



## ***Analysis of Gold Trade from Ghana and South Africa***

Submitted to: Professor Talha Ali Khan, Mr. Ebby George Varghese.

Course: Data Science and Business.

University Of Europe for Applied Sciences.

Period: Summer Semester 2024.

Presented By: Joaquin Jose Mancheno Palacios (97628277), Vamsinath Reddy Koduru (40734986), Thilak Raju Sampath Kumar(40359170), Ravi Talari(78215007), Viviane Da Silva Cristino (77846627), Arpit Amborkar (47483065), Prajwal Tamang (92305354), Srihari Gunti (61180160).

## **Background**

Throughout history, civilizations have used gold as both a currency and a form of storing economic value. Today gold is mainly used as a commodity that can help maintain economic value in times of global and economic instability or turmoil. In times of economic crisis or periods of economic inflation gold retains its value compared to most currencies. This makes it extremely valuable for countries when trying to maintain economic stability. Gold is extremely important for countries that use it to maintain currency stability but even more so for countries that rely on the production and export of gold as a vital part of their economy. Both South Africa and Ghana have been historically been major producers and exporters of gold. Gold is a major contributor to the overall economy of both Ghana and South Africa and both countries are major contributors the the global gold market.

The gold market around the world can be affected because of many different factors. Events such as wars, natural disasters, and political instability can have a large impact on the gold market overall. On the other hand, economic trends such as inflation, and overall demand can also have a large impact on the gold market. While we can not predict geopolitical events, we can analyze their effects as well as economic trends and the market as a whole to better understand and predict the price of gold. While gold can provide stability it can also be volatile depending on the factors affecting it. Our analysis looks to understand these economic trends and patterns so that we can better predict where the gold market is going in the future with the hope that we can better anticipate the volatility of gold.

## **Objectives**

The objective of our study is to better understand the factors that can influence the global gold market by analyzing the gold trade in Ghana and South Africa. Our analysis consists of an analysis of volume, price, and economic patterns. By performing this analysis we look to better understand which economic, and global factors contribute the most to the fluctuations in the gold price. By having this knowledge our objective is to be able to both predict and understand the gold market. The main objective of our study is to provide analytical and empirical insights to our readers, country leaders, and potential investors so that they can better understand the gold market identify opportunities, and make better-informed decisions when it comes to investing in gold.

## Gold Price Trend

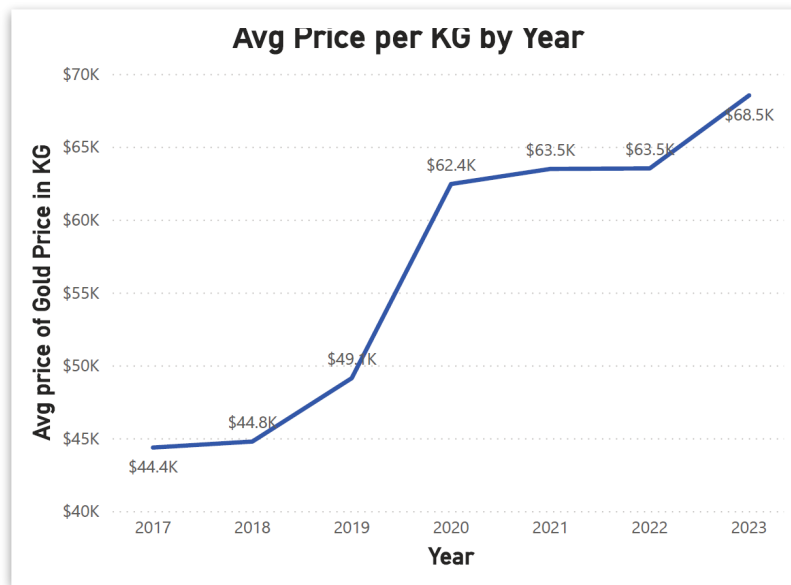


Figure 1 Average Price (Per kg) of Gold by Year

The price (average price per kg) of gold increased from the year 2017 to 2023. Figure 1 shows the 'Average price of gold in kg' on the x-axis, with 'Year' on the y-axis. Price tags increased by 54.27 percent of the 2017 value of \$ 44.4K. The price increases gradually from 2017 to 2020. Gold price remained at about \$ 44.8K in the year 2018 and fluctuated. Price sees a significant increase in 2019 to around \$ 49.1K. After that, the price remained constant at \$ 63.5K by the year 2022. This could be attributed to after COVID recovery of economies and lesser demand for gold. This happened for two years. In 2023, the price of gold went up to \$ 68.5K. There is a sudden increase in demand for gold. Meanwhile, this year marked the start of conflict between Russia and Ukraine. After the start of this conflict, gold prices increased compared to the earlier 3 years.

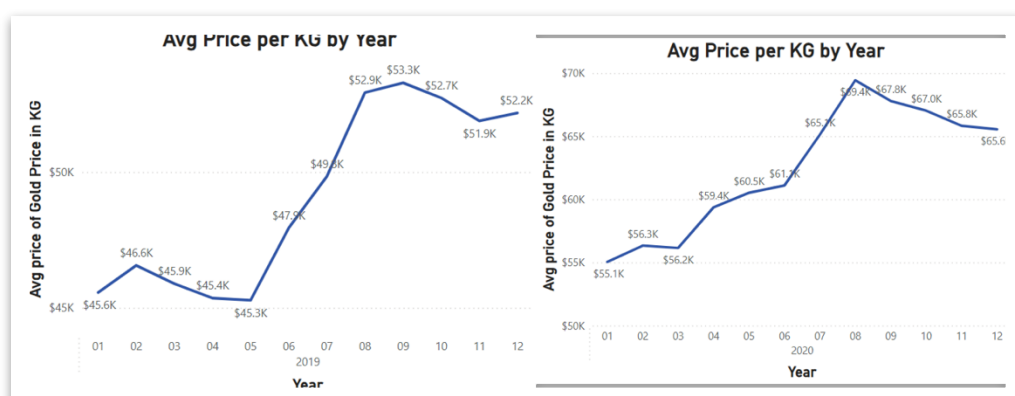


Figure 2 Average Price per kg for each month of the 2019 and 2020.

The Price increase is highlighted in two timeframes, 2019-2020 and 2022-2023. In Figure 2 shows that the 'Average price of gold in kg' is on-axis and the 'month' of the time 2019 and 2020 on the y-axis. The price of gold in 2019 and 2020 were at \$ 49.1K and \$ 62.4K respectively. In 2019, prices begin at \$ 45K in January and gradually fall, reaching around \$ 45.3K in May. There is a sharp increase, and it shows fluctuations to reach a peak at \$ 53.3K in September. It again decreases slightly to about \$ 51.9K and

closes to \$ 52.2 at year-end. This increase might be attributed to governments buying gold as reserves. It is because this timeframe saw an economic slowdown. And major economies such as China and Russia started moving away from USD. In the year 2020, it starts at \$ 55.1K in January. This stays around \$ 56 K till March. It gradually rises to \$ 59K in April and stays stagnant till June. Price continues to sharply increase and peaked at \$ 69.4K in August. Afterwards, it declines to \$ 65.6K in December.

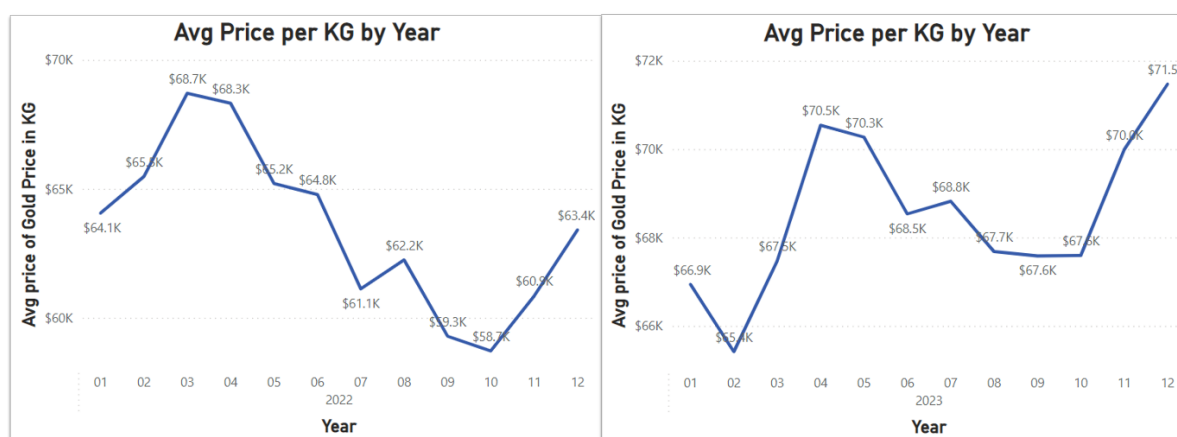
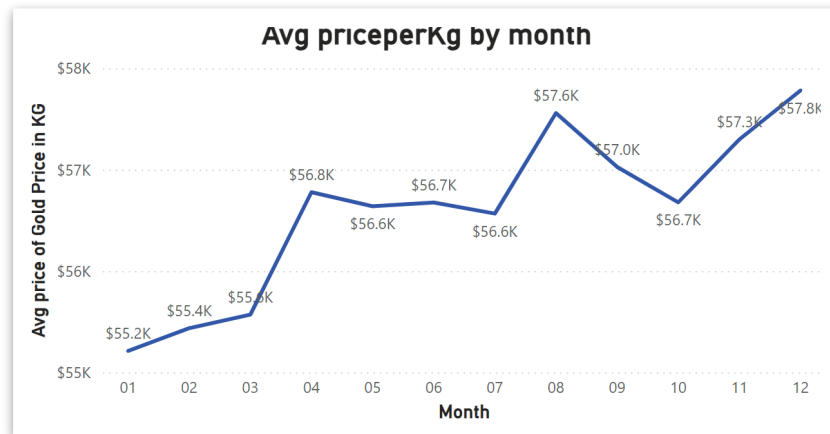


Figure 3 Average Price per kg for each month of the 2022 and 2023.

The graph above shows that the 'Average Price per kg' is on the x-axis for each 'month' on the y-axis of the years 2022 and 2023 respectively. In 2022, the gold prices decreased. It further increased from \$ 64.1K in January to peak at \$ 68.7K in March. It remains near peak in April with \$ 68.3K. After this period, it gradually declines to \$ 61.1K in May. This increases in June to \$ 62.2K. It continues to decline to hit the lowest of the year in October to \$ 58.7K. It slightly increases at the end of the year with the price of \$ 63.4K in December. In 2023, gold prices increased suddenly in comparison to 2022, The trend started at \$ 66.9K in January. It hits a low of \$ 65.4K in February, then suddenly increases to a peak of \$ 70.5K in April. Declines gradually to about \$ 68.5K in June and stays around \$ 67.5K till October. It peaked to a year high in December at \$ 71.5K.

In both timeframes, uncertainty shook the economies around the world. In the first case, the world witnessed the COVID-19 pandemic. It is because of this that the gold trust increased, with falling markets. A similar situation arose in 2022 when war broke out between two European countries i.e. Russia and Ukraine. Once again, the rising crude oil prices and falling markets prompted people to invest more in gold to save value for their money. And government debt also increased due to funds for COVID relief.

In the timeframe 2020-2022, prices remained constant. It was the time when vaccines were developed, and vaccination had started. Because of this people's trust increased in markets, showing early signs of normalcy. It is because of this that prices have remained constant, due to lesser investment in gold.



The average price per month also shows an increase in price trend. Figure 4 shows a summary average price of each Month from 2017 to 2023. In the months of August and December the price of gold peaks at \$ 57.6K and \$ 57.8K respectively. The price of gold starts low in January at \$ 55.2K. This remains almost the same for the whole of the first quarter at around \$ 55K. There can be seen a gradual increase in the second quarter to \$ 56.8K and remains at similar levels till the end of the quarter in June. Further the peaks in August and December, and dip of \$ 56.7K in October.

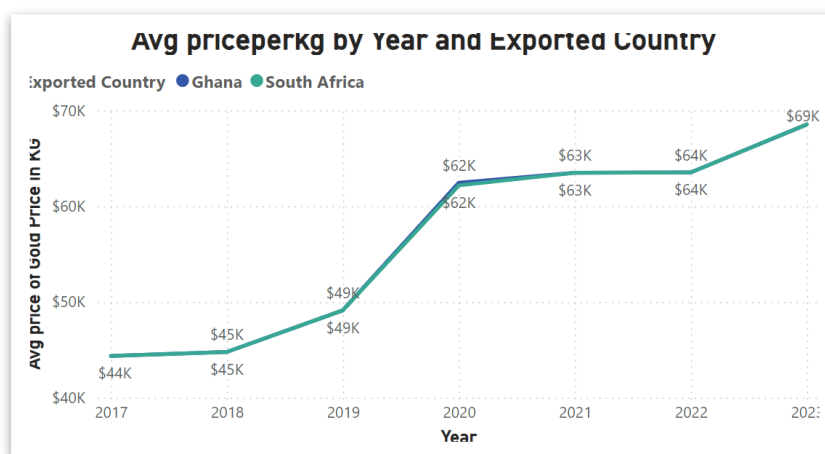


Figure 5 Average price per Kg by Year and Exported Country

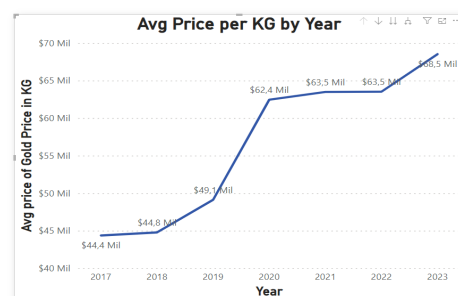
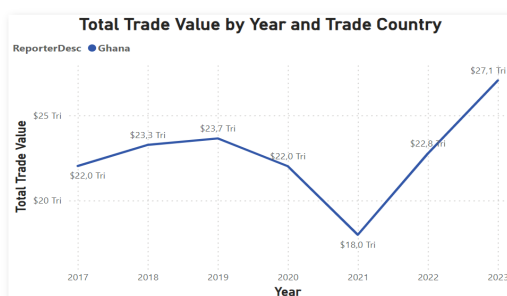
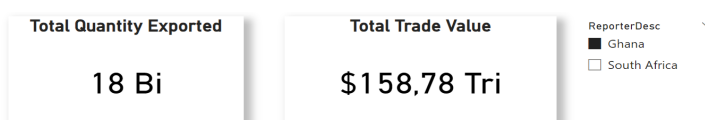
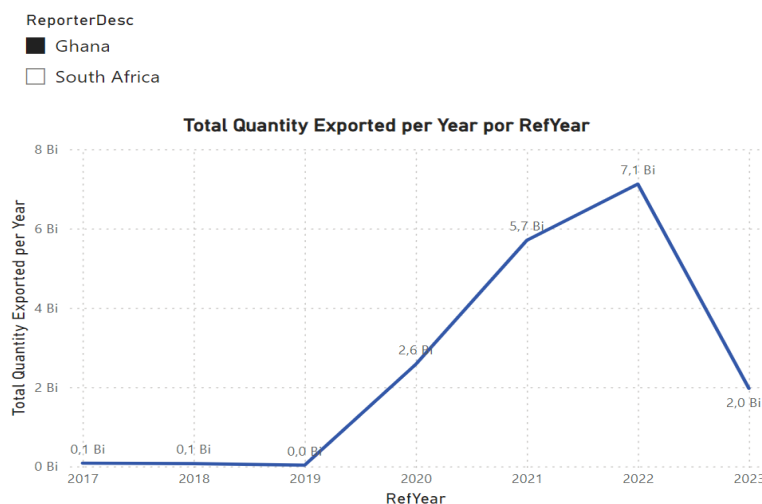
Furthermore, the trend for the price by exported country is the same for both countries of Ghana and South Africa throughout 2017 to 2023. Except for the year 2020, in this year Ghana had a slightly higher price of about \$ 62.4K than South Africa whose price was \$ 62.1K. This also indicates the increase in price in upcoming years.

### Trade Volume

The volume of trade in the world has already overcome historical records, and the growing demand for gold is partially responsible for this record break since it has already increased 28% this year. Such growth boosts the main assets, as they are referred to as being somehow safer, due to the growing inflation in the world. This growth is due to the highest reserves of Central Banks, since 1967, when

this metal backed the US dollar, states the World Gold Council report. African countries and BRICS group countries show numbers and volumes which evidence record break in trading with gold.

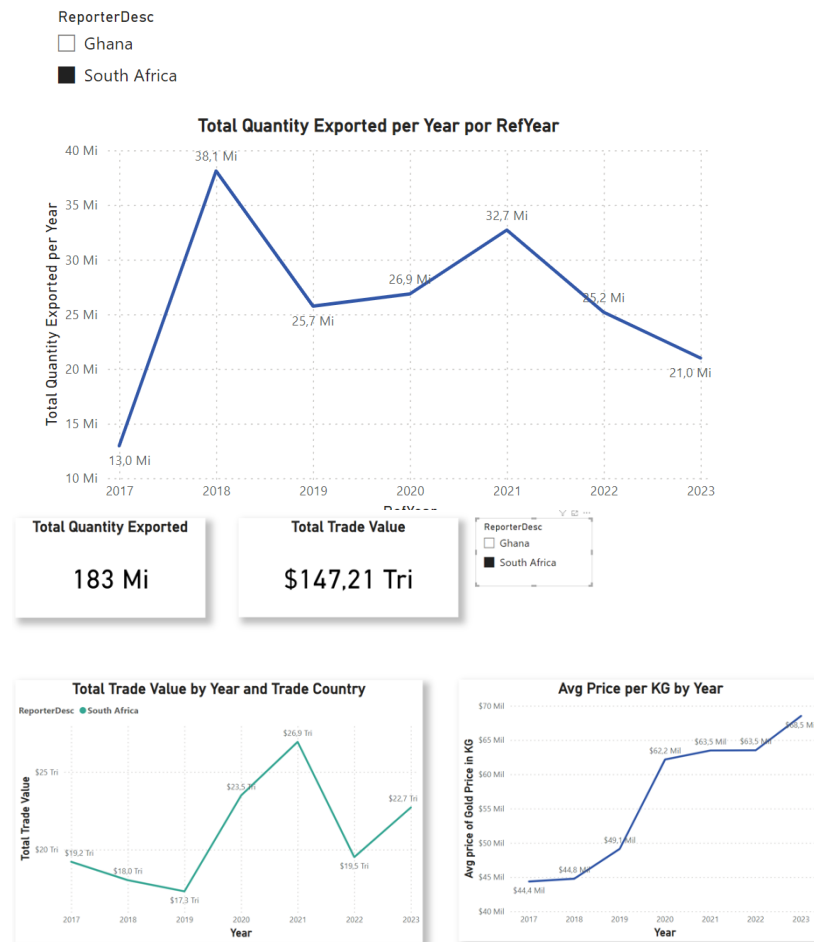
Ghana is one of the countries with high levels of gold. This has been the means of riches for years and the country's main source of income. Ghana's gold export has already come to 158.78 billion US dollars in recent years: 2022 has been exported 22.766 billion dollars of the commodity, and gold has been produced and exported 2023 18 billion tons for that year. If to look at the trend over the years, one can notice that the country's revenues from exploitation follow an upward trajectory, since in 2017 the country exported the commodity for 22.031 billion US dollars. 920,000 kilos of gold were produced by the country in 2023. There is a growth of production in the numbers of one year compared to the other, in 2022 the number was spread instead of 920,000 kilos of gold, and grams of gold were produced 88,000,000. The necessary data is updated by years between 2017 and 2023, with 34 observations, and contains the average price of 6,49 per kilo. The record spreads their total number is 1958. South Africa also plays a significant role in trading with 12. South Africa is the 8th largest producer in the world since the 2nd place of African countries is held by Ghana.



*Summary of Average Price Per kg for each Year and Total trade last five year in Ghana.*

Already between 2017 and 2023, the country a member of the BRICS (Brazil RIC) economic group -- exported about that much gold. South Africa accounted for 4.2% of the world's annual gold

production... just until today. According to data from the South Africa Central Bank, almost all of the gold mined in this country worth \$147.21 million has been sent abroad; South Africa has undertaken 617 transactions over the years.



When it comes to the total value of gold stocks, The BRICS bloc (Brazil, Russia, India China, and South Africa) has 5 thousand tonnes -45.05 Billion/FTW- being beaten by the US with a large margin which makes up for a good part less than Godwithins' reserves in whole totaling a stunning amount 8 thou tonnes throughout their stock: The group has completed 439 transactions to date, across more than two years. Moreover, as much of a stable asset, the gold trade is there may be predicted prices that have to be met by the market. Looking at history and market data, we can see that prices tend to follow downward trends on Mondays compared to other days.

These influences can be equally diverse ranging from the weekend leading to a slight drop in commercial activities, which causes gold prices to reset on Mondays after traders respond to developments and news over the weekend.

That movement in the market can provide a number of opportunities for gold investors looking to start or add to their existing positions.

It is important to remember when considering prices, that whilst Mondays may have a lower average price this is not to say the same will hold true every week as we all know gold markets are influenced by far more than just what happens in Asia or Europe. Economic data releases, geopolitical events, and

market sentiment will be reflected in increasing volatility through the week (on as many days as well). If we break this down even further, many gold buyers view Wednesdays and Thursdays as their mid-week chance. Stocks had calmed by mid-week, as the market's initial responses to the weekend events began to wear off.

Finally, traders can modify their positions with relevant news that will also influence market sentiment and cause gold prices to move. The takeaway is that mid-week may be a near-ideal time of an opportunity for buyers to find gold in a more balanced position as opposed to inflated or deflated prices which often occur at the beginning and end of any week.

### **Volume and Trades**

Gold prices change a lot due to many reasons such as economic data and information releases, political events, market speculation, and policies of central banks. Also, seasonal changes and trading volumes play important roles in shaping the gold market. We look to explain the reasons behind daily and seasonal price changes, the correlation between trading volume and trade activity, and the trends in the number of trades.

Gold prices are highly sensitive to a wide array of factors. Strong economic growth or low unemployment can lower gold prices as investors prefer stocks and bonds. Negative economic news and circumstances make gold more attractive as a safe investment, raising prices. Political events, including conflicts, political instability, and significant global incidents, also spur demand for gold. During uncertain times demand for gold increases because people buy gold for safety, making its price go up. Events like conflicts or political issues can cause these price increases as investors look for stability.

Market speculation is another significant factor affecting gold prices. Traders' expectations about economic policies or market rumors can cause quick price changes in gold. Central bank policies, particularly those related to interest rates, have a profound impact on gold prices. Lower interest rates make gold more appealing as it doesn't yield interest. Announcements from central banks about interest rate changes can cause large fluctuations in gold prices.

Gold prices are not uniform throughout the year and display clear seasonal patterns. Historically, prices tend to peak during the last quarter. This increase is primarily driven by the festival season in countries like India, where gold is in high demand for jewelry. The global holiday season, including Christmas and New Year, also contributes to this heightened demand for gold. On the other hand, gold prices may dip during the second quarter. This period typically follows major festivals and wedding seasons in key markets like India and China. With the seasonal demand subsiding, prices tend to stabilize or decrease.



Several factors drive these seasonal variations. For example in India, festivals such as Diwali and the wedding season significantly boost gold demand, leading to higher prices. During these times, gold is traditionally bought for jewelry and as gifts, contributing to the price increase.

At the end of the year, investors and central banks buy more gold to adjust their portfolios, contributing to higher prices in the last quarter. As the year ends, economic data and policies become clearer, helping investors make decisions. This clarity often results in increased gold purchases, driving prices up.

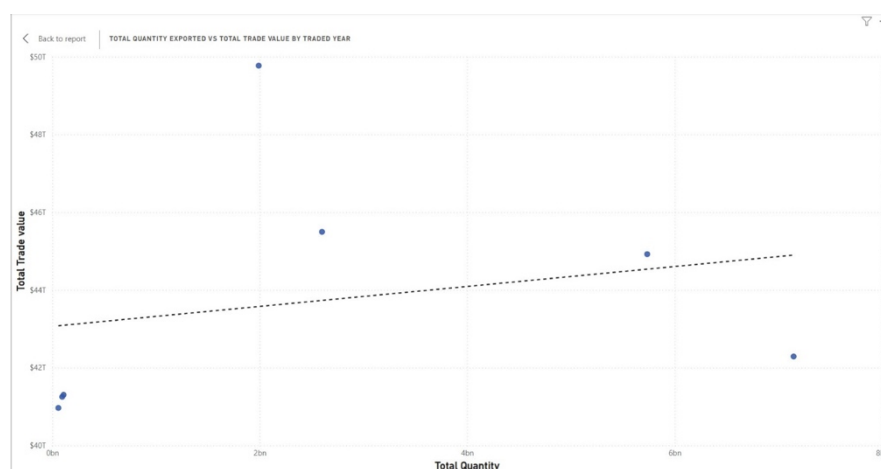
A significant correlation exists between trading volume and trade activity in the gold market. When more gold is traded, it usually means there are more active trading periods, which can lead to bigger price changes. More trading often shows strong market feelings, whether positive usually referred to as (bullish) or negative usually referred to as (bearish).

This correlation is mainly because of market liquidity. More trading means more liquidity, which helps prices show the true value of gold more accurately.

However, large trades can also greatly affect gold prices, especially in markets where there isn't much trading. This can create opportunities for traders but also increase the risk of investing in gold.

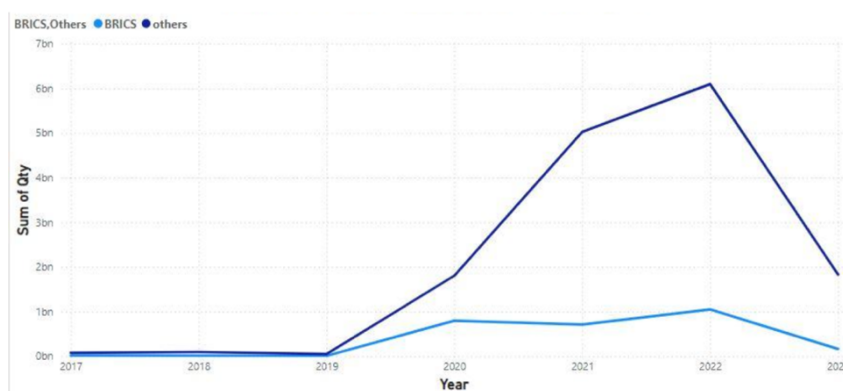
When trading volume increases and the price rises, it means a greater number of people are buying gold, which is a good sign for the price to keep going up. When trading volume increases and the price drops, it means a lot of people are selling, which means the price might keep falling.

Gold prices are affected by a mix of factors of economic data, political events, market speculation, and central bank policies. Seasonal variations in demand can further contribute to price differences, with specific periods like the last quarter of the year seeing higher prices. High trading volume and activity show how easily gold can be bought or sold, affecting its price. Investors need to understand this to make better decisions and manage their gold investments effectively.



### Ghana and South Africa vs BRICS vs Non-BRICS countries

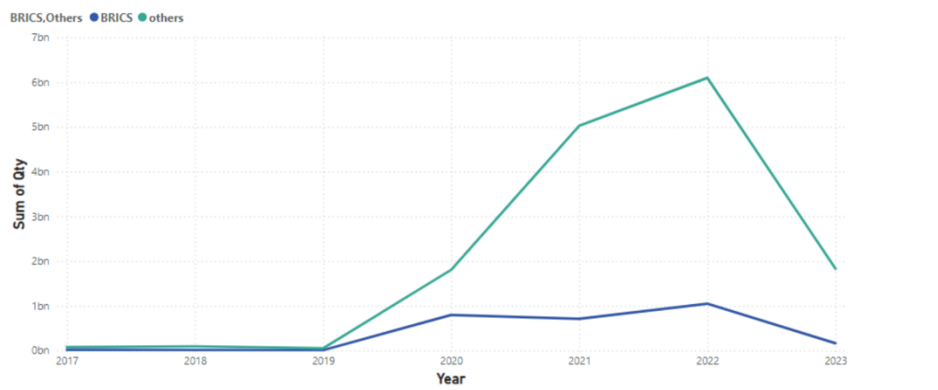
The Trade Volume of non-BRICS Nations was 14.9 Billion kilos as shown in the graph non-BRICS Trade. The trade volume remained constant from the beginning of the year 2017 to 2019. After that period there was an increasing trend in the trade volume of gold in non-BRICS nations until the year 2022 when the Gold trade volume reached its peak at 6 Billion Kilos of Trade volume in non- BRICS Nations. After the year 2022, there was a steep downfall in trade volume where the trade volume went from 6 Billion Kilos to 1.8 Billion Kilos of the trade volume of gold in the year 2023.



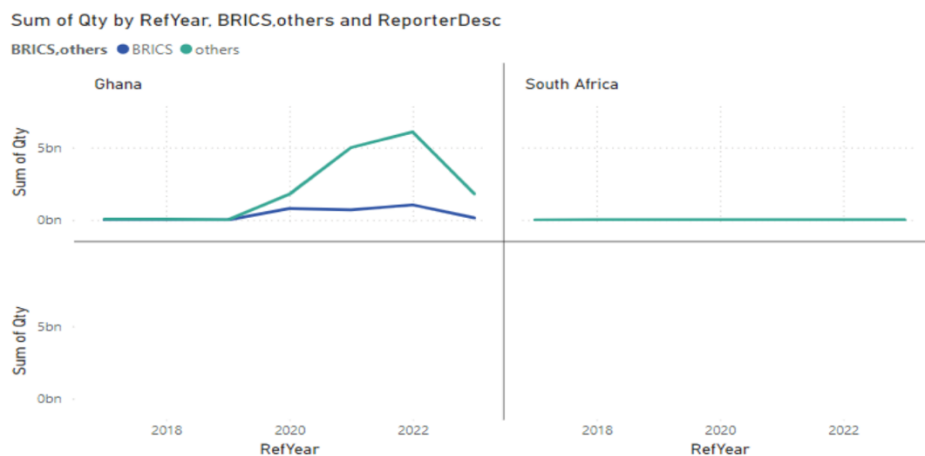
From 2017 to 2019 the trade volume remained low in both Ghana and South Africa. The trade volume of Ghana started at 83 million kilos volume whereas, South Africa for South Africa started at 12 Million kilos of gold.

There was a sharp rise seen from 2020 peaking in 2022 with the total trade volume reaching its highest trade volume of 7.1 Billion kilos of gold, whereas, the trade volume data for South Africa shows a strong upward trend beginning in 2019, with a peak in 2021 of 32 Million Kilos of gold. This could be due to various factors such as increased trade agreements, economic growth, or changes in trade policies.

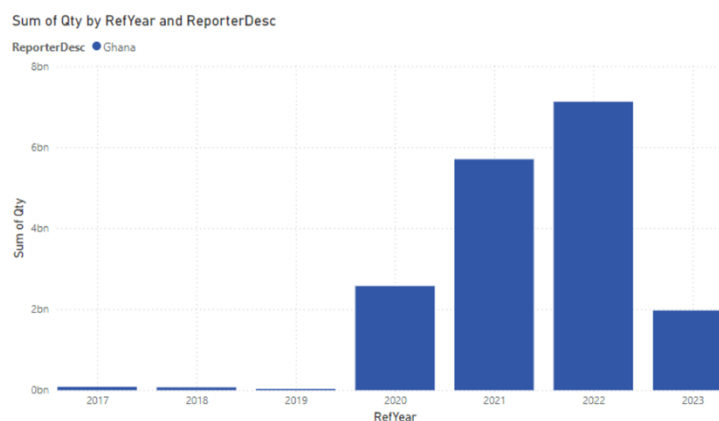
The dramatic drop in 2023 could be indicative of economic challenges, changes in trade regulations, global market conditions, or other external factors affecting trade. The trade with BRICS nations shows a relatively stable trend with a moderate increase starting in 2021 which was 16 Million Kilos and peaking in 2022 at 1 Billion Kilos traded. This decrease in trade volume in 2023 might indicate economic or geopolitical changes impacting trade with these countries. Whereas, if we look into Non-BRICS Nations, the trade volume with non-BRICS nations demonstrates a more dynamic growth starting in 2020 which was 79 Million Kilos, peaking in 2022 at 6 Billion kilos, and then experiencing a sharp decline in 2023 at 1.8 Billion kilos volume. This trend could reflect broader global economic patterns or specific bilateral trade agreements and their impacts.



The following graph depicts a comparison between Ghana and South compared to the other BRICS nations.



In 2017 there was low or negligible trade volume. Ghana's trade volume experienced rapid growth starting in 2020 at about 2.5 Billion Kilos volume, peaking in 2022 at 7.1 billion Kilos of trade volume. However, 2023 saw a substantial decline at 1.9 Billion Kilos of trade volume. This trend is consistent with the patterns observed for other BRICS nations and South Africa, indicating a common external influence impacting trade volumes in these regions.

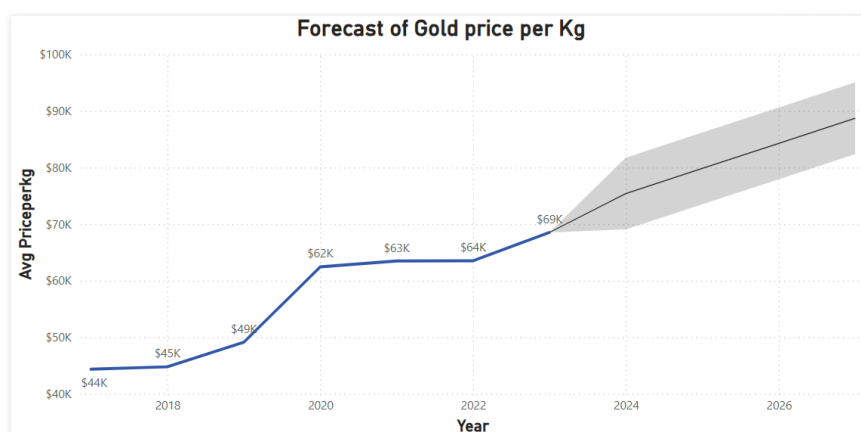


According to data both BRICS members and the UK, USA, and EU had imported Gold from Ghana. According to our analysis, China had imported 1.5 Million kilos of gold whereas, India imported 809

Million kilos of gold which was the highest trade volume in the BRICS consortium. If we compare the trade volume of gold with other nations like the UK, USA, and EU. The UK also imported from Ghana an amount of 130 thousand Kilos and the USA imported 1.4 Million kilos. In the EU there are sixteen countries that imported gold from Ghana such as Sweden, Germany, Poland, Estonia, Austria, Italy, Spain, Bulgaria, Belgium, France, Portugal, Malta, Switzerland, Denmark, Estonia, Latvia, and Czechia out of these countries Switzerland was the biggest importer of gold from Ghana which was 25 Million Kilos. Based on our analysis we can conclude that BRICS Nations imported more volume of gold than non-BRICS nations ( UK, USA, EU).

### Gold Price Forecast

Based on the data given, predict the price of Gold in the next months. And follow-up questions. Reasons for our prediction.



The above graph displays the average sum of the price of gold per kg from 2017 to 2023 and the analysis in the report is for the future projected trends in the price of gold from 2023 to 2028. The Y-axis in the graph represents the total sum of the cost of gold per Kg. The X-axis represents the year. The above graph captures the historical price trends of gold over the years and includes a forecast section which is denoted by the shaded area. This shaded area provides valuable future insights into the potential price of gold in the upcoming years.

In the year 2017, the price of gold per kg was 44 thousand dollars with a stable starting point. From 2017 to 2018 the price per kg of gold increased to about 45 thousand dollars, this slight increase could be due to factors such as inflation or minor increases in demand.

From 2018 to 2019 there can be seen a slight upward trend where a noticeable rise in the price of gold from 45k to 49 thousand dollars per kg. This rise might be linked to geopolitical tensions, trade issues, or economic uncertainties prompting investors to seek safe-haven assets.

From 2019 to 2020 a significant jump in price per kg of gold can be seen with a positive upward trend. The price shot up from \$49k to \$62k. This large increase correlates with the COVID-19 pandemic, which caused economic disruptions and led to a surge in gold prices as investors looked for stable assets.

During the year 2020 to 2021 a slight increase in the price of gold was witnessed from \$62k to \$63k due to continued economic uncertainty and the effects of pandemic recovery kept the gold prices relatively high. Again, during the year 2021 to 2022 a minor increase in the price of gold was witnessed from \$63k to \$64k due to steady demand for gold continued as global markets adjusted to new economic realities post-pandemic.

In 2023 price per kg of gold increased to \$68k with a moderate positive trend this was due to the Continued global inflation and ongoing geopolitical tensions, such as conflicts or trade disputes, likely to sustain the demand for gold. Our forecast suggests a period of relative price stability with a wide range of potential outcomes, indicating significant uncertainty. In the Line graph, the forecast presents a real-time forecast with uncertainties indicating lower bound and upper bound.

In 2023 the price per kg of gold was seen at 69 thousand dollars where a moderate increase in price from the previous years. The price shows a continued increase due to the ongoing global inflation and geopolitical tensions. These conflicts made gold to be considered a safe haven.

In 2024 the projected price of gold was at 69 thousand dollars where a stabilization trend can be witnessed. This price stabilization is due to the stabilizing global economy. Central banks were expected to implement policies to manage inflation effectively, leading to stable gold prices.

In 2025 the projected price is around \$75K per kg which is within the forecasted range a gradual positive trend can be seen. This gradual increase is driven due to the continued economic growth and moderate inflation, demand for gold continues to remain strong due to its hedge against inflation and economic uncertainties.

In 2026 the price per kg forecasted is around \$80K which is also within the forecast range and a steady increase with a positive trend. Factors contributing to this trend include ongoing geopolitical risks and market demand for gold. Industrial and jewelry demand also contribute to the rise in the price of gold. In 2027 the price per kg forecasted is around \$85K which is also within the forecast range and a continued upward trend can be witnessed this continued upward trend could be due to the robust demand from both investors and the industry. Geopolitical tensions and economic policies may also contribute to the rise.

In the year 2028, the price forecasted is about \$90K per kg. There is a positive trend with a higher uncertainty. The forecast for 2028 indicates a significant with a broader prediction interval, reflecting higher uncertainty. Potential factors include global economic shifts, changes in central bank policies, and some unseen geopolitical changes.

Some of the key factors influencing our predictions are inflation, economic stability, geopolitical risks, monetary policies, market demand, and technological and infrastructural innovations.

Our analysis from 2023 to 2028 appears a slant of continuous cost increments for gold, driven by a combination of expansion, financial solidness, geopolitical dangers, and relentless advertising requests.

The cost is anticipated to rise from \$69K per kg in 2023 to around \$90K per kg by 2028. In any case, the wide forecast interim for the afterward long time demonstrates critical instability, requiring checking of financial markets and geopolitical improvements.

### **Methodology**

For our analysis, we performed various methods and techniques. We began by downloading the data for the gold trades of Ghana and South Africa from 2017 to 2023. Un Commtrade provided us with a comprehensive data set with most of the data we required for our analysis. While our UN Commtrade datasets provided most of the information we required, some information was missing perhaps because of the illegal gold trades happening particularly in Ghana.

We consolidated the data into one table with what we considered to be the most critical information for our analysis. Having all of the data we required in one table made it easier for us to understand the data but also to move it and manipulate based on the information we wanted to extract and display from our datasets.

We then proceeded to clean the data we had gathered into our table. We proceeded to delete any columns that contained redundant data that was repeated in our table or data that seemed irrelevant to the scope of our analysis as well as mostly empty columns. Next, we organized and edited the information that we had to ensure that the data on our table was consistent such as correcting misspelled column headers, missing cells, or misalignments between the data and the headers in our table.

After consulting with our professor we decided to maintain elements with a value of zero in our table. These zero values are likely not registered in the UN comrade database because there is no register for exact values of illegal gold trades. We are taking into account that some of our results might be skewed because of these values, but removing the values completely would alter our results even more so.

We decided to add a column to our main table that specifies if each trade was conducted by a country belonging to the BRICS governmental organization or other Western countries. We introduced this column because it was critical to the comparison aspect of our analysis. Having this column makes it easier for us to compare trades as well as display this comparison in a graphical form to make it easier to understand for our audience. By following this methodology we were able to make sure our data was useful for our analysis, we ensured that our data was relevant and we also ensured our data was consistent which was key for our process and analysis.

### **Results**

Our analysis of the Gold trade of Ghana and South Africa as well as the comparison of gold trade between BRICS nations and non-BRICS focuses on price, trade volume, and export quantities. The

results of our analysis are the following. In this time period of our dataset (from 2017 to 2023) both Ghana and South Africa combined exported 18 billion kilos of gold which generated a total amount of 306 trillion USD. During this time period, both Ghana and South Africa showed significant fluctuations in their trade values, mainly due to each country's economic situation and gold mining infrastructure but also affected by market demands that are greatly influenced by global factors such as the COVID-19 pandemic which took place right in the middle of the time period we are analyzing. During this time period, Ghana reached its best year in terms of gold trade in 2023 with a total of 27 trillion USD generated. On the other hand, South Africa's best gold trading year was 2021 having generated a total trade value of 26 trillion.

During the time period of our analysis, there was a steady increase in the price of gold. The price of gold shows a constantly increasing trend, starting at 44 thousand USD per kilo in 2017 and ending with a price of 68 thousand USD in 2023. This increase in price shows an increase in the demand for gold which could be attributed to global economic uncertainty. It is possible that because of the COVID-19 pandemic, countries anticipated a period of inflation in the future, which could be mitigated to some extent by the purchase of gold. In 2022 the Russian invasion of Ukraine also created economic uncertainty which could prompt countries to further invest in gold, increasing demand and as a result increasing the price.

In our results, we also observed a steady decline in the number of trades. The number of trades per year declined starting at 469 trades in 2017 down to 238 trades in 2023. There are several possible reasons for this decline in the number of trades. There is the possibility of increased efficiency because of infrastructure investment in gold mining in certain countries like Ghana. This increased efficiency could mean a lower number of required trades for the same volume of gold. Another reason for the decline in number of trades could be increased regulations. By creating more restrictive and strict regulations in gold trade countries can reduce the number of trades that are considered illegal by regulatory bodies. Our results also show that countries belonging to BRICS are consistently trading more gold than countries not belonging to BRICS. This shows that more gold is mined by BRICS countries as well as the power that BRICS nations have over the global gold market.

Based on our results, we predict that the price of gold will continue to rise in the upcoming months. There is also the possibility that it will continue to increase for a few years but we are also aware that as time goes on and the negative economic effects of the COVID-19 pandemic and current world conflicts such as the war in Ukraine and Israel decrease, the effects such as inflation, there is the possibility that the price of gold could decrease but we believe that is not likely to happen in the short term.

### **Abstract**

Historically gold was used to back currencies such as the US dollar and the British pound. This meant that the value of the currency had a direct correlation to a specific amount of gold. Today that is no

longer the case. Nowadays gold is mainly used by countries as a commodity that can help maintain economic stability during periods of global instability, conflict, and crisis.

Gold is a crucial commodity for countries for its ability to maintain its value during periods of crisis where inflation happens. During inflationary periods most currencies lose value but gold does not. The fact that gold maintains its value during these periods makes it a crucial commodity to help countries maintain their economic stability. The purpose of this analysis is to understand the possible factors that influence the global gold market. We are specifically focusing on two major exporters of gold in Ghana and South Africa. The factors that we analyzed for this report are gold price, trade volume, and economic patterns that could contribute to changes in the price of gold.

We analyzed how global events, conflicts, and economic trends can have an impact on the demand for gold from year to year which also has a direct impact on the price of gold. Our results show that there has been a consistent increase in the price of gold over the last few years. We determined that this consistent price increase was majorly influenced by the inflationary period initially generated by the COVID-19 pandemic and then later extended due to uncertainty presumably caused by the geopolitical conflicts that have taken place in recent years such as the war in Ukraine.

Our analysis also shows that there has been a consistent decrease in the number of trades performed by Ghana and South Africa in recent years. We attribute this decrease in the number of trades to increased investment in mining, increasing efficiency requiring fewer trades to export the same amount of gold, as well as an increase in regulations limiting the number of illegal trades that can be performed from each country.

Ghana and South Africa are major players in the gold market. Both countries represent a significant percentage of the global gold market when compared to other BRICS member nations and even more so when compared to non-BRICS nations. The fact that gold is such a valuable commodity because of its ability to maintain value and it's being majorly mined and exported by members of the BRICS governmental organization gives a lot of leverage to BRICS members over non-BRICS members.

The aim of our analysis is to better understand the factors that affect gold prices. This way we can better understand the volatility of the gold market and also have a more accurate prediction of how gold prices will fluctuate in the future and the causes for these fluctuations.



### Literature Review

Zhang, D., Hu, M., & Ji, Q. (2020). "Financial markets under the global pandemic of COVID-19." *Finance Research Letters*, 36, 101528.

This research paper talks about how the COVID-19 pandemic negatively affected different markets around the world. It also mentions how the pandemic resulted in financial instability which in turn resulted in investors losing large amounts of money. The analysis in this paper is focused on the effect that some policies had on different markets as a result of government policies that looked to reduce the negative economic impact of the pandemic, and how some policies could help stabilize the economic situation but could also cause more uncertainty in the long term.

Atri, H., Kouki, S., & Gallali, M. I. (2021). "The impact of COVID-19 news, panic and media coverage on the oil and gold prices: An ARDL approach." *Resources Policy*, 72, 102061.

This paper focuses on the effect of media covering the COVID-10 pandemic that affected the prices of gold and oil globally. This paper shows that the way the media covered the pandemic induced panic in the general public, increasing the price of gold due to increased demand because of countries and individuals looking for financial stability in a time of crisis and uncertainty.

Anderson, L., & Brown, M. "The Influence of Geopolitical Events on Gold Prices."

This research paper focuses on the effects of global conflicts, catastrophes, and other political situations and events and how these events affect the price of gold. This paper analyzes historical events and conflicts and how it has impacted the price of gold in the past. The authors show that conflict and instability tend to trigger a high demand in gold from people and countries looking for stability, which results in the price of gold shooting up.

Thompson, E. "Dynamics and Determinants of the Global Gold Trade."

In this paper, the author analyses the global gold trade. The analysis focuses on trends, policies, and factors that cause demand for gold. The paper tries to explain the reasons for changes and fluctuations in the price of gold.