



# ANNUAL PERFORMANCE REVIEW – GOLD

2021-2022

# 1. Background

a) Brief about the commodity such as sample picture, lifecycle and various varieties/grade of the commodity found in India

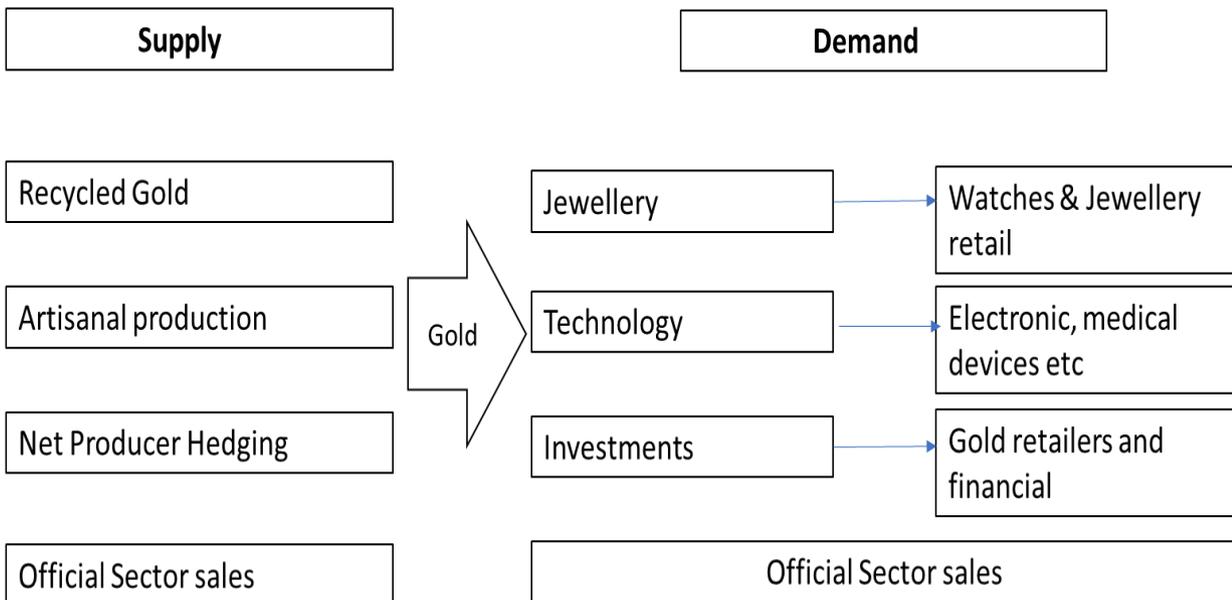


Gold in its purest form is a bright, slightly reddish yellow, dense, soft malleable and ductile metal. It is one of the least reactive chemical elements and is solid under standard conditions. Gold often occurs in free elemental (native) form, as nuggets or grains, in rocks, in vein and in alluvial deposits. Gold is dissolved in alkaline solution of cyanide, which are used in mining and electroplating. It dissolves in mercury, forming amalgam alloys, but this is not a chemical reaction. Gold is resistant to corrosion and their chemical reactions and is distinctive in colour.

Source: India Mineral Yearbook

## Gold - Value Chain

### The Gold Value Chain



## BIS Standards

### BIS standards - IS 17278: 2019, for delivery of gold and silver

The notifications set the standards for purity, form and provenance of gold and silver bars and the way in which they are manufactured and delivered.

### BIS Standard IS: 1417: 2016

Only three grades namely 14,18 and 22 carats for gold jewellery and artefacts, as prescribed in Indian Standard IS: 1417: 2016 can be hallmarked.

### b) Commodity fundamentals and balance sheet as per the following format (to be prepared based on publicly available information on best effort basis

Global Gold Scenario		
In tonnes	2020-21	2021-22
Mine Production	3,472	3,602
Supply	4,657	4,751
Demand	3,476	4,366
Consumption*	2,593	3,208

*Source: World Gold Council*  
*\*Consumer demand number is considered*

India Gold Scenario		
In tonnes	2020-21	2021-22
Production	1.13	0.99
Import (Tonnes)*	607	824.2
Total Supply	608.1	825.2
Exports	-	-
Domestic Consumption**	510	767

*Source: World Gold Council*  
*\*gross bullion import numbers are considered*  
*\*\*Consumer Demand Numbers are considered*

## Top 10 Major producing countries

Top 10 Major producing countries (in tonnes)			
Country	2020	Country	2021
China	368	China	332
Russia	332	Russia	331
Australia	328	Australia	315
United States	193	Canada	193
Canada	173	United States	187
Ghana	130	Ghana	129
Mexico	110	Peru	127
South Africa	102	Mexico	124.50
Peru	102	Indonesia	117.49
Other	101	South Africa	113.56

*Source: World Gold Council  
Mine production numbers are considered*

## Top 10 Major consuming countries

Top 10 Major consuming countries (in tonnes)			
Country	2020-21	Country	2021-22
Greater China	824	Greater China	939
India	510	India	767
United States	208	United States	265
Turkey	168	Germany	177
Germany	164	Turkey	60
Islamic Republic of Iran	52	Islamic Republic of Iran	57
Switzerland	42	Russian Federation	52
Vietnam	42	Indonesia	46
Indonesia	41	UAE	45
Korea, Republic of	38	Saudi Arabia	45

*Source: World Gold Council  
Consumer Demand Numbers are considered*

## Top 10 Major Exporting countries

Not Available

## Top 10 Major Importing countries

Not Available

## Top 10 Major producing States in India

Top 10 Major producing States in India (in tonnes)		
States	2018-19	2019-20 (p)
Karnataka	1.7	1.7
Jharkhand	3	-

*Source: India mineral Yearbook 2021*

### c) Major changes in the policies governing trade in the spot markets of the commodity

There were no major policy changes issues which had any significant on Gold prices in India for financial year 2021-22

### d) Geopolitical issues in the commodity and its impact on Indian scenario

#### Factors which affected bullion prices in FY 2021-22

- Conflict Between Russia and Ukraine
- Implementation of fresh lock lockdowns in China raised the concerns regarding pandemic
- Rising Inflation in the Major economies across the world
- Hike in US interest rates
- Rise in Crude oil prices
- Rise in demand in major importing countries post pandemic

## 2. Trading Related Parameter

### a. Monthly and Annual traded volume (in Kgs)

Month	Gold Futures	Gold Mini Futures	Gold options	Gold Mini Options
Apr-21	-	23	8,985	1,32,186
May-21	-	22	-	1,42,607
Jun-21	-	23	-	1,46,945
Jul-21	-	22	-	1,46,871
Aug-21	-	23	-	1,44,724
Sep-21	-	23	-	1,54,860
Oct-21	-	23	-	1,98,484
Nov-21	-	18	-	2,27,145
Dec-21	-	8	-	2,61,757
Jan-22	-	20	-	42,969
Feb-22	-	20	-	4,019
Mar-22	-	22	-	4,760
<b>Total</b>	-	<b>247</b>	<b>8,985</b>	<b>16,07,328</b>

### b. Annual traded volume as proportion of total deliverable supply

	Gold Futures	Gold Mini Futures	Gold Options	Gold Mini Options
Annual Traded Volume (Kgs)	-	247	8,985	16,07,328
Deliverable Supply (Kgs)	8,42,992			
Ratio	-	0.0293%	1.0658%	190.6694%

### c. Annual traded volume as proportion of total annual production

	Gold Futures	Gold Mini Futures	Gold Options	Gold Mini Options
Annual Traded Volume (Kgs)	-	247	8,985	16,07,328
Annual Production (Kgs)	992			
Ratio	-	24.90%	905.75%	162029.03%

**d. Annual average Open interest as proportion of total production**

	Gold Futures	Gold Mini Futures	Gold Options	Gold Mini Options
Annual Average OI (Kgs)	-	0.5	3	2
Annual Production 21-22 (Kgs)	992			
Ratio	-	0.05%	0.30%	0.20%

**e. Annual average Open interest as proportion of total deliverable supply**

	Gold Futures	Gold Mini Futures	Gold Options	Gold Mini Options
Annual Average OI (Kgs)	-	0.5	3	2
Deliverable Supply (Kgs)	8,42,992			
Ratio	-	0.00006%	0.00036%	0.00024%

**f. Monthly and Annual value of trade (in Crores)**

Months	Gold Futures	Gold Mini Futures	Gold Options	Gold Mini Options
Apr-21	-	10.74	4,176.18	61,345.86
May-21	-	10.59	-	67,971.71
Jun-21	-	11.00	-	71,633.32
Jul-21	-	10.51	-	69,040.27
Aug-21	-	10.83	-	68,611.69
Sep-21	-	10.72	-	74,108.07
Oct-21	-	10.89	-	93,851.94
Nov-21	-	8.70	-	1,04,633.86
Dec-21	-	3.83	-	1,24,168.35
Jan-22	-	9.59	-	20,644.12
Feb-22	-	9.86	-	1,973.62
Mar-22	-	10.74	-	2,309.24
<b>Total</b>	-	<b>118.67</b>	<b>4,176.18</b>	<b>7,60,292.06</b>

**g. Monthly and Annual quantity of delivery (in Kgs)**

Months	Gold Futures	Gold Mini Futures	Gold Options	Gold Mini Options
Apr-21	-	-	-	1.00
May-21	-	-	-	1.00
Jun-21	-	-	-	1.00
Jul-21	-	-	-	-
Aug-21	-	-	-	-
Sep-21	-	-	-	1.00
Oct-21	-	-	-	0.10
Nov-21	-	-	-	2.00
Dec-21	-	-	-	1.00
Jan-22	-	-	-	1.00
Feb-22	-	-	-	3.00
Mar-22	-	-	-	1.00
<b>Total</b>	-	-	-	<b>12.10</b>

**h. Monthly and Annual value of delivery (in Rs.)**

Months	Gold Futures	Gold Mini Futures	Gold Options	Gold Mini Options
Apr-21	-	-	-	47,08,775
May-21	-	-	-	48,76,975
Jun-21	-	-	-	46,98,100
Jul-21	-	-	-	-
Aug-21	-	-	-	-
Sep-21	-	-	-	46,03,400
Oct-21	-	-	-	4,79,008
Nov-21	-	-	-	95,45,250
Dec-21	-	-	-	47,95,650
Jan-22	-	-	-	48,60,750
Feb-22	-	-	-	1,52,37,525
Mar-22	-	-	-	51,52,300
<b>Total</b>	-	-	-	<b>5,42,59,633</b>

**i. Monthly and Annual Average Open Interest (OI)**

Month	Gold Futures Average Monthly OI (In Kgs)	Gold Mini Futures Average Monthly OI (In gms)	Gold Mini Options Average Monthly OI (In Kgs)	Gold Mini Options Average Monthly OI (In Kgs)
Apr-21	-	600	3	1
May-21	-	600	-	2
Jun-21	-	600	-	3
Jul-21	-	500	-	3
Aug-21	-	500	-	2
Sep-21	-	600	-	3
Oct-21	-	600	-	2
Nov-21	-	500	-	2
Dec-21	-	500	-	2
Jan-22	-	500	-	3
Feb-22	-	500	-	2
Mar-22	-	500	-	2

**Gold Futures:** Annual Average OI = Nil

**Gold Mini Futures:** Annual Average OI = 500 gms

**Gold Options:** Annual Average OI = 3 Kgs

**Gold Mini Options:** Annual Average OI = 2 Kgs

**j. Annual average volume to open interest ratio**

	Gold Futures	Gold Mini Futures	Gold Options	Gold Mini Options
Avg of Traded Volume (Kgs)	-	1000	499	6,205
Avg of Open Interest (Kgs)	-	500	3	2
Ratio	-	200%	16633%	310250%

**k. Total number of unique members and clients who have traded during the financial year**

	Gold Futures	Gold Mini Futures	Gold Options	Gold Mini Options
Unique Members	-	1	6	37
Unique Clients	-	2	8	72

**l. Ratio of open interest by FPOs/farmers/Hedge/VCP positions to total open interest (Annual average as well as maximum daily value)**

Gold Futures	Gold Mini Futures	Gold Options	Gold Mini Options
-	-	-	15.96

**m. Number of unique FPOs / farmers and VCPs/hedgers who traded in the financial year**

Gold Futures	Gold Mini Futures	Gold Options	Gold Mini Options
-	-	-	1

**n. Algorithmic trading as percentage of total trading**

Gold Futures	Gold Mini Futures	Gold Options	Gold Mini Options
-	73.02	0.46	0.38

**o. Delivery defaults**

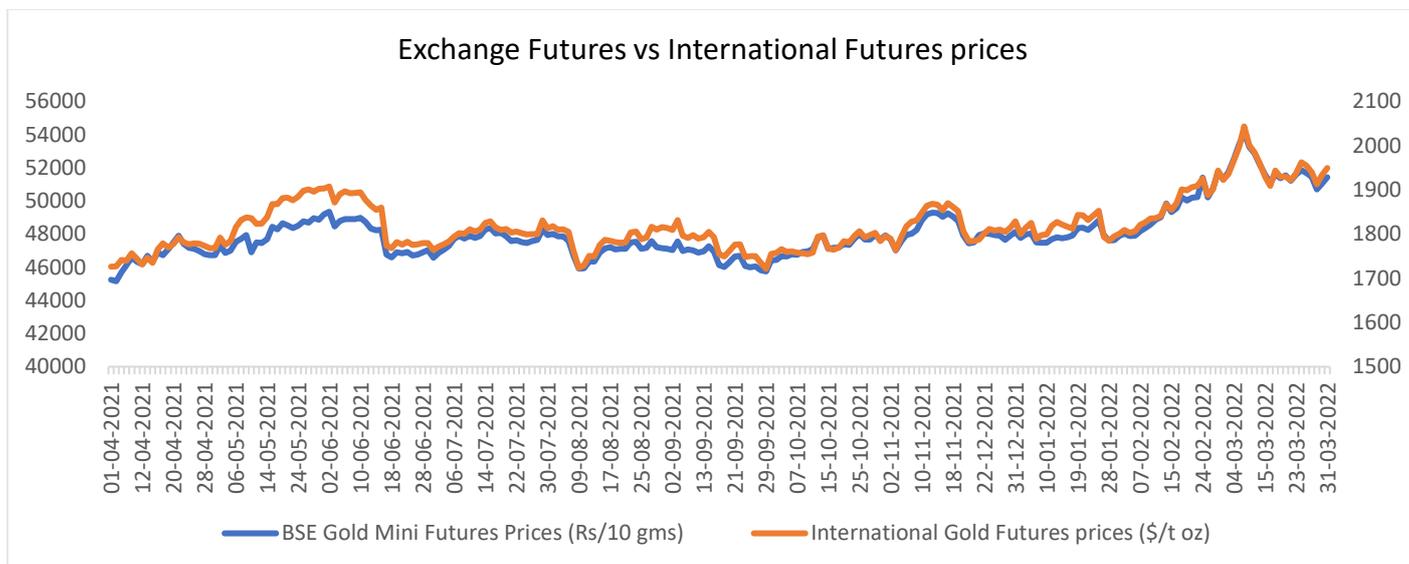
**Number of instances = Nil**

**Quantity involved = Nil**

**Value involved = Nil**

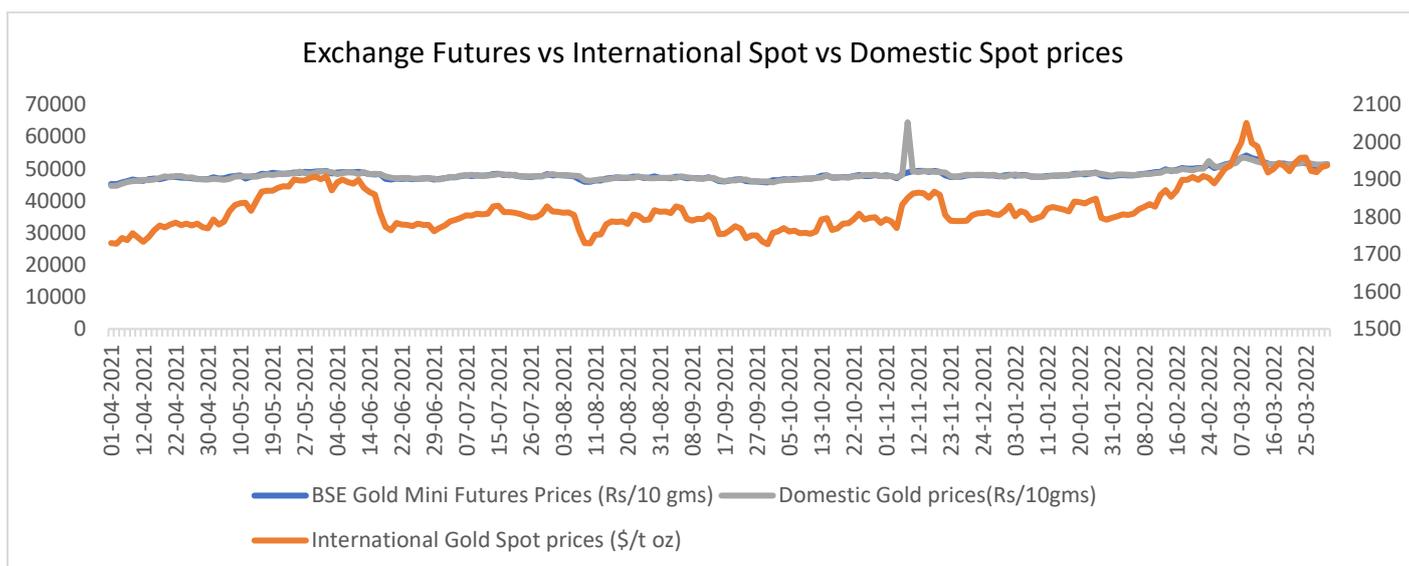
### 3. Price movements

#### a. Comparison, correlation, and ratio of standard deviation of Exchange futures price vis-à-vis international futures price (wherever relevant comparable are available).



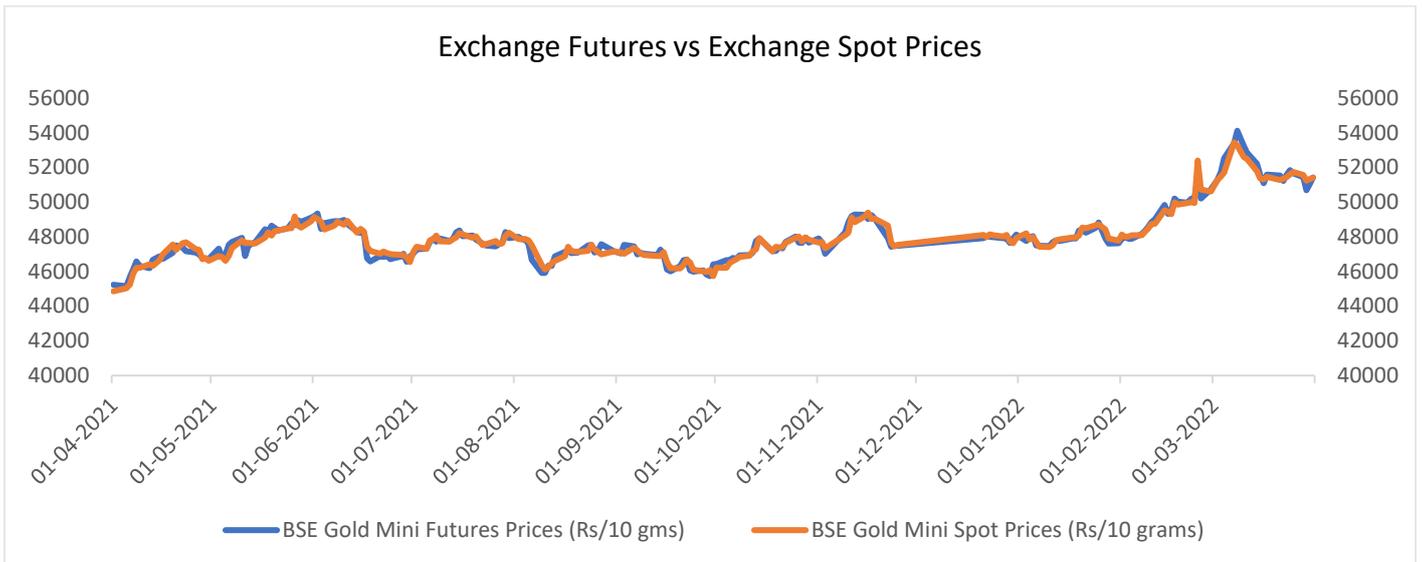
- The correlation between Exchange Futures Prices and International Futures prices is 0.9557
- The ratio of Standard deviation was 0.86

#### b. Comparison, correlation, and ratio of standard deviation of Exchange futures price vis-à-vis international spot price (wherever relevant comparable are available) and domestic spot price (exchange polled price)



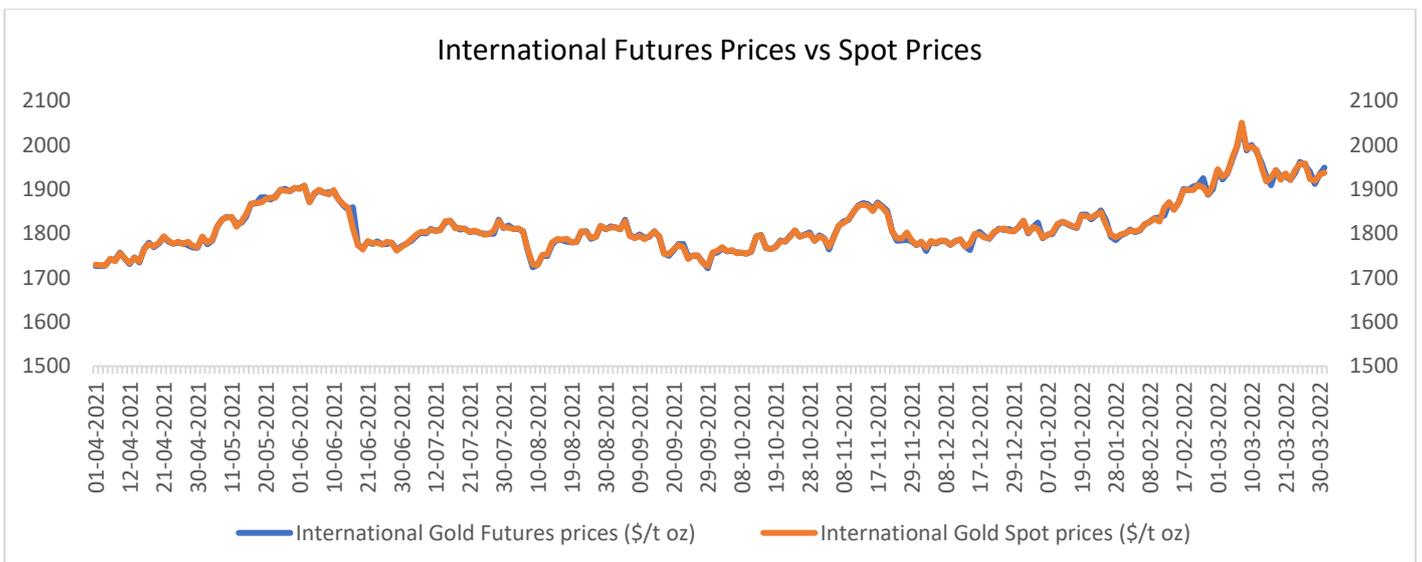
- The correlation between Exchange Futures Prices and International Futures prices is 0.9545
- The ratio of Standard deviation was 1

**c. Correlation between exchange futures & domestic spot prices along with ratio of standard deviation.**



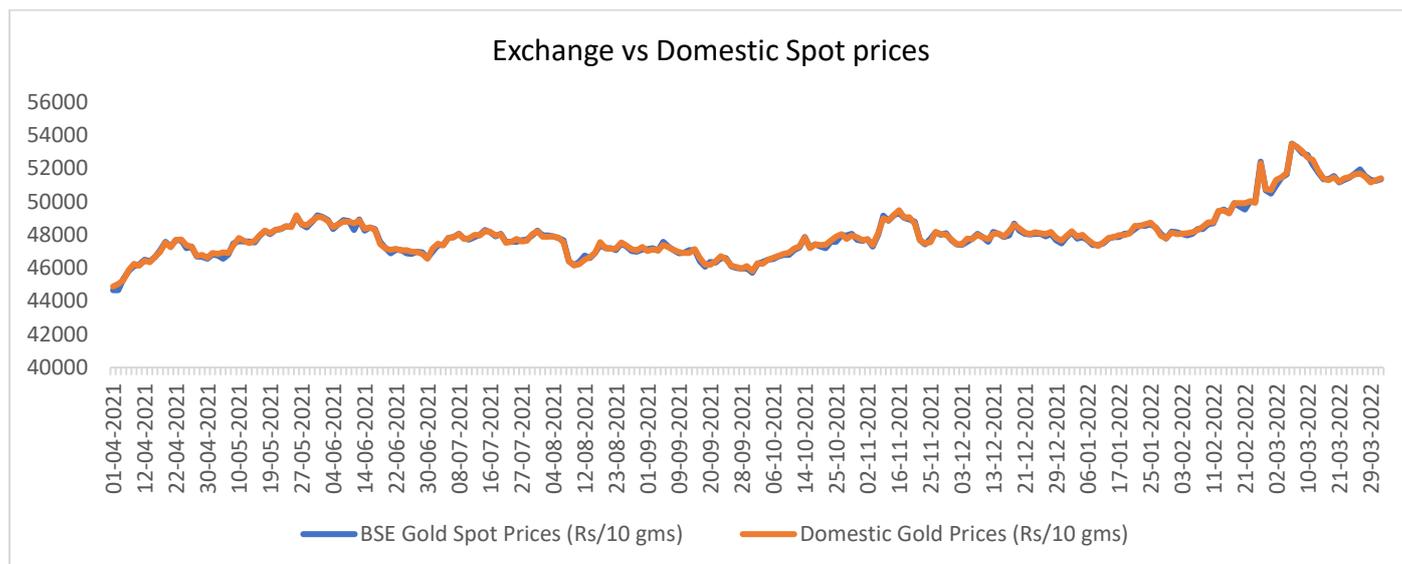
- The correlation between Exchange Futures and Exchange Spot prices is 0.9835 period 01, April 2021 to March 31, 2022
- The ratio of Standard deviation for the same period was 1.03

**d. Correlation between international futures & international spot prices along with ratio of standard deviation (wherever relevant comparable are available)**



- The correlation between International Futures Prices and International spot prices is 0.9960
- The ratio of Standard deviation was 1.17

**e. Comparison of Exchange polled price and mandi price (in case of agricultural commodities) / other relevant price (in case non-agricultural commodities) at basis centre**



**f. Maximum & Minimum value of daily futures price volatility and spot price volatility along with disclosure of methodology adopted for computing the volatility**

Commodity	Max of Daily Futures Price Volatility %	Min Daily Futures Price Volatility %	Max of Daily Spot Price Volatility %	Min Daily Spot Price Volatility %
Gold Mini	2.62%	-3.11%	4.92%	-3.21%

**g. Number of times the futures contract was in backwardation/contango by more than 4% for the near month contract in the period under review**

- Instances Of backwardation – Nil
- Instances of Contango – Nil

#### 4. Other's parameters

- a. Qualitative and quantitative measure for Hedge effectiveness ratio and basis Risk (Volatility of Basis) along with disclosure of methodology adopted for such calculations

##### Hedge Effectiveness for FY 2021-22

Commodity	Hedge Efficiency
Gold Mini	96.47%

*Note: Hedging efficiency is the 'R Square' value of the regression equation between BSE futures prices and BSE polled spot prices during the financial year.*

##### Basis Risk for FY 2021-22

Commodity	Unit	Average Return of Basis (Unit)	Standard deviation
Gold Mini	Rs/10 gms	80.75	8.16

*Note: Basis Risk is computed as the Standard deviation of daily normal return in Basis, which is excess of Spot over Futures price.*

- b. Details about major physical markets of the commodity vis-à-vis market reach in terms of availability of delivery centres (information to be provided state-wise and UT-wise)

BSE has its Delivery Centre as Ahmedabad

- c. Details about major physical markets of the commodity and average Open Interest for each month generated from those regions

Data is Not Available

**d. Details, such as number and target audience, of stakeholders' awareness programs carried out by the exchange**

Sr. No.	Program Type	Location	Participants
1	Ratnagiri Sarafa Association	Webinar	114
2	Kolhapur Jilla Sarafa Sangh	Webinar	92
3	Bulldana Jilla Srafa	Webinar	67
4	Pune Sarafa Association, Sholapur Sarafa Vyapari Sangh	Webinar	88
5	Ghatchiroli Maharashtra Sarafa Association	Webinar	90
6	Gems And Jewellery Trade Council Of India (Gjtc)	Webinar	120
7	The Bullion Jewellers Association	Webinar	117
8	Nashik Sarafa Association	Webinar	114
9	Nanded Sarafa Association	Webinar	100
10	Sindhudurg ,Kanakavli, Kudal & Malvan Jewellers Association	Webinar	130
11	Chalisingaon & Jalgaon	Webinar	106
12	Midc Jewellers Association	Hingna (MH)	125
13	Yavatmal Jila Sarafa Association	Yavatmal	86

**Apart from the above awareness sessions we had also conducted several awareness session in association with IMC Chamber of Commerce and Industry.**

**e. Steps taken / to be undertaken to improve hedging effectiveness of the contracts as well as to improve the performance of illiquid contracts**

Exchange has conducted 150 webinars for Commodity derivatives Segment. The discussion for awareness program included the following points:

- About BSE's trading platform for Commodity Derivatives Segment, commodities available for trading on Exchange platform, Hedging Opportunities.
- Benefits of trading in commodities and price risk mechanism.
- Newly launched Commodities.

Apart from the above BSE has also signed Memorandum of Understanding (MoU) with premier bullion trade and industry associations, and they include:

- Akola Sarafa Association
- Akola Sarafa Va Suvarnkar Yuva Sang
- Sangli Sarafa Association
- Yavatmal Sarafa Association

- Amritsar Sarafa Association
- Patliputra Sarafa Association
- Amravati Sarafa Association
- Shree Choksi Mahajan Association
- Gems and Jewellery Trade Council of India (GJTCI)
- The Bullion Jewellers Association
- South Tamilnadu Jewellers Guild
- Telangana Bullion Merchants Association
- Dhamangaon Railway Sarafa Suvankar Association
- Madurai Diamond, Gold and Silver Merchant Association
- Nashik Sarafa Association
- Thirunelveli Gold Silver Diamond Jewellery Traders Association
- Nanded Sarafa Association
- Saraf Suvarnkar Sabghthan Pusad
- Ghadchiroli Zila Sarafa Association
- Jamshedpur Jewellers association

We have organized multiple awareness sessions in association with IMC Chamber of Commerce and Industry exclusively for Bullion segment.

We propose to have the following to improve effectiveness in the contract.

- One to one meeting with corporate clients.
- Exclusive Events for Bullion
- BSE is extending awareness programs for jewellers and bullion dealers and demonstrating the benefits of hedging via options in goods contracts.