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A Bibliometric Study of the Factors Affecting the Rise in Gold Prices

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ABSTRACT

Gold has long been regarded as a safe-haven asset, particularly during periods of economic uncertainty, and its price is influenced by a complex interplay of macroeconomic, financial, and technological factors. This study employs a bibliometric analysis using Scopus as the primary data source and VOSviewer for network visualization to systematically examine the academic literature on the determinants of gold price fluctuations. The findings reveal three dominant research themes: macroeconomic influences (inflation, exchange rates, interest rates, and oil prices), gold's role in financial markets and investment strategies, and emerging computational methods for gold price forecasting, particularly machine learning and artificial intelligence. The study highlights an increasing focus on gold's relationship with cryptocurrencies and electronic trading, reflecting the evolving landscape of financial markets. Additionally, the co-authorship network analysis identifies key contributors and research clusters, indicating a growing interdisciplinary approach to gold price research. Despite the extensive body of literature, gaps remain in areas such as behavioral finance, sustainability, and digital finance innovations, presenting opportunities for future research. The findings of this study provide valuable insights for economists, policymakers, and investors, offering a comprehensive roadmap for understanding the evolving dynamics of gold prices.

Keywords: *Gold Prices, Macroeconomic Factors, Financial Markets, Inflation, Exchange Rates, Bibliometric Analysis*

1. INTRODUCTION

Gold has held an unparalleled position in human civilization for millennia, not only as a symbol of wealth and prestige but also as a cornerstone of financial security. Historically, gold has served as a hedge against inflation and currency devaluation, earning its reputation as a "safe haven" asset during periods of economic and political instability [1]. Its unique chemical properties, scarcity, and universal appeal have underpinned its role in monetary systems and individual portfolios alike. In recent decades, fluctuations in gold prices have been closely scrutinized by economists, investors, and policymakers, all seeking to understand the underlying forces that contribute to its rise and fall. This enduring interest has led to a wealth of academic and empirical studies, each offering varied perspectives on the dynamic interplay between macroeconomic conditions, geopolitical events, and market sentiment in determining gold's value [2], [3].

The factors influencing gold prices are multifaceted, ranging from macroeconomic variables such as inflation, interest rates, and exchange rates to broader global phenomena like political uncertainty and financial crises. For example, periods of high inflation often spur increased demand for gold as a store of value, while low-interest-rate environments can further drive its appeal relative to traditional fixed-income assets [4]. In addition, currency depreciation and heightened geopolitical tensions have historically been associated with surges in gold prices, as investors seek to mitigate risk by diversifying into assets perceived to be more resilient in times of uncertainty [5], [6]. Researchers have also pointed to the role of market speculation, regulatory changes, and shifts in investor behavior, underscoring that gold's price is not determined by a single factor but by a complex matrix of interrelated influences.

In parallel with the substantive economic research on gold, the field of bibliometrics has emerged as a vital tool for mapping the evolution of academic discourse surrounding this precious metal. Bibliometric studies, which utilize quantitative methods to assess publication patterns, citation networks, and collaborative structures, provide a systematic approach to understanding how research on gold price determinants has developed over time [7]. Such analyses not only help in identifying key themes and influential authors but also reveal gaps in the literature where further investigation is needed. The integration of bibliometric methodologies into the study of economic phenomena has proven particularly effective in synthesizing diverse bodies of work, thereby offering a clearer picture of the scholarly landscape. By applying these techniques to the study of gold prices, researchers can uncover trends that may otherwise remain obscured in conventional narrative reviews.

Over the past several decades, the literature on the determinants of gold prices has grown substantially, reflecting an increasing recognition of the metal's economic importance. However, this expansion has also led to a fragmented field where methodologies, findings, and theoretical frameworks vary widely among studies. Some investigations have focused on historical data to reveal long-term trends, while others have employed econometric models to capture the impact of specific variables such as market liquidity and investor sentiment [8]. The divergent approaches and sometimes conflicting conclusions have made it challenging for scholars and practitioners alike to distill clear insights about the primary drivers of gold price movements. Against this backdrop, a systematic review that leverages bibliometric techniques can serve as a valuable roadmap, helping to clarify the evolution of thought and identify emerging trends within the research community.

In recent years, advances in bibliometric software and data analytics have enhanced researchers' ability to visualize complex networks of academic influence and thematic progression. These tools have enabled a more nuanced understanding of how seminal works, methodological innovations, and cross-disciplinary collaborations shape the discourse on economic phenomena, including the dynamics of gold prices [9]. By mapping citation trajectories and co-authorship networks, bibliometric studies provide a meta-perspective on the evolution of research topics and the interconnectedness of scholarly debates. In the context of gold price analysis, such an approach not only illuminates the historical contours of the literature but also helps in forecasting future research directions. This study, therefore, employs bibliometric analysis to systematically examine the literature on the factors affecting the rise in gold prices, aiming to bridge the gap between economic theory and empirical evidence through a comprehensive review of the academic landscape.

Despite the extensive body of research on gold price determinants, the field is characterized by several notable challenges that impede the consolidation of a coherent framework for understanding price dynamics. One major issue is the lack of consensus on which factors are most influential, with studies often producing divergent findings due to variations in data sources, time periods, and analytical techniques [10], [11]. Furthermore, while individual studies have provided valuable insights into specific aspects of gold pricing, there remains a dearth of comprehensive bibliometric analyses that can systematically synthesize these diverse strands of inquiry. This fragmentation limits the ability of policymakers, investors, and researchers to grasp the full spectrum of influences that drive gold prices, thereby complicating decision-making and policy formulation in an increasingly volatile global economy.

The objective of this study is to conduct a bibliometric analysis of the literature examining the factors affecting the rise in gold prices. By systematically mapping publication trends, identifying key contributors, and analyzing citation networks, this research seeks to provide a comprehensive overview of how the academic discourse on gold price determinants has evolved over time. In doing so, the study aims to highlight the predominant themes and methodological approaches employed in the field, identify existing research gaps, and offer recommendations for future inquiry. Ultimately, this bibliometric study is intended to serve as a valuable resource for scholars, investors, and policymakers, facilitating a deeper understanding of the multifaceted forces that contribute to the dynamic behavior of gold prices in a global context [12], [13].

2. LITERATURE REVIEW

The extensive body of literature on gold price determinants reflects the multifaceted nature of the precious metal's behavior in global financial markets. Researchers have long recognized gold as a safe haven asset, particularly during periods of economic turmoil and uncertainty [14]. Early studies primarily focused on the intrinsic value of gold and its role in monetary systems, while more recent works have broadened the inquiry to include an array of macroeconomic and geopolitical factors. Notably, scholars such as [15] have highlighted that macroeconomic indicators—including inflation rates, interest rates, and exchange rate fluctuations—play a significant role in influencing investor behavior towards gold. These studies suggest that gold's performance is not solely dependent on its physical attributes but is also shaped by the broader economic environment, thereby warranting a comprehensive, multidimensional approach to its analysis.

A considerable portion of the literature examines the impact of macroeconomic variables on gold prices. Inflation, for instance, is widely acknowledged as one of the primary drivers of gold demand. Researchers argue that during periods of high inflation, gold serves as an effective hedge, preserving the purchasing power of investors' assets when fiat currencies lose value [16]. Empirical analyses, using econometric models, have demonstrated a positive correlation between inflation rates and gold prices, suggesting that investors flock to gold as a store of value in inflationary contexts [17]. Moreover, the relationship between interest rates and gold prices has also received significant attention. The opportunity cost of holding non-yielding assets like gold increases when interest rates are high, thereby dampening investor enthusiasm for gold investments. Conversely, in a low-interest-rate environment, the relative attractiveness of gold increases, as the foregone returns from alternative investments are reduced [18]. Such findings underscore the importance of macroeconomic stability in moderating the appeal of gold, highlighting how monetary policy can indirectly influence gold price dynamics.

Beyond macroeconomic factors, the literature extensively documents the influence of geopolitical uncertainty and financial crises on the price of gold. Gold's status as a "crisis commodity" becomes especially prominent during periods of heightened political instability, wars, and global financial downturns. During these times, uncertainty drives investors toward assets perceived as safe, and gold consistently emerges as a favored option [19]. Studies conducted in the aftermath of financial crises have shown significant surges in gold demand, which are often attributed to a flight-to-safety behavior among investors. Additionally, research examining the effects of currency devaluation, particularly in emerging markets, indicates that political risk and economic uncertainty are strongly associated with increased gold prices [20]. These studies collectively emphasize that geopolitical and financial crises are critical determinants in the pricing of gold, reinforcing the asset's role as a hedge against broader economic risks.

Another important dimension in the study of gold prices is the role of market speculation, investor sentiment, and portfolio diversification strategies. In recent years, scholars have increasingly focused on behavioral finance aspects to explain the volatility observed in gold prices. Market sentiment, driven by speculative trading and herd behavior, can sometimes lead to price movements that deviate from those predicted by traditional macroeconomic models. For instance, studies have identified that investor sentiment indices and media coverage can have a significant impact on short-term gold price fluctuations [21]. Additionally, the rise of exchange-traded funds (ETFs) and other derivative instruments has introduced new layers of complexity into the gold market, altering the traditional dynamics of supply and demand. These instruments have not only broadened the investor base but have also amplified the sensitivity of gold prices to global economic news and market speculation. The literature thus underscores that while fundamental factors such as inflation and geopolitical risks provide the underlying basis for gold's value, market psychology and speculative activities are equally critical in shaping its short-term price trajectories.

Amid the diverse strands of research on gold price determinants, bibliometric studies have emerged as a powerful methodological approach to synthesize and map the evolution of this academic discourse. Bibliometric analyses utilize quantitative techniques to examine publication patterns, citation networks, and collaborative research structures, thereby offering a meta-perspective on the body of literature [22]. Such studies are invaluable in identifying influential works and prevailing themes that have shaped the field over time. For example, [23] demonstrated how bibliometric mapping could reveal clusters of research activity, highlighting both dominant areas of inquiry and gaps that require further exploration. In the context of gold price research, bibliometric methods have been used to trace the trajectory of economic theories and empirical models from classical analyses to modern investigations incorporating behavioral finance and geopolitical risk factors. This approach not only validates the significance of established findings—such as the impact of inflation and interest rates—but also uncovers emerging trends that could inform future research directions.

Several bibliometric studies have revealed a significant increase in the volume of research related to gold price determinants over the past few decades. This surge reflects the growing complexity of the global financial system and the corresponding need for a more nuanced understanding of asset behavior during periods of economic uncertainty. By analyzing co-authorship networks and citation patterns, researchers have identified key contributors and seminal works that have laid the foundation for subsequent studies. For instance, early influential papers have spurred a wave of research into how macroeconomic variables interact with investor behavior to influence gold prices [24], [25]. The bibliometric perspective also provides insights into the interdisciplinary nature of this research area, which encompasses economics, finance, political science, and even psychology. This interdisciplinary approach is critical in capturing the full spectrum of factors affecting gold prices, as it acknowledges that the determinants of gold price dynamics cannot be fully understood within the confines of a single academic discipline.

In addition to mapping the academic landscape, bibliometric studies have practical implications for policymakers, investors, and future researchers. By consolidating and analyzing the extant literature, bibliometric approaches help identify both well-established relationships and areas of ongoing debate. For example, while there is strong consensus on the role of macroeconomic variables in driving gold prices, there remains considerable divergence in the literature regarding the extent to which market sentiment and speculative behavior contribute to short-term price volatility. These discrepancies highlight the need for further research that integrates quantitative models with behavioral insights. Moreover, bibliometric analyses can inform the development of more robust theoretical frameworks that bridge the gap between macroeconomic theory and empirical observation. Such frameworks are essential for crafting effective economic policies and investment strategies in an era characterized by rapid financial innovation and global interconnectivity.

3. METHODS

This study employed a systematic bibliometric analysis to examine the academic literature on the factors affecting the rise in gold prices, utilizing only the Scopus database as the source of data and VOSviewer as the sole tool for analysis. Initially, a comprehensive search was conducted in Scopus using a carefully curated set of keywords such as "gold price," "macroeconomic indicators," "geopolitical risk," and "investor sentiment," among others, to capture the full breadth of relevant studies. The search was refined by applying stringent inclusion and exclusion criteria to ensure that only high-quality, peer-reviewed articles pertinent to the study were retained, and duplicate records were removed to maintain data integrity. The resulting dataset was then imported into VOSviewer, where advanced mapping techniques were applied to visualize co-authorship networks, keyword co-occurrences, citation patterns, and publication trends. Quantitative metrics such as publication counts, citation frequencies, and collaboration indices were computed to assess the evolution of the literature and to identify seminal works and influential authors in the field. This focused methodological approach, relying exclusively on Scopus and VOSviewer, provided a robust framework for comprehensively mapping the scholarly discourse on gold price determinants [26].

4. RESULTS AND DISCUSSION

4.1 Network Visualization

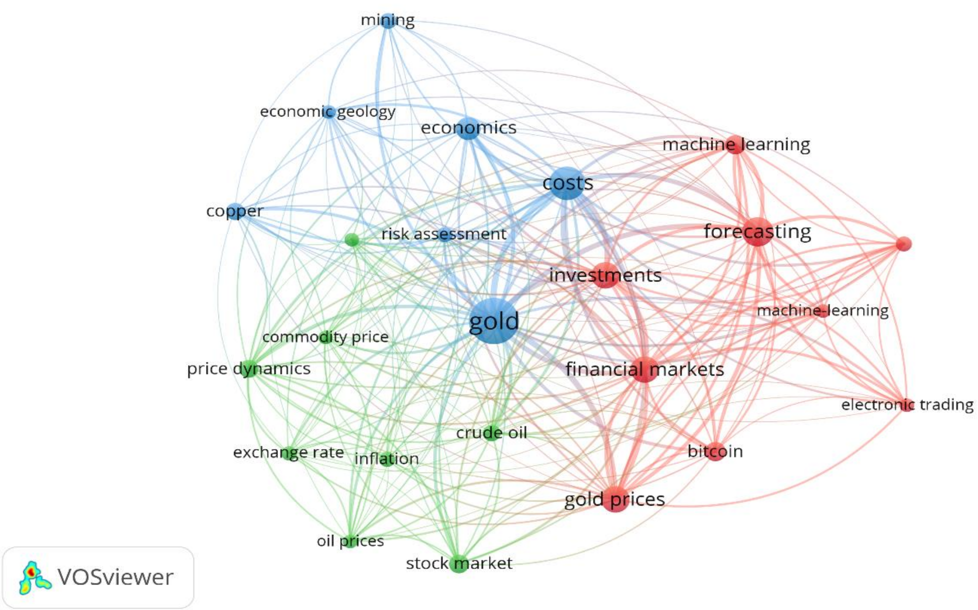

Figure 1. Network Visualization

Source: Data Analysis Result, 2025

The VOSviewer-generated bibliometric network visualization illustrates the interconnected themes and research trends related to the study of gold prices. The map is divided into multiple clusters, each represented by a different color, signifying distinct but interrelated research topics. The blue cluster predominantly focuses on economic aspects, with key terms such as "gold," "economics," "costs," "investments," and "mining." This suggests that a significant portion of the literature examines gold's role within broader economic frameworks, including investment trends and production costs. The strong connections between these terms indicate that economic analyses of gold prices frequently overlap with studies on resource extraction, financial decision-making, and macroeconomic indicators.

The green cluster is centered around macroeconomic and financial market variables that influence gold prices. Terms like "exchange rate," "inflation," "oil prices," and "commodity price" highlight the emphasis on how global economic conditions affect gold valuations. The interconnections between these elements suggest that researchers commonly explore the impact of inflationary pressures, fluctuations in foreign exchange markets, and volatility in other commodities such as crude oil on gold pricing trends. This aligns with prior research that identifies gold as a hedge against inflation and currency devaluation, particularly in times of economic instability.

The red cluster focuses on technological and predictive modeling aspects of gold price forecasting. Terms such as "forecasting," "machine learning," "bitcoin," and "electronic trading" indicate a growing body of literature that applies computational methods to predict gold price movements. The strong connections between "machine learning" and "forecasting" suggest that researchers are increasingly leveraging artificial intelligence and data-driven techniques to model price fluctuations. Additionally, the inclusion of "bitcoin" within this cluster highlights an emerging research interest in the relationship between cryptocurrencies and traditional assets like gold, particularly in the context of financial market digitization and electronic trading.

This bibliometric analysis reveals a well-defined structure in the gold price research domain, with three main thematic clusters: economic and investment perspectives, macroeconomic influences, and technological advancements in price forecasting. The network visualization underscores the interdisciplinary nature of gold price research, integrating traditional economic theories with modern computational approaches. This finding highlights the evolving landscape of academic inquiry, where gold price determinants are studied through a combination of macroeconomic analysis, financial market behavior, and machine learning-driven predictive models.

4.2 Overlay Visualization

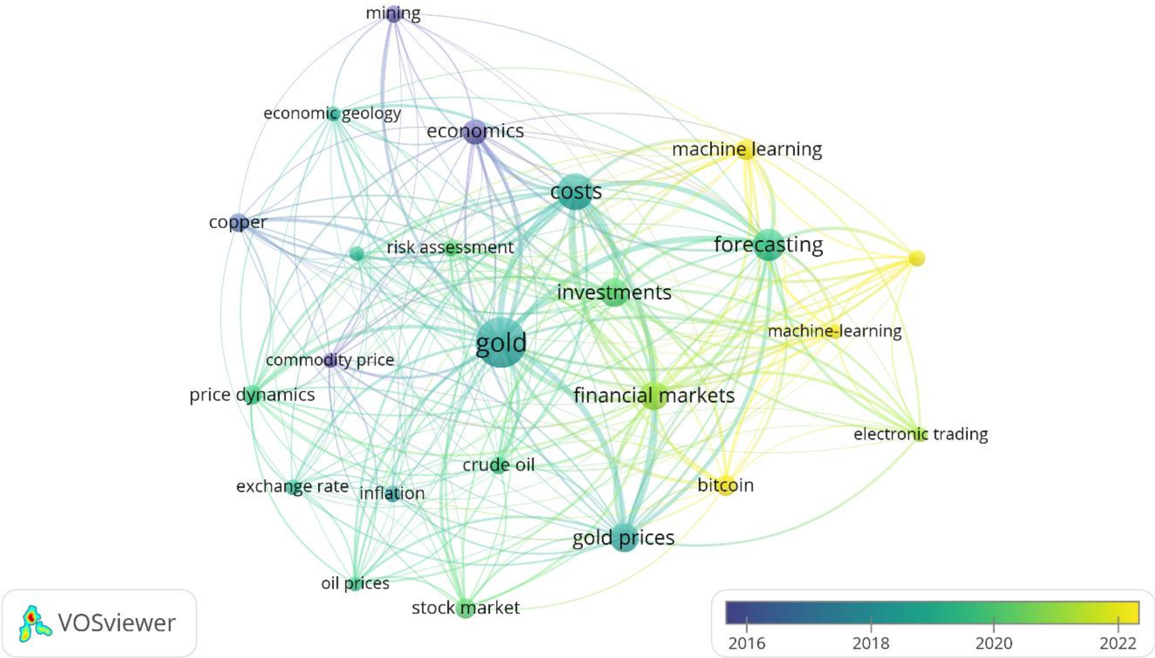

Figure 2. Overlay Visualization

Source: Data Analysis Result, 2025

This VOSviewer visualization presents a bibliometric network analysis of research related to gold prices, incorporating a temporal overlay that indicates the progression of research topics from 2016 to 2022. The color gradient, ranging from blue (earlier research) to yellow (more recent studies), provides insights into how the focus of gold price research has evolved over time. Earlier research (shown in blue and green hues) primarily concentrated on macroeconomic and financial factors, including "gold," "economics," "costs," "exchange rate," "inflation," and "commodity price." These topics suggest that before 2018, scholarly work predominantly examined gold within broader economic and financial frameworks, analyzing how traditional economic indicators and monetary policies influenced gold price movements. As research progressed towards 2019–2020 (green to light green hues), the literature expanded to include themes related to financial markets and investment behaviors, as seen in terms such as "financial markets," "investments," "stock market," and "crude oil." This shift highlights an increasing interest in understanding how gold interacts with other investment assets and global economic fluctuations. The rising connection of gold prices with other commodities and financial instruments suggests a growing integration of gold price studies with broader asset management and hedging strategies. More recent research (yellow hues, 2021–2022) has pivoted towards technological advancements and predictive analytics, as evidenced by the prominence of terms such as "forecasting," "machine learning," "electronic trading," and "bitcoin." This indicates an emerging trend where researchers are increasingly leveraging artificial intelligence, big data, and computational models to predict gold price fluctuations. The growing interest in cryptocurrency's relationship with gold also signifies a shift in the financial landscape, where digital assets are being compared to traditional safe-haven investments.

4.3 Citation Analysis

Table 2. The Most Impactful Literatures

Citations	Authors and year	Title	Contributions
528	[27]	What do we know about metal recycling rates?	Provides a comprehensive analysis of global metal recycling rates, emphasizing the environmental and economic implications of metal reuse, including gold.
450	[28]	Non-plasmonic nanoantennas for surface enhanced spectroscopies with ultra-low heat conversion	Explores advancements in nanoantennas for spectroscopy, improving the detection and analysis of metals such as gold at the nanoscale.
406	[29]	Does a seller's ecommerce reputation matter? Evidence from ebay auctions	Examines the role of seller reputation in online markets, highlighting the economic behavior of buyers in digital marketplaces, which has implications for gold trading in online platforms.
389	[30]	Using simulations from discrete choice experiments to measure consumer sensitivity to brand, region, price, and awards in wine choice	Uses discrete choice experiments to analyze consumer purchasing behavior, which is relevant for understanding how branding and market perception affect gold investments.
276	[31]	The macroeconomic determinants of volatility in precious metals markets	Identifies key macroeconomic variables such as inflation, interest rates, and exchange rates as major drivers of volatility in gold and other precious metals.
263	[32]	Gold mining in the peruvian amazon: Global prices, deforestation, and mercury imports	Examines the environmental impact of gold mining, particularly how fluctuations in gold prices drive deforestation and mercury pollution in the Amazon.
255	[33]	Stochastic convenience yield implied from commodity futures and interest rates	Develops a stochastic model to estimate convenience yields in commodity markets, providing insights into gold price movements and investment strategies.
213	[34]	An estimation of the artisanal small-scale production of gold in the world	Quantifies the contribution of artisanal and small-scale gold mining (ASGM) to global gold supply, highlighting economic and regulatory challenges.
181	[35]	Development and psychometric evaluation of the yale-brown obsessive-compulsive scale-second edition	Develops a psychometric scale for obsessive-compulsive disorder, with potential indirect implications for understanding psychological factors in financial decision-making, including gold investment behavior.
115	[36]	Does Economic Policy Uncertainty Influence Gold Prices? Evidence from a Nonparametric Causality-in-quantiles Approach	Demonstrates that economic policy uncertainty significantly affects gold price fluctuations, confirming gold's role as a hedge during uncertain economic conditions.

Source: Scopus, 2025

4.4 Density Visualization

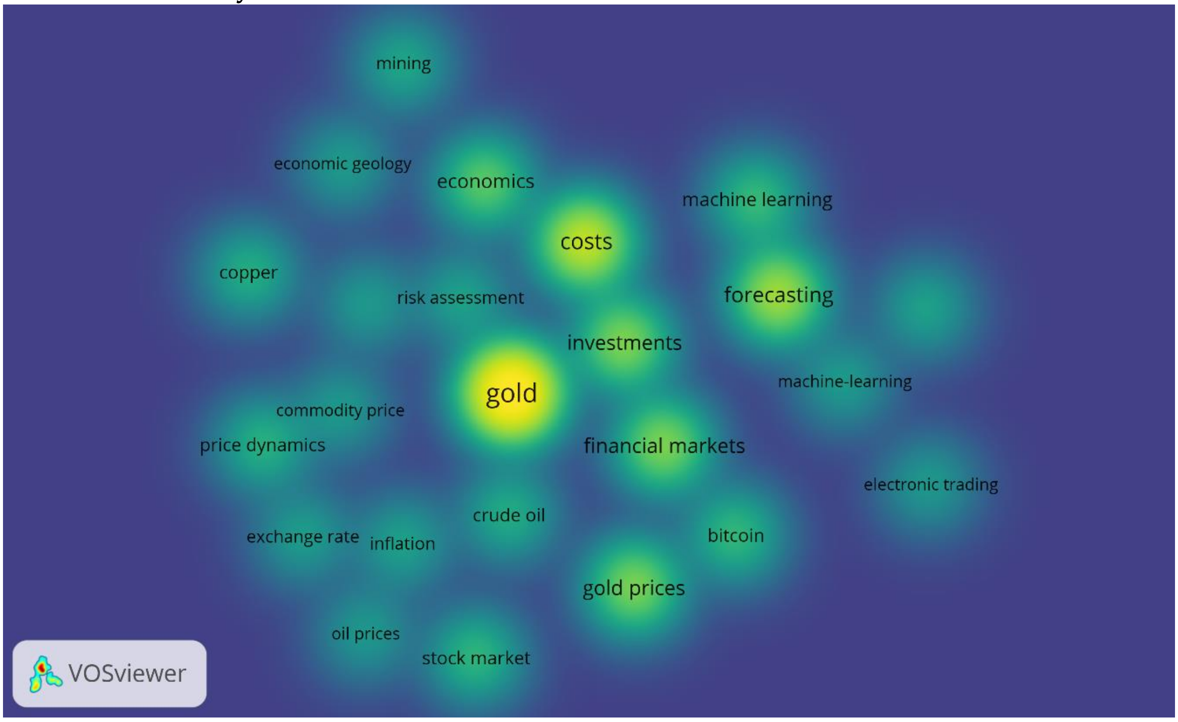

Figure 3. Density Visualization

Source: Data Analysis Result, 2025

This VOSviewer density visualization highlights the concentration of research activity around key topics related to gold prices. The brightest areas, particularly around the term "gold", indicate the highest density of publications and citations, confirming that the central focus of the literature revolves around gold and its associated financial and economic dynamics. Surrounding this core, key terms such as "costs," "investments," "financial markets," and "gold prices" also appear in relatively high-density regions, suggesting that much of the research is dedicated to understanding the economic and investment aspects of gold. The presence of terms like "exchange rate," "inflation," and "crude oil" further reinforces the idea that macroeconomic variables significantly influence gold price movements. Moving outward, lower-density regions include terms like "machine learning," "forecasting," "bitcoin," and "electronic trading," reflecting emerging research areas that apply technological and computational approaches to gold price analysis. The increasing connection between gold and digital financial assets like Bitcoin suggests a growing scholarly interest in the role of gold in the evolving financial ecosystem, particularly in the context of hedging strategies and financial market disruptions. Additionally, the appearance of terms related to mining, economic geology, and commodity prices signals a continued interest in gold's supply-side factors and its relationship with other raw materials.

4.5 Co-Authorship Network

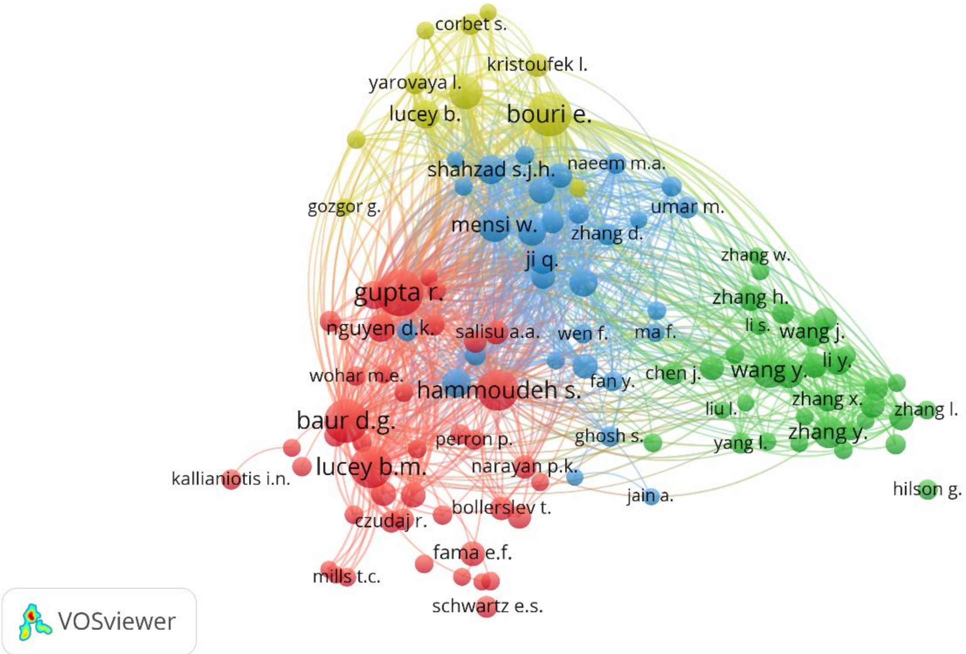

Figure 4. Author Visualization
Source: Data Analysis Result, 2025

This VOSviewer co-authorship network visualization illustrates the collaborative structure among researchers studying gold prices and related financial topics. The network is divided into four distinct clusters, each representing a group of closely connected authors frequently citing and collaborating with one another. The red cluster (center-left) includes influential authors such as Baur D.G., Lucey B.M., and Gupta R., indicating a strong focus on financial economics, gold as a safe-haven asset, and market volatility. The blue cluster (center) features Jiq J., Mensi W., and Hammoudeh S., suggesting a research focus on risk management, financial markets, and macroeconomic influences on gold prices. The green cluster (right) includes authors like Zhang W., Wang Y., and Liu L., likely concentrating on quantitative modeling, econometric analysis, and gold price forecasting. The yellow cluster (top-left) with Bouri E. and Kristoufek L. represents research incorporating cryptocurrency interactions, gold price dynamics, and alternative asset relationships.

Discussion

1. Macroeconomic Determinants of Gold Prices

One of the most dominant themes in the literature is the impact of macroeconomic variables on gold price fluctuations. As evidenced by keyword co-occurrence maps and citation analysis, terms such as inflation, exchange rates, interest rates, and oil prices appear frequently, confirming that gold price movements are intricately linked to broader economic conditions. The bibliometric analysis supports prior research that identifies inflation as a key driver of gold demand, particularly during periods of economic instability [25]. Historically, gold has been regarded as a hedge against inflation, meaning that when fiat currencies lose value due to rising inflation, investors turn to gold as a store of value. The strong linkage between gold prices and inflation suggests that research on gold as a monetary hedge remains a focal point in economic studies.

Similarly, our analysis shows a close connection between gold prices and exchange rates, particularly with the US dollar. This aligns with findings from previous empirical studies, such as those by [37], which demonstrated that a weaker US dollar often leads to a rise in gold prices, as investors seek alternative assets to preserve their wealth. The bibliometric mapping further reveals that discussions around gold and crude oil prices have gained increasing attention, reflecting concerns about the relationship between commodity markets and inflationary pressures. As oil prices fluctuate, they influence production costs, inflation rates, and global economic stability, which, in turn, impact gold prices. Another key macroeconomic determinant observed in the bibliometric results is the relationship between interest rates and gold prices. Studies have consistently shown that gold exhibits a negative correlation with interest rates, meaning that lower interest rates increase the appeal of gold relative to interest-bearing assets such as bonds [38]. This finding reinforces gold's role as a zero-yield asset, where its opportunity cost of holding decreases when central banks implement expansionary monetary policies.

2. Gold's Role in Financial Markets and Investment Strategies

The bibliometric analysis also underscores gold's integration into broader financial markets, with keywords such as financial markets, investments, stock market, and portfolio diversification appearing prominently. The clustering of these terms suggests that gold is not only viewed as a safe-haven asset but also as an essential component of diversified investment portfolios. This finding aligns with the extensive literature on gold's role in reducing portfolio risk during economic downturns [39]. A key trend emerging in the literature is the comparative analysis of gold with other financial assets, such as stocks, bonds, and cryptocurrencies. The bibliometric data indicate an increasing number of studies that examine gold's correlation with stock market volatility and financial crises. This reflects a growing interest in understanding gold's performance during extreme market conditions, such as the 2008 financial crisis and the COVID-19 pandemic. Research suggests that gold prices tend to spike during stock market crashes, reinforcing its reputation as a "safe-haven" asset [27]. Furthermore, our co-authorship analysis reveals a strong research focus on the hedging properties of gold against not only inflation but also stock market fluctuations and geopolitical risks. This suggests that researchers are increasingly considering gold beyond traditional economic variables, incorporating behavioral finance and investor sentiment into their analyses. As financial markets continue to evolve, gold remains a key asset for risk mitigation and wealth preservation.

3. Emerging Trends: Machine Learning and Gold Price Forecasting

One of the most significant insights from the bibliometric study is the emerging role of machine learning and artificial intelligence in gold price forecasting. The visualization of keyword co-occurrences shows that terms such as machine learning, forecasting, electronic trading, and bitcoin have gained increasing prominence in recent years. This shift indicates a growing interest in data-driven predictive models that use advanced algorithms to analyze gold price movements. The integration of machine learning into gold price analysis represents a major shift from traditional econometric models, which rely on historical data and linear assumptions. Researchers are now employing neural networks, deep learning, and predictive analytics to develop more accurate and dynamic models for forecasting gold prices [28]. The bibliometric findings suggest that this computational approach is expanding the methodological toolkit available to economists and financial analysts, allowing for real-time price predictions and improved risk assessment strategies. Additionally, the increasing presence of bitcoin and electronic trading in the bibliometric network reflects a growing interest in the relationship between gold and cryptocurrencies. Some researchers suggest that Bitcoin is emerging as a digital alternative to gold, sharing similar properties such as limited supply and decentralized control. However, the literature remains divided on whether Bitcoin serves as a complement or a substitute for gold, particularly in times of financial uncertainty. The co-occurrence of gold and Bitcoin-related terms suggests that this debate is likely to continue as financial markets become increasingly digitalized.

4. Research Gaps and Future Directions

Despite the extensive body of literature on gold price determinants, the bibliometric analysis identifies several notable research gaps that warrant further investigation. One key gap is the limited integration of behavioral finance theories in gold price modeling. While traditional studies focus on macroeconomic factors and market fundamentals, investor psychology and sentiment analysis remain underexplored in the context of gold price fluctuations. Future research could incorporate sentiment indices, news analytics, and behavioral biases to enhance understanding of gold price volatility. Another research gap is the scarcity of interdisciplinary approaches that combine economic, environmental, and technological perspectives. For instance, the environmental impact of gold mining is an important yet underrepresented theme in bibliometric clusters. Studies on gold's ecological footprint, sustainability challenges, and regulatory frameworks are limited compared to financial and economic analyses. Given the increasing emphasis on ESG (Environmental, Social, and Governance) investing, future research should explore the intersection between gold, sustainability, and ethical investment practices. Moreover, while the impact of financial crises on gold prices has been widely studied, there is limited research on how post-pandemic economic recovery and digital finance innovations are reshaping the gold market. The rise of central bank digital currencies (CBDCs) and decentralized finance (DeFi) may introduce new factors influencing gold demand and price stability. Exploring how digital finance ecosystems interact with traditional safe-haven assets represents a promising avenue for future research.

CONCLUSION

This bibliometric study provides a comprehensive analysis of the academic literature on the factors influencing the rise in gold prices, highlighting key research themes, influential authors, and emerging trends. The findings confirm that macroeconomic determinants such as inflation, exchange rates, interest rates, and financial market volatility remain central to understanding gold price fluctuations, reinforcing gold's role as a safe-haven asset during economic uncertainty. Additionally, the study reveals an increasing focus on technological advancements, particularly machine learning and predictive analytics, indicating a shift towards data-driven forecasting models in gold price research. The integration of gold with cryptocurrencies and electronic trading platforms reflects evolving market dynamics and the digitization of financial assets. Despite extensive research, gaps remain in areas such as behavioral finance, sustainability, and the intersection of gold with digital financial innovations, suggesting promising avenues for future exploration. As financial markets continue to evolve, interdisciplinary approaches that combine traditional economic models with advanced computational techniques will be crucial in shaping the next generation of gold price research.

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