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# The Role of Gold ETFs in Market Stability, Price Discovery, and Economic Dynamics during Crises

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***Author's contribution***

*The sole author designed, analysed, interpreted and prepared the manuscript.*

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## ABSTRACT

Gold has been considered one of the most reliable safe-haven assets and a tool for value storage, possessing qualities such as rarity, hardness, and resistance to adverse impacts from economic processes. Under conditions of economic stability, when demand for gold is insignificant, interest rates can be used to bring the price of gold under control; therefore, investors would rather take positions in interest-bearing securities. Most global disruptions, especially the financial crisis in 2008, the 2011 US Debt, and the COVID-19 pandemic, further heightened uncertainty and volatility in gold prices. The increased volatility stoked concerns over the stability and reputation of gold as an investment. In fact, it was in the year 2003 that gold exchange-traded funds started to turn gold as a physical commodity into a more available, liquid, and diversified financial instrument. Gold ETFs track physical gold, mining operations, or leverage-based products, which provide access to investors for "paper gold" without problems related to custody, insurance, or safety. In times of higher inflation or currency devaluation, gold ETFs hedge both a loss of purchasing power and overall market risk. Indeed, the empirical data show that the surge of investors into gold ETFs during the two systemic crises of the 2008 financial collapse and the COVID-19 pandemic led to

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increased demand, and hence prices for this commodity. While, at any given time, market-fragmenting gold ETFs foster stabilization through immediate liquidity provided to support price discovery, over increasing demand on that part is depressing economic activities: with high gold prices soaring to reflect hikes in the cost of borrowings, interest rates kill off investments, consumption, and growth. What results is a complex equilibrium since while gold ETFs protect an investor from turbulence in general, the reverse is a case that contributes to instability during widespread economic adversity. Policymakers and regulators should attach great importance to the interconnections among the performance of the gold ETFs, trends in the stability of a market, and economic outlook. If there is transparent regulation, decent trading systems might help in promoting confidence in using these instruments. Gold ETFs have become key methods of risk and portfolio diversification management besides facilitating investors over times of potential financial crisis. Their impact necessitates continued vigilance and additional oversight. Leveraging off the 2008 financial collapse, the COVID-19 pandemic, and a set of historical case studies, this paper uses empirical evidence related to changes in the price of gold and investor behavior in order to study the emergence and multidimensional role that gold ETFs have played so far within modern financial markets. The present study will be important as it explores their impact on price stability, the diversification of risk, and the greater implications for economic growth and suppression. This paper, therefore, contributes to the nuances surrounding gold's status as a safe-haven asset and potential trade-offs between using gold ETFs as tools for hedging and portfolio management.

*Keywords: Market stability; investment strategies; commodity markets; portfolio diversification.*

## 1. INTRODUCTION

In the current exchange system and modern trade, gold is considered a risk-free financial instrument and a haven for hedging risk. Volatility in gold prices has raised questions about the reputation of gold exchange-traded funds. Gold metal characteristics, for example, inimitability, rarity, and durability have innovated a perception of gold reputation, intrinsic value, guaranteed investment, and stable investment, which can preserve its value despite economic fluctuations. In a stable economy, gold prices rarely change because of low demand for gold, as investors prefer investing in bonds that earn higher interest rates. Low demand for gold does not trigger price changes in market prices. Global issues, for instance, COVID-19 escalated financial uncertainty that triggered gold price volatility in significant markets, such as the London over-the-counter market, the US COMEX gold market, and the Shanghai Gold Exchange (SGE) (Zaspel, 2021). Volatility in gold prices in the market has compelled investors, financial experts, and stakeholders to unravel the driving forces causing price volatility. Since the introduction of gold ETFs in 2003, the gold market transitioned from being a precious metal to a financial instrument that can be traded and easily converted into cash. Gold ETFs were introduced to mitigate the risks of trading physical gold, which involved insurance, security, and storage. During inflation, gold prices tend to rise to hedge against a loss in the value of currencies. The law of demand and supply applies as gold prices surge. However, when interest rates are high, investors invest in bonds to earn interest. Gold does not earn interest and is a store of value that protects the purchasing power during inflation. Macroeconomic trends are critical in influencing the gold prices in the market.

An ETF (exchange-traded fund) is a mutual pooling of funds by investors that aid in tracking gold prices and allow investors to trade and invest in gold without owning the physical precious metal (Kowalewski & Skopiec, 2024). The types of ETFs traded in the stock exchange market include physical gold, gold mining, and leveraged gold ETFs. Physical gold ETFs occur when investors trade in physical gold and funds are held in vaults. Gold mining ETFs occur when investors in companies deal with gold production, while leveraged gold ETFs integrate debts and financial derivatives in generating returns. ETFs are critical in tracking gold prices in the gold-traded fund market and promoting accessibility and liquidity to traders. Investors could hedge their assets and liquid cash in gold ETFs to mitigate economic financial risks. Currency debasement causes risk to an economy, which compels investors to store the wealth of gold during the economic crisis. Gold ETFs are fundamental for investors when trading futures contracts and gold bullions (Maré, 2024). If gold prices rise, for example, by 3%, the ETF prices rise by a similar margin. The COVID-19 pandemic affected global markets due to economic lockdown and lack of economic

activities. Investors shifted to Gold ETFs, which are fundamental in influencing price discovery, market stability, and economic suppression during the period to curb financial losses. The rationale for shifting to gold ETFs was to mitigate risk, diversify investment portfolios, and hedge assets against risk. Critical evaluation of the forces behind gold and ETF prices aids in understanding how they influence market stability, price discovery, and economic suppression during economic and financial crises.

## 2. LITERATURE REVIEW

Gold exchange-traded funds (ETFs) have increasingly drawn researchers' attention for their role in modern financial markets, especially during the time periods when there are systemic crisis and economic turbulence. Recent literature has focused on three themes that are correlated with gold ETFs: (1) their ability to stabilize or destabilize markets, (2) their contribution to price discovery, and (3) their role in economic suppression when demand for gold surges during crisis periods. In this literature review, latest findings were listed in order to draw empirical insights.

### 2.1 Gold ETFs: Mechanisms and Market Role

Some of the authors have highlighted the stabilizing effect of gold ETFs through provision of liquidity. Gong et al. (2024) pointed out that gold ETFs as well as other ETF-based derivatives provide intraday liquidity and risk-transfer mechanisms which may help to avoid sharp declines in the equity markets during times of uncertainty. Similarly, Kowalewski and Skopiec (2024) state that in conditions of average demand gold ETFs can help to mitigate systemic risks and keep the prices of spot and futures markets closer to each other, which may be important for investors who want to protect themselves from the depreciation of currencies. However, they also pointed out that in case of sudden increase in demand, due to inflows from the gold ETFs, the physical market may get affected.

Market interest rates do not influence the metal aids in hedging against inflation and retaining the value of assets. Volatility in the market as a result of inflation affects share and stock prices in the trading exchange market. The rationale for investors trading in the gold market is to protect the value of assets that might decline due to the financial crisis. During the 2008 financial crisis, UK and US investors shifted to gold ETFs to mitigate global financial risk (Cheng et al., 2020). Devaluation of local currencies results in loss of value to investors in fixed debt instruments while beneficiary to account payables. Investing in assets and gold stock protects investors against losses that occur as a result of volatility in the market.

### 2.2 Market Stability and Gold ETFs

Another area of important research focuses on the possibility of gold ETFs improving or distorting the price discovery function. Most researchers have concluded that ETFs, through their linkage of the physical spot market with the futures market, help improve the efficiency of price transmission (Chen & Tongurai, 2024; Spinner, 2024). Chen and Tongurai (2024) demonstrate how the integration of ETFs in the commodity markets is helpful in understanding the speed with which information flows across the gold markets and other assets when there is a crisis during heightened volatility.

Apart from speed another advantage of ETFs is that has ETFs improved the market efficiency due to improvement in transparency. According to Spinner (2024), this is possible due to the fact that one can acquire ETF shares; this makes the market more accessible and more people can participate in it to enhance/improve efficiency. In a study, Rezaei and Fijin (2024) mentioned that ETFs improved liquidity in ETF-dominated markets allows for more accurate reflection of real-time investor sentiment, as prices adjust quickly to new information.

However, some critics have noted that ETFs can encourage excessive speculation during times of crisis, which can push prices even further away from their true value. According to Radev et al. (2023), for example, when risk aversion increases, a phenomenon known as the "herding effect" occurs, causing market participants to rush to purchase gold ETFs. This causes a brief inefficiency in prices, which is later corrected once liquidity is restored and the panic has subsided. Thus, the research done in the recent past suggests that gold ETFs have played a positive role in the price discovery process as they have increased the efficiency and liquidity of the market for traditional over-the-counter markets (Streck et al., 2024).

## 2.3 Gold ETFs and Economic Suppression

While gold's safe-haven characteristics is established, more recent literature from the last decade has focused on whether surging demand for gold ETFs actually comes with a suppressive effect on the broader economy. Scholars have pointed out the interaction between rising gold prices, higher borrowing costs, and depressed investment and consumption as indicators of this "economic suppression" (Ruiz Estrada, 2024; Spinner, 2024).

In times of crisis, large gross inflows into gold ETFs can push the gold price to extreme levels and raise concern about the degree of capital market crowding out. According to Rezaei and Fijin (2024), banks and large institutional investors respond to this liquidity pressure from the market by increasing lending rates which in turn leads to higher cost of borrowing for firms and individuals. They say this channel leads to lower investments in other productive sectors, exacerbating the negative economic cycle.

A parallel line of research emphasizes the wealth-effect dimension. Higher gold prices increase the wealth effect for investors who hold physical gold or gold ETFs, but higher rates reduce credit access for other investors at the same time. According to Dokas et al. (2023) this mechanism can decrease the aggregate consumption when the citizens experience an increase in credit costs and stricter credit conditions. In the end, the cumulative effect of higher borrowing costs is to push down consumer demand, and the economy is pushed further into recession (Spinner, 2024).

While gold ETFs may have a protective mechanism for investors, the researchers say regulators should stay alert during potential distortions in times of crisis. Based on this, Kowalewski and Skopiec (2024) call for monitoring of ETF flow data, especially during macroeconomic shocks, to avert feedback loops that could result in an explosive drop in prices. Spinner (2024) proposed circuit-breakers or margin requirements tailored to ETF inflows in order to stabilize short-term price swings when sentiment shifts abruptly.

## 2.4 Research Direction

On the one hand, gold ETFs are useful instruments for hedging the safe-haven, gaining liquidity, and facilitating pricing discovery due to their intensified demand during the COVID-19 shock and many subsequent post-2020 financial shocks (Enilov et al., 2023; Gong et al., 2024). On the other hand, concentrated capital flows into these instruments may inadvertently suppress broader economic activity by elevating borrowing costs and dampening investment impact that requires stronger policy responses (Ruiz Estrada, 2024; Streck et al., 2024). Looking ahead, several future research opportunities emerge as the gold ETF market continues to expand and evolve. Microstructure analysis provides important information about intraday trading behavior allowing academics to study the speed of price adjustment to macroeconomic news or changes in market sentiment. Researchers can learn more about the mechanisms behind price formation and volatility by examining how quickly new information is incorporated into gold ETF prices. Second, the analysis of cross-asset contagion is an essential one to understand the relationship between gold ETF volatility and other commodities or equity ETFs across economic regimes. This phenomenon of market stress or exuberance, temporarily driving capital flows into gold ETFs will allow investors to implement risk management and portfolio diversification strategies more effectively. Lastly, an assessment of the potential effectiveness of regulatory measures, such as margin requirements and liquidity buffers, can outline how such measures could help to mitigate rapid increases or decreases in ETF flows. Such insights are pertinent in crisis periods when markets tend to experience heightened volatility and investor apprehension. Examining these aspects in conjunction with one another can provide policymakers and market participants with better guidance on how to balance the capital market efficiency benefits of gold ETF liquidity against the negative externalities that could manifest in distressed pricing environments. All in all data-driven research into microstructure dynamics, cross-asset contagion and regulatory frameworks with the appropriate policy response will engender a more stable, clear and efficient gold ETF marketplace in order to support investor confidence going forward.

# 3. METHODOLOGY AND PURPOSE OF THE STUDY

The purpose of this paper is to investigate the multidimensional role that ETFs play in periods of economic crisis and volatility. This study seeks to

find market (1) market stability, (2) price discovery, and (3) economic suppression effects.

(1) Determine whether Gold ETFs serve a stabilizing or destabilizing function when market conditions deteriorate.
(2) Evaluate how Gold ETFs contribute to, or possibly distort, the price-discovery process in the spot and futures markets.
(3) Investigate whether large inflows to Gold ETFs during crises contribute to economic suppression by raising borrowing costs, dampening investments, and reducing consumption.

In this paper, mixed-method approaches are used in order to capture both quantitative and qualitative dimensions of Gold ETF behavior during economic crises. Quantitative data analysis, qualitative case study evaluations, and comparative assessment of crisis events are analyzed in this paper.

## 4. GOLD ETFs: MECHANISMS AND MARKET ROLE

Gold metal provides guaranteed security for investors to store their wealth during inflation and financial crises. Gold ETFs act as a double-edged sword: they can provide much-needed liquidity and protection during times of stress/crisis. Furthermore, it potentially amplifies the market turbulence when capital inflows become highly speculative. Although ETFs provide a wide range of investors with convenient access to gold, excessive trading in these vehicles may enhance short-term price variations, according to research by Radev et al. (2023) on the price volatility of gold ETFs in the U.S. COMEX futures market. This is consistent with Streck et al. (2024), who demonstrate that during crisis events, the volatility spillover effects of gold ETFs are comparatively greater than those of the seven major mineral ETFs listed on the NYSE.

The price of gold is high, thus making it difficult for individual investors to purchase and store physical gold. Gold metal is a valuable asset and needs security to be protected. ETFs are paper gold that represent the actual value of physical gold. Investors use paper ETFs to trade in gold in the stock exchange market without trading on physical gold (Yarovaya et al., 2022). Many investors purchase gold ETFs whose value is equivalent to physical gold stored in vaults. Converting gold into ETFs entails investors pooling their resources together, where the fund manager uses the funds to buy gold coins and bars. Selected custodian banks verify authenticity and provide safety for the precious metals stored in protected vaults. Valuation of gold ETFs is done frequently according to actual market gold prices.

Traders buy ordinary stock as ETFs, representing a specific portion of gold stored in vaults. Converting physical gold into ETF paper aids investors in trading in physical gold without insurance and security fears. The actual price movements for gold metal are equivalent to physical changes in ETF gold papers. For instance, if the price of actual gold rises by 4% during inflation, the price of ETFs rises similarly. In other words, if the price of gold drops by 2% during the economic recession, the price of ETFs will also drop by a similar amount. ETF's gold trading mechanism has allowed small investors to access and participate in gold trading without physically owning the metal. Buying of gold ETFs represents a portion of the physical gold. A wide range of investors, including small-sized businesses, buy gold ETFs representing physical gold and participate in trading in stock markets. Gold ETFs can be in the form of synthetic gold and physical gold bars. Financial derivatives play a fundamental role in helping gold investors understand and track the price movements of gold metal in the stock exchange market. Synthetic ETF prices are tracked using financial derivatives that aid in trading futures and options (Zaspel, 2021). The rationale for introducing gold ETFs is to promote the accessibility of gold trading to a wide range of investors in the gold market. Pooling of many investors together facilitates access to physical gold, where different investors purchase a portion. Critical factors that trigger gold volatility in the market include gold production, geopolitical factors, inflation, gold demand, and dollar value. Macroeconomic elements compel investors to purchase gold ETFs when prices are low and sell them when prices rise in the stock exchange market. Sharp fluctuations in gold prices have raised queries about its stability, and it is considered a risk-free investment. Investors hope economic suppression and crisis cannot affect gold value in the market. Investors can confirm their gold ETFs into liquid cash after the economy stabilizes and invest the funds in other projects.

**Table 1. Standard type of ETF trading in the stock exchange market**

| Type of ETF | Mechanism | Example |
|---|---|---|
| Physical ETF | It holds actual gold bars | SPDR Gold Shares (GLD) |
| Synthetic ETF | Uses derivatives to track gold | db Gold ETF (EUR) |

## 5. MARKET STABILITY AND GOLD ETFs

Gold ETFs have played a key role in mitigating market price volatility that causes investors financial risk. A financial crisis during an economic recession or inflation stimulates the demand for gold. Investors acquire gold paper as ETFs used in the stock exchange market during price movements. Since gold is regarded as a guaranteed asylum for assets, investors convert their assets' value into risk-free gold ETFs (Zeng & Lu, 2022). Economic uncertainty has contributed to an increased demand for gold havens. High levels of transparency to investing in gold in the form of gold ETFs and accessibility of liquidity have promoted investors to store their assets in gold during the financial crisis.

Market trends and investor sentiments illustrate the viability of gold ETFs in the market. Capital inflows and outflows in the stock market for gold illustrate investors' confidence in trading gold ETFs over traditional markets (Zaspel, 2021). Gold ETFs are highly liquid since they are easily bought and sold. Buying and selling gold ETFs quickly makes it easier for investors to develop investment strategies.

### 5.1 Diversification and Hedging

Economic instability plays an integral part in compelling investors to store their wealth in gold to mitigate financial risks resulting from price volatility in the market. Investors have diversified their project portfolios in different industries to neutralize financial and business risk (Zaspel, 2021). Shifting an investment portfolio to gold during an economic crisis aids investors in countering risks that result in financial loss due to the devaluation of the local currency. Portfolio diversification enhances optimal returns. When specific assets lose value, other assets gain value within the portfolio. The inverse relationship within the portfolio aids in balancing risks. Absorption of selling risks associated with bonds, securities, treasury bills, and ordinary stocks is integral in mitigating risk and stabilizing market prices.

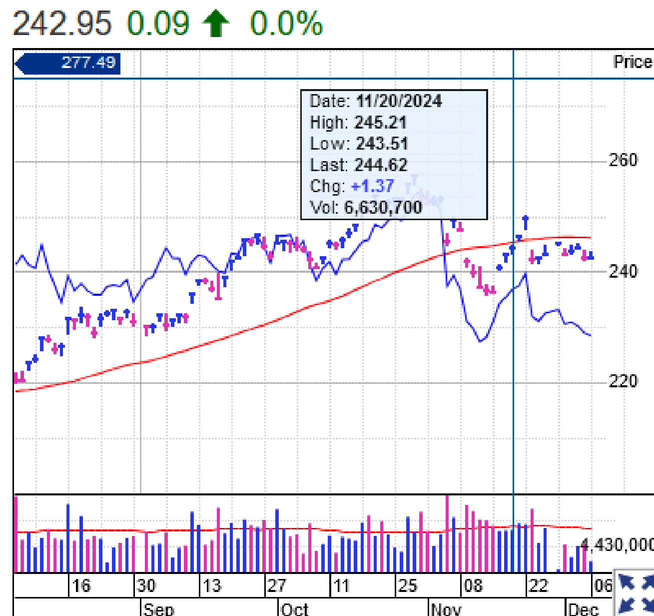


**Fig. 1. SPDR gold shares**

*Note: Adapted from "SPDR gold shares stock quote" GLD Stock News, quotes, analysis: Investors.com (no date) Investor's Business Daily. Available at: https://research.investors.com/stock-quotes/nyse-spdr-gold-shares-gld.htm*

## 5.2 Correlation Showing Relationship with Other Securities

Systematic risks affect business organizations during inflation. The principal macroeconomic elements that affect stability in prices in the economy include changes in interest rates, recession and war, devaluation of the currency, market exchange rates, inflation, and natural disasters. The impact of macroeconomic changes triggers changes in the stability of prices in the market that compels investors to mitigate risks through diversification of the product portfolio (Zeng & Lu, 2022). Investment in gold has a negative portfolio compared with other classes of assets, such as investments in real fixed income and equities. A negative correlation between gold ETF investment and ordinary stock for shareholders aids in mitigating systematic risk for investors. During financial crises, investors manage to protect their investments through portfolio diversification. Protection and mitigation against portfolio volatility aid in stabilizing market prices that affect the value of assets in a business. The assets in a portfolio are inversely related. When one asset loses value due to currency losing value, other investments, such as gold ETFs, gain value. Gains and losses of assets are cancelled out when balancing the profits and losses.

## 5.3 Access to Gold Trading and Liquidity

The provision of liquidity to a wide range of investors is the main reason Gold ETFs have successfully penetrated the market. Investors needing funds can convert their assets into Gold ETF's financial instruments, which can be easily converted into liquid cash. In the stock market, gold ETFs are used as financial derivatives to earn returns when used as debt instruments. Investors trade in gold in the stock exchange market by checking gold price movement in the stock exchange market (Zeng & Lu, 2022). Gold ETFs allow investors to trade, buy, and sell shares in the stock exchange market. Investors can trade within a day by buying and selling shares, which stabilizes market prices and influences the market direction in the economy. During the 2008 and 2020 financial crises, investors integrated portfolio diversification to minimize financial risk. The economic recession in 2008 affected global banks and investment activities. The impact of the economic recession led to unemployment, a reduction in GDP, and reduced consumption (Di Tommaso et al., 2020). The US government responded with a troubled asset relief program to bail out the economy.

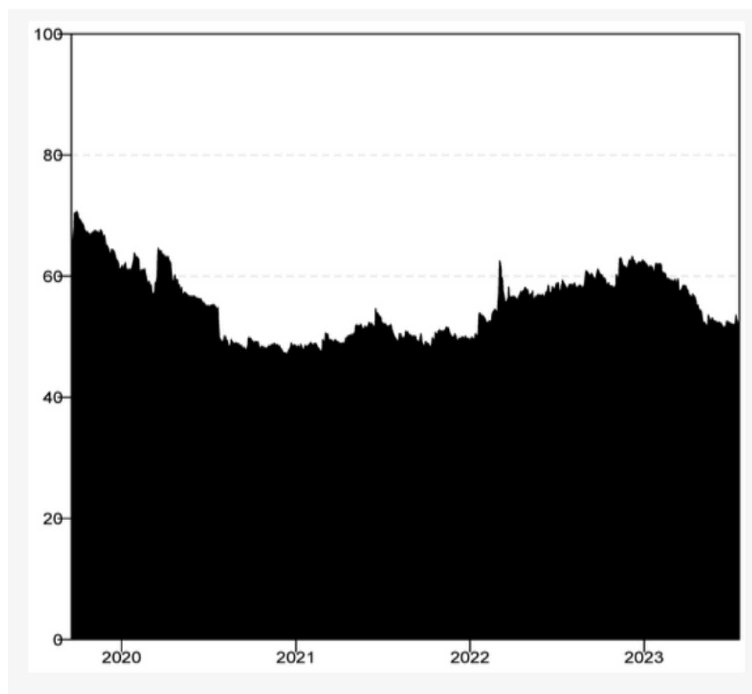


**Fig. 2. Total ETF Connectivity**

*Note: Adopted from "Interrelationship and Volatility Dynamics Among the Seven Main NYSE Mineral ETFs". Economies, 12(12), 322*

Since the inception of paper gold in 2003, investors have successfully managed to spread risk through portfolio diversification in the market. The negative correlation between portfolios enhances the balancing of gains and losses. In the past, investors could buy gold and store it to protect against the loss in value of their assets due to market instability (Zhao, 2022). Insurance costs and provision of security to the precious metal were high, thus compelling innovators to develop gold ETFs that are integral in trading and converting various classes of assets into gold. Easy conversion of assets into liquid cash and conversion of liquid cash into gold ETFs has promoted market stability in the volatile economic environment.

The graph above illustrates the movements of gold ETF prices for four years: 2020, 2021, 2022, and 2023. The highs, lows, and flats show gold ETF price movements in the exchange market. In 2020, gold prices shot up due to high demand triggered by the COVID-19 pandemic and financial crises.

### 5.4 Empirical Evidence and Support During Financial Crisis

Economic uncertainty and the influence of globalization have triggered economic crises in some countries with unstable currencies and high dependence on imports. The devaluation of the currency in the economy triggers the volume of exports in a country, which causes an impact on the balance of payments and foreign reserves (Salisu & Obiora, 2021). Local and foreign investors need help accessing foreign currency, which is accepted as a medium of exchange. The commonly used currency in the international markets is the US dollar. Conversion and exchange of local currency to the trading currency results in a cash value loss due to currency devaluation and rising demand for the US dollar (Spinner, 2024). An increase in demand for the US dollar contributes to market volatility, which results in the loss of value of assets in the economy. During financial crisis scenarios, especially after Covid-19 in 2023, trading in gold ETFs was 28% of the total equity in the US, 10% of the total equity in Europe, and 15% of the total equity in Asia-pacific (Rosskopf & Rutersten, 2020). High demand for Gold ETFs in 2008 triggered gold volatility in the market. Despite gold metal being considered risk-free and a guaranteed haven for investors to protect their assets during financial crises when the demand for gold is high compared to its production and supply, the impact results in volatility in gold prices (Rezaei & Fijin, 2024). In 2008, the impact of the global financial crisis did not have a significant impact on gold ETFs compared to the 2020 financial crisis; the demand for gold rose by 1.9% and in 2023, after Covid-19, the demand for gold rose by 23.3% (Kowalewski & Skopiec, 2024). The global pandemic was a threat to economic development and growth. To curb the spread of the COVID-19 virus, countries were compelled to integrate mitigating measures that included the closure of tourism industries, service industries, eateries, and other economic activities that involved social gatherings and interaction with people. The implication of COVID-19 led to economic lockdown and loss of insurance health funds as a result of fraudulent insured people who collaborated with representatives in the insurance companies to commit the fraud. Since 2020, the trust in gold as a haven has started raising pertinent questions on the trust and reliability of the method in protecting investors' assets during financial crisis meetings.

The increase in demand for gold in the form of gold ETFs caused volatility in the market. Volatility in the economy occurs when prices of assets in the economy keep changing as a result of recession and inflation. Prices for gold ETFs have regularly shifted in the market, causing investors to be afraid of the level of volatility experienced in gold ETF prices (Radev et al., 2023). The impact of price volatility in the market contributes to a loss in value for investors who have converted their assets into gold ETFs. Despite the volatility of gold ETFs, the gold trading mechanism played a key role in economic stabilization. Gold ETF trading aids in preventing the economy from collapsing.

## 6. PRICE DISCOVERY AND GOLD ETFs

### 6.1 Graphical Representation Showing Price Discovery

The law of demand and supply states that the principle of demand and supply influences the equilibrium price. Market structure and determinants influence the shift and movement of product prices in the economy. Market interaction dynamics in the economy contribute to unravelling the actual price of goods and services (Streck et al., 2024). Gold ETFs have played an integral role in tracking the price movements of gold metal in the stock exchange market. In the stock market, interest rates,

demand and supply, the strength of the US currency, and investors' sentiments influence gold prices. Gold ETFs represent a portion of the precious metal highly traded in the stock exchange market (Özelli, 2021). A wide range of investors successfully trade gold in the stock exchange market. A diverse range of investors pool their resources together to purchase and sell gold ETFs in the stock exchange market to aid in tracking gold price movements (Rosskopf & Rutersten, 2020). During economic uncertainty circumstances, gold ETFs aid in stabilizing market prices and protect investors against financial losses due to market changes. A higher level of transparency and access to liquidity in the market through the conversion of assets into paper gold aid in protecting investors against financial loss in the market.

Demand and supply macroeconomics and dynamic market structures, such as buying and selling gold-related financial instruments and gold precious metals, aid in discovering gold prices in the stock exchange market. In the past, gold markets were influenced by futures and physical gold, an expensive process of storing gold (Murphy, 2021). Investors had to take the precious metal to financial institutions where it could be protected against loss. Storing gold in financial institutions attracted huge fees in protection costs (Naeem et al., 2022). The Discovery of gold ETFs whose prices aligned with actual gold prices has transformed gold trading from traditional trading markets into modern trading ETFs markets.

## 6.2 Price Discovery Mechanisms

The underlying gold prices influence the prices of gold ETFs in the stock exchange market. In the stock exchange market, different stocks are assigned unique prices depending on the value of the stock and the levels of demand and supply of that particular stock (Menand, 2021). For instance, in the stock exchange market, if the demand for gold paper increases, the corresponding prices of gold ETFs of paper also increase, which triggers buying pressure on the gold precious metal. In contrast, if the prices of gold ETFs start declining, it triggers pressure for some investors to start selling (Moraitis, 2018). The interaction between and selling of gold ETFs in the stock exchange market contributes to the price discovery of gold ETFs in the stock exchange market.

Large corporate financial institutions also play a key role in assisting the discovery of gold prices in the stock exchange market. Authorized and licensed participants, such as SPDR, VanEck, and iShares, introduce shares equal to specific quantities of gold (Maghyereh et al., 2023). The shares are traded in the stock exchange market as gold ETFs whose value aligns with a similar amount of physical gold. Investors in these authorized gold trading financial institutions allow investors to convert their ordinary stock shares into gold ETFs used in trading gold in the stock exchange market (Maré, 2024). Trading with gold ETFs aids investors in buying and selling shares and understanding gold price movements in the stock exchange market. Price discovery techniques in the stock exchange market are integral as large transactions that involve outflows and inflows occur without significantly triggering volatility in the stock exchange market.

## 6.3 Impacts of ETFs on Future Markets

In the past, futures markets occurred where the interactions between investors in buying and selling gold could discover the prices of gold in the market. Duffy et al. (2021) outline that 35% of equity trades in the US represent ETFs. Trading in futures contracts allowed investors to speculate on future gold prices, and that played a fundamental role in integrating policies that played a key role in mitigating price risks (Liu et al., 2022). Hedging mechanisms played an essential role in preventing a drop in prices in the future.

ETF gold has played a key role in transitioning from futures markets in price discoveries to ETF markets, where prices are influenced by the interaction of buyers and sellers of shares in the stock exchange market. Compared with future contracts, gold ETFs offer an opportunity to access liquidity easily for trading in the stock exchange market compared to agreements requiring expertise and colossal capital to access liquidity (Liu, 2024). To access gold without physically owning the gold, investors opt for gold ETFs that are easily accessible in the stock exchange market. More investors have actively participated in gold trading in the stock exchange market and have gained important information in understanding price movements that play an integral role in discovering gold ETF prices (Naeem et al., 2022). The gold ETFs trading market provides critical information concerning investors' expectations and sentiments essential

in finding and setting gold prices in the stock exchange market.

### 6.4 Efficiency and Transparency

The benefits accrued in trading with gold ETFs are transparency and effectiveness in operations. Efficiency and transparency in business operations contribute to the price-discovery process, thus promoting large business transactions on the platform (Laakso, 2019). Market activity is integral in trading with gold ETFs, and the market is frequently related to discovering stock prices, which contrasts with physical gold markets that are fragmented. Gold ETFs promote real-time price discovery and do not need expertise to predict future stock prices in the market.

Efficiency in trading gold ETFs is achieved through reduced transaction costs since they are free of charges for holding physical gold, insurance costs, and storage fees. Investors can easily trade in gold by buying and selling gold ETFs (Laakso, 2019). Transparency is achieved through frequent regulation and monitoring of adherence to strict practices and set standards. Regulatory oversight is significant in creating confidence in investors. Prices are transparent, and investors can observe market prices and changes in the market.

## 7. ECONOMIC SUPPRESSION AND GOLD ETFs

Economic suppression is a state in the economy whereby economic activity levels are reduced due to inflation and recession, causing financial crises. Government interventions in modifying fiscal policies and influencing the central bank's monetary policies aid in mitigating the systematic and unsystematic risks in the economy (Kaur & Singh, 2020). However, in some scenarios, triggering the monetary and fiscal policies fails to reduce financial crises; for instance, in the Argentinian economy, governments have been unable to stabilize the economy (KJ, 2012). Economic suppression compels investors to purchase gold ETFs to protect their assets' value due to losing value. Gold ETFs protect economic activities, influence lending costs, and act as safe-haven for investors. Investors invest in other market securities with better returns during low inflation and interest rates. The demand for gold decreases in the market, and investors opt for other projects that can earn returns.

### 7.1 Safe-Haven and Gold ETFs

Gold ETFs have played a critical role in protecting investors against hyperinflation, economic crises, and currency devaluation, and they have also acted as a haven for asset protection. Market volatility in a collapsing economy results in a loss in the value of assets and held currency (Chen & Tongurai, 2024). Owners of the devalued currency opt to convert the assets into ETFs gold to protect against the loss of value of the assets. Rising demand for gold ETFs in the stock exchange market causes volatility in gold prices. A rise in gold prices in the economy increases business risk in the market. Large transactions take place in the economy to protect investors against financial damage in the economy (Coffman, 2020). For instance, hyperinflation in the Argentinian economy to a record 140% in 2023 has compelled investors to trade in US dollar currency to mitigate financial risk. The devaluation of currency affects savings and borrowing between commercial banks and investors. During economic financial crises, investors in commercial banks convert the cash into gold ETFs to protect the funds against loss in value. Once the market prices stabilize, investors can convert the gold ETFs into liquid cash to conduct other business transitions.

### 7.2 Impacts of ETFs on Borrowing Costs

Economic instability compels investors to acquire more ETFs in the stock exchange market to protect against loss. The economy is suppressed when the demand for gold ETFs is higher than its supply, broadly affecting the level of economic activities in the market (Brown & Pringle, 2022). Higher investments in Gold ETFs result in rising gold costs. An increase in gold prices triggers borrowing costs, influencing rising interest rates.

A rise in economic interest rates affects aggregate demand and supply. A rise in interest rates affects the significant elements of the economy's gross domestic growth and income distribution. Reduction in investments causes a decrease in consumption (Dash & Maitra, 2022). The implication of reduced investment and consumptions cause budget deficits, unemployment, and inflation in the economy. The financial crisis of 2008 is clear evidence that illustrates the impact of reduced consumer expenditures and higher interest rates on gross

domestic product (Ruiz, 2024). In addition, the effect of COVID-19 on the closed economy led to contraction and recession. The contraction of economic activities due to rising gold prices contributed to higher borrowing costs and interest rates.

### 7.3 Impact on Consumption and Wealth

Economic suppression plays an integral role in influencing investments and consumer expenditures. Consumers purchase gold ETFs and shift their assets to mitigate the systematic risk in the economy, which triggers gold prices. Psychologically, investors feel wealthier when the price of gold rises, increasing their consumption of other products (Disli et al., 2021). Once the economy stabilizes, the prices of gold ETFs align with the prices of actual physical gold.

However, the decline in gold prices in the stock exchange market due to reduced demand for gold makes gold owners feel poor and reduces their consumption. Reduction in consumption hurts economic growth (Dokas et al., 2023). The economy fails to grow as the total gross domestic product declines due to recession and contractual economy. Suppressing economic activities as a result of lower consumer spending exacerbates economic decline. The decline in gold prices reduces the prices of gold ETFs (Kakkar & Chitrao, 2023). Reduction in the cost of gold ETFs in the stock exchange market makes investors feel the loss of value and wealthier and respond by reducing consumptions and expenditures on unnecessary commodities.

### 7.4 Regulatory Policies and Implications

Trading in gold ETFs allows investors to invest and diversify portfolio risk in the market. Portfolio risk diversification is critical in stabilizing the economy and creating confidence in investors in the economy (Humphreys, 2010). Policymakers in the stock exchange market evaluate macroeconomic principles before influencing prices in the stock exchange market. An increase in gold prices raises borrowing costs, which triggers financial institutions to raise interest rates. An increase in interest rates and borrowing costs reduces the level of economic activities, thus reducing the total output in the market. Policymakers use macroeconomic trends to discover and set up prices that mitigate issues arising from economic instability. Regulatory measures play a fundamental role in financial stability and influence prices, which are key in stabilizing an economy.

## 8. EMPIRICAL ANALYSIS: CASE STUDIES AND DATA

Investments in gold ETFs in 2008 provided critical financial information on the impact of volatility on market prices. Gold ETFs have efficiently improved the market operations (Gong et al., 2024). Investors have managed to own and invest in gold without physically owning the metal. Empirical studies provide critical information for understanding patterns, outcomes, and price change trends in the exchange market (Goodell & Goutte, 2021). Case studies provide valuable information on the market response to the emergence of the financial crisis in 2008 and the COVID-19 pandemic. Financial crises led to investment in gold ETFs to mitigate the financial risk.

### 8.1 2008 Financial Crisis: Case Study 1

The global economy experienced financial challenges, severe volatility, and uncertainty in economic operations. The impact of severe economic challenges compelled investors to convert their assets into gold ETFs to minimize risk (Haracz, 2022). Investors invested their currency and investments in gold and gold ETFs to mitigate financial risk. The abruptly sharp demand for gold ETFs in the stock exchange market caused rising gold prices.

For instance, data collected from SPDR Gold Trust shows that over 50% of its gold holdings rose from 2007 to 2009 as economic instability persisted. Gold per Ounce rose from $800 in 2007 to $1,100 in 2009. The gold volatility market from 2007 to 2009 resulted from increasing demand for the precious gold metal (Brown & Pringle, 2022). The surge in demand for gold motivated investors of ETFs gold to increase their consumption as the value of gold increased in the stock exchange market from 2007 to 2009. The case study demonstrates the significance of gold ETFs in mitigating financial risk and influencing the discovery of gold prices in the market (Athari & Hung, 2022). The rise in gold prices affected economic activities. Investors could rush to stock markets to shift their investments to gold ETFs that reduced consumption and increased borrowing costs. A rise in borrowing costs triggers financial institutions to increase the interest rates that

inhibit borrowing stimulation of economic activities.

### 8.2 Covid-19 Pandemic: Case Study 2

The covid-19 pandemic is a global problem that led to market volatility and crippling of the economy. The individual price per Ounce recorded the highest price of over $ 2,000 in the late 2020s. Volatility in the market led to economic suppression whereby borrowing costs rose due to increased interest rates to mitigate the financial risk in the market (Asante-Poku & Van Huellen, 2021). The case study details how investors successfully acquired liquidity in severe market volatility. Sharp demand for gold ETFs led to economic suppression. Economic suppression is detrimental to economic growth. Globally, governments implemented similar policies to reduce the exponential spread of the virus. Adoption of strict measures prevented physical contact and interactions among people (Enilov et al., 2020). The strict measures incorporated include quarantines, travel restrictions, lockdowns, and interruptions in the supply chain logistics. Implementing COVID-19 strict measures led to higher unemployment rates, reduced gross domestic growth, and budget deficits (Tooze, 2020). Inadequate production and supply caused volatility in the market as gold ETF prices kept changing in response to the market demands. The impact of the high demand for gold ETFs due to the financial crisis caused an increase in gold prices.

### 8.3 The 2011 US Debt: Case Study 3

The 2011 US debt raised intense negotiations and discussions on budget funding. The debt ceiling limit of 16.4% limit had been reached. The government had a deficit of $240 billion to fund its expenditures (CBO, 2011). The Republicans and Democrats differed on raising the debt ceiling to allow more borrowing, funding the budget, raising income and corporate taxes, and considering cutting expenditures to meet the budget demands. The debt ceiling protects the government against overspending compared with the country's total gross domestic product and economic growth.

Cutting budget expenditures will reduce the circulation of money in the economy, thus the loss of economic activities. A recession in the economy leads to unemployment and a reduction in GDP. Raising the debt ceiling could contribute to inflation in a fully operating capacity economy that might result in crowding effects. US investors opted for gold ETFs to protect their investments against inflation that will increase due to increased government spending on recurrent expenditures and transfer payments (Yahoo Finance, 2011). The government was compelled to adjust the fiscal and monetary policies to regulate economic activities to avoid triggering inflation and unemployment. Future uncertainty compelled investors to buy gold ETFs to diversify their portfolios to mitigate risk.

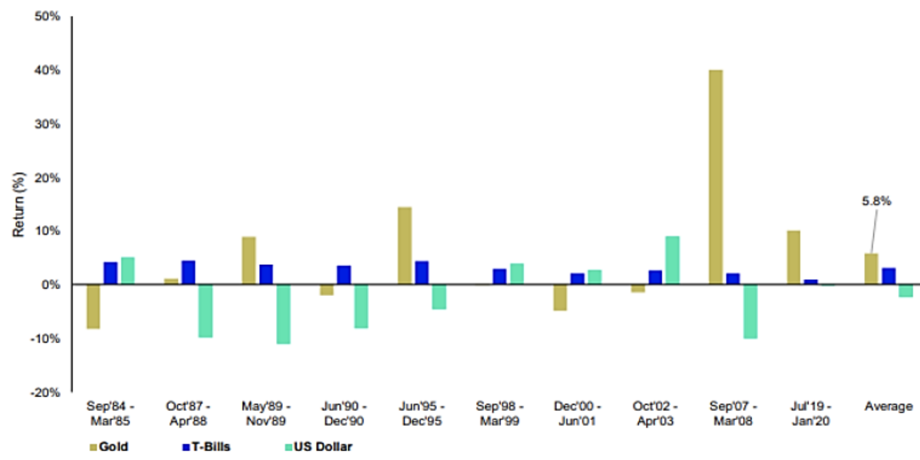


**Fig. 3. Gold averaged 5.8% return over 6 months post rate cut initiation since 1984**
*Note*: Adapted from "State Street Global Advisors | Global Asset Management,"www.ssga.com/library-content/products/fund-docs/etfs/us/insights-investment-ideas/spdr-gold-etfs-quarterly-chartpack.pdf.

## 8.4 Data Analysis Trends and Patterns

Rising cases of severe volatility in the market and economic challenges illustrated a regular increase in gold prices. Turning to gold ETFs as an asylum for protecting and mitigating risks in the market suppressed the economy (Arena et al., 2021). The demand and supply of gold ETFs play an important role in discovering gold prices. Gold ETFs play an important role in auto-setting prices that align with investors' expectations and sentiments. Although both case studies triggered a significant challenge in economic damage, the 2008 crisis affected the banking and financial institutions. Commercial banks had an inadequate supply of money to influence the level of economic activities. The 2020 covid19 pandemic was a global health issue that led to economic consequences.

The table illustrates the performance of three securities over a six-month period involving Treasury bills, gold, and the US dollar in the market. After six months of investment, gold generated a return of 5.8%, while treasury bills earned around 2.3%. The average earnings for the six-month period are 5.8%.

## 9. CONCLUSION

Investment in gold ETFs has helped investors access liquidity and invest in gold while mitigating financial risk. Gold ETFs became operational in 2003 after replacing futures contracts that involved physical gold. The transformation from the physical gold business to ETF gold has guaranteed investors against risk protection. The use of gold ETFs in the stock exchange market has encouraged inclusivity in the stock exchange market. A wide range of investors have had the opportunity to invest in gold by purchasing gold ETFs. Gold ETF mechanisms are essential in mitigating financial risk during economic crises. Gold ETFs are safe havens in which customers shift their portfolio diversification to reduce severe economic volatility prices. The primary function of gold ETFs is to mitigate financial risk, promote trading in the stock exchange market, and provide confidence to investors in an economy.

Market stability compels investors to diversify their project portfolios that are negatively correlated to avoid losing the value of their assets. Ordinary stock and equities negatively correlate with Gold ETFs, making the investments effective. Gold ETFs are integral in stabilizing the prices in the economy. The interactions between buyers and sellers of shares in the market influence auto price setting in the stock and exchange market. During financial crisis periods, demand for gold rises. An increase in demand for gold causes economic suppression. Economic suppression is a scenario whereby a rise in gold prices triggers a surge in borrowing costs and interest rates. An increase in borrowing costs in the economy and a rise in interest rates discourage consumer spending and economic investment. Reduction in economic investment and consumption hinders economic growth. Suppression of the economy will lead to recession, inflation, and unemployment. The 2008 financial crisis and COVID-19 case studies provide detailed information and trends on the impact of the economic crisis on the economy. Investors shifted to gold ETFs to protect their assets and currency against losing value due to the global pandemic.

## DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author hereby declares that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

## COMPETING INTERESTS

Author has declared that no competing interests exist.

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