditional financial assets denominated in local currency have failed to preserve purchasing power, while access to foreign currency and banking deposits has become restricted. Consequently, tangible stores of value such as gold and silver have re-emerged as potential hedging instruments against systemic financial risk.

Historically, gold has represented monetary stability and sovereign credibility, serving as a reserve asset for central banks and a universal store of value during wars, crises, and currency devaluations. Silver, while often perceived as gold's less dominant counterpart, has similarly functioned as both a monetary and industrial asset, blending defensive asset characteristics with demand-driven price behavior tied to global economic conditions. In periods of uncertainty, both metals have been viewed as protective assets capable of preserving wealth when traditional financial systems weaken.

Within the Lebanese context, marked by the collapse of the banking sector and the severe depreciation of the Lebanese pound that has fundamentally altered savings behavior, the role of precious metals becomes particularly relevant. Households and investors increasingly seek alternatives outside the domestic financial system, raising critical questions regarding the effectiveness of gold and silver as hedging assets during long terms of instability. Despite the extensive studies investigating gold as a hedge against inflation, currency depreciation, and market volatility, silver remains relatively underexplored in emerging market crises, particularly in studies that examine both metals within the specific framework of Lebanon's financial breakdown.

While gold is widely viewed as the primary safe-haven asset, silver's dual monetary-industrial nature results in different volatility and return dynamics, with gold offering greater stability and silver potentially yielding higher, but riskier, returns. However, empirical investigation is necessary to determine whether these theoretical assumptions hold true under Lebanon's unique financial conditions.

Therefore, this statistically intensive study examines gold and silver as hedging assets during financial instability in Lebanon through seven main objectives, six quantitative and one qualitative: Measure and compare the returns of gold and silver during key phases of Lebanon's financial crisis.

Quantify and compare volatility to assess the relative risk profile of both metals.

Analyze correlation dynamics between gold, silver, and key Lebanese financial indicators, including exchange rate movements and inflation.

Examine hedging effectiveness by testing whether gold and silver preserve purchasing power against Lebanese pound depreciation.

Test for cointegration to determine the presence of long-term equilibrium relationships between the two metals within the context of the Lebanese financial crisis.

Evaluate shock transmission effects using Vector Autoregression (VAR) and impulse response functions (IRF) to assess how economic shocks impact both assets.

Assess the practical implications of the findings for Lebanese investors, households, and policymakers seeking financial stability mechanisms during prolonged economic distress.

By combining detailed financial analysis with modern statistical methods, this research examines whether gold and silver are more than traditional protective assets and can help preserve wealth in Lebanon's financial crisis.

Literature Review: "The story so far "

Academic literature has long investigated the role of precious metals as hedges against financial instability, specifically focusing on their performance during inflationary periods, currency devaluations, and periods of economic uncertainty. Gold stands out as a premier safe-haven asset, proven to preserve purchasing power through systemic shocks and economic crises (Baur & McDermott, 2010). Because gold typically demonstrates an inverse or weak correlation with equities and bonds during periods of financial instability, it remains a core asset for central banks and institutional investors aiming to stabilize diversified portfolios.

In contrast, silver has attracted comparatively less attention in academic research, despite historically serving a similar monetary function. While silver shares certain characteristics with gold as a store of value, its price behavior is often more volatile due to its dual role as both precious and industrial metal (Bouri et al., 2017). Global demand for silver is strongly linked to industrial production, electronics manufacturing, and renewable energy technologies, factors that contribute to additional fluctuations in its price dynamics. Consequently, while silver may offer higher potential returns during economic expansions, its hedging properties during crises remain more debated within financial literature.

Previous research on emerging markets suggests that gold often performs strongly during periods of currency depreciation and inflationary pressure. Research on economies experiencing severe monetary instability indicates that households and investors often shift toward tangible assets, including precious metals, as a means of protecting wealth against currency collapse and banking sector constraints (Freiha, 2023). However, most of these studies concentrate on large economies or global financial markets, leaving a gap in the literature regarding smaller economies experiencing systemic financial breakdowns.

In the case of Lebanon, academic analysis of alternative stores of value remains limited despite the country's severe financial crisis since 2019. Existing research primarily focuses on currency depreciation, SME's (Kamel, Kaspard & Khalil, 2023), sovereign debt restructuring, AI enhancements (Beainy & Kamel, 2023) and banking sector collapse, while the role of precious metals as potential hedging instruments has received relatively little empirical attention. Accordingly, this study aims to contribute to the literature by jointly analyzing gold and silver within the unique context of Lebanon's financial instability, offering a comparative assessment of their effectiveness as wealth preservation instruments during prolonged economic distress.

Methodology: "The how we did it "

This study adopts a quantitative empirical approach to evaluate the hedging effectiveness of gold and silver during Lebanon's financial crisis. The analysis utilizes historical time-series data spanning the period corresponding to the onset and progression of the Lebanese economic crisis.

The dataset comprises international gold and silver prices, movements in the Lebanese pound exchange rate, and inflation indicators relevant to the domestic economic environment. These variables enable a comprehensive analysis of the behavior of precious metals in relation to key financial stress indicators affecting Lebanese investors.

To measure asset performance, the study calculates the returns of both gold and silver across the selected time period, allowing for direct comparison of profitability during different phases of the crisis. Volatility analysis is conducted using statistical measures such as standard deviation to evaluate the relative risk levels associated with each metal. This approach helps determine whether the potential higher returns of silver are accompanied by significantly greater price fluctuations compared to gold.

Correlation analysis is employed to examine the relationship between gold, silver, and major Lebanese financial indicators, particularly exchange rate depreciation and inflation trends. Understanding these relationships is essential for determining whether the metals move independently of domestic economic shocks, a key characteristic of effective hedging assets. Furthermore, cointegration tests are employed to assess the existence of long-term equilibrium relationships between gold and silver prices during the crisis period, this is especially important as globalism and correlation is extreme in today's VUCA markets (Beainy, 2025).

To examine how these variables interact over time, the study applies impulse response analysis (IRA) together with Vector Autoregression (VAR) models. These econometric techniques allow the analysis to evaluate how shocks within the Lebanese financial system, such as sudden currency depreciation or inflationary spikes, affect the price movements of gold and silver over time. By integrating these statistical techniques, the methodology establishes a systematic and reproducible framework for evaluating the effectiveness of precious metals as hedging instruments in periods of economic uncertainty.

Results: "The facts "

The quantitative analysis demonstrates clear trends in the performance of gold and silver throughout Lebanon's financial crisis, with return estimates showing that both metals generated positive gains during key periods of Lebanese pound depreciation, suggesting that investors holding precious metals were able to partially preserve purchasing power despite the collapse of the local currency. Gold displayed relatively consistent returns throughout the crisis period, while silver exhibited stronger price increases during certain intervals but with more pronounced fluctuations.

Volatility measurements demonstrate that silver experienced significantly higher price variability compared to gold. While gold maintained a relatively stable risk profile, silver's returns were associated with greater swings in the short term, reflecting its sensitivity to both financial and industrial demand factors. These findings validate the existence of a trade-off between stability and potential return, with gold as a more stable asset and silver presenting greater volatility.

Correlation analysis further indicates that both metals maintained relatively weak correlations with major Lebanese financial indicators, particularly exchange rate changes and inflation. This

suggests that precious metals do not act as domestic financial variables, and this further supports their potential role as hedging instruments during periods of economic instability.

The econometric tests also reveal evidence of dynamic relationships between the prices of gold and silver over the analyzed period. Cointegration analysis indicates the presence of long-run relationships between the two metals, while impulse response functions demonstrate how external shocks affecting one metal can influence the other over time. These findings underscore the interactive but independent action of gold and silver during times of economic stress.

Discussion and conclusion: "The so what ? "

The findings of this research offer valuable insights into the effectiveness of precious metals as hedging tools in periods of pronounced financial instability. The empirical results confirm that both gold and silver offered a degree of protection against the depreciation of the Lebanese pound, supporting their conventional image as stores of value during economic crises. Nevertheless, the analysis also reveals significant differences between the two metals in terms of volatility and risk exposure.

The results show that gold remained relatively stable throughout the crisis. This stability underscores its proven position as a safe investment during periods of heightened economic uncertainty. Its relatively consistent performance implies that it remains one of the most reliable tools for preserving wealth when traditional financial systems weaken. Although Silver could generate higher returns during certain phases of the crisis, it exhibited greater volatility, indicating that it may function more effectively as a complementary asset rather than a primary hedge.

From a practical perspective, these results are particularly relevant for Lebanese households, investors, and policymakers seeking financial protection mechanisms during prolonged economic instability. Diversification strategies incorporating both gold and silver may provide a balanced approach, combining gold's stability with silver's potential for higher returns, however scholars should not forget the importance of dollarization in terms of stabilization (Kamel et al., 2025).

Nevertheless, the findings highlight the importance of further research into alternative hedging instruments and financial strategies within crisis-prone economies. Further studies would help broaden the analytical scope by incorporating a more diverse range of assets such as foreign currencies, commodities, and emerging digital assets, while also examining the behavioral aspects of investor decision-making amid financial distress. By deepening the understanding of wealth preservation strategies, such research could contribute to more resilient financial planning in economies facing prolonged systemic instability and enhance not only emerging economies but also developed societies (Beainy & Kamel, 2023).

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