ANNUAL PERFORMANCE REVIEW – GOLD

2022-2023

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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, invein 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

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	2021-22	2022-23
Mine Production*	3,580	3,627
Supply	4,774	4,788
Demand	4,338	4,548
Consumption**	3,236	3,344
Source: World Gold Council ****CY Numbers are considered*** *****Consumer demand number is considered***		

India Gold Scenario		
In tonnes	2021-22	2022-23
Production (p)	1.25	1.30
Import (Tonnes)*	825.74	746.42
Total Supply	841	767
Exports	-	-
Domestic Consumption**	767	751
Source: For production Ministry of Mines numbers are considered and for the rest of the parameters World Gold Council numbers are considered ****gross bullion import numbers are considered*** *****Consumer Demand Numbers are considered***		

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Top 10 Major producing countries

Top 10 Major producing countries (in tonnes)			
Country	2021	Country	2022
China	332	China	375
Russia	331	Russia	325
Australia	307	Australia	314
Canada	193	Canada	195
United States	187	United States	173
Ghana	125	Ghana	127
Peru	127	Peru	126
Indonesia	116	Indonesia	125
Mexico	125	Mexico	124
Uzbekistan	105	Uzbekistan	111
Source: World Gold Council			
Mine production numbers are considered			

Top 10 Major consuming countries

Top 10 Major consuming countries (in tonnes)			
Country	2021-22	Country	2022-23
Greater China	939	Greater China	866
India	767	India	751
United States	264	United States	252
Germany	177	Turkey	164
Turkey	60	Germany	162
Islamic Republic of Iran	57	Islamic Republic of Iran	74
Russian Federation	50	Russian Federation	62
Indonesia	46	Egypt	57
UAE	45	Vietnam	57
Saudi Arabia	45	UAE	53
Source: World Gold Council			
Consumer Demand Numbers are considered			

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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	2020-21	2021-22
Karnataka	1.10	1.23
Jharkhand	0.01	0.01
Source: Ministry Of Mines		

c) Major changes in the polices governing trade in the spot markets of the commodity.

- The basic customs duty on gold bars was reduced to 10% from 12.5% and the Agriculture Infrastructure Cess was increased to 5% from the existing 2.5%.
- Trade pact between India and UAE officially called as CEPA (comprehensive economic partnership agreement) is in force since May 1 last year. Under this pact India has agreed to concessional import duties on gold imports of up to 200 tonnes per year.

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

Factors which affected bullion prices in FY 2022-23

- Geopolitical crisis led by the Russia-Ukraine war.
- The depreciation of the Indian currency against the US dollar.
- Consecutive interest rate hikes by the US Federal Reserve, dragged the gold price to lows and boosted the buying sentiment among retail investors.
- Rising inflation and a growth slowdown in major economies
- Volatile stock markets in 2022

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2. Trading Related Parameter

a. Monthly and Annual traded volume (in Kgs)

Month	Gold Mini Futures	Gold Mini Options
Apr-21	20	783
May-21	22	470
Jun-21	22	3,115
Jul-21	22	2,564
Aug-21	22	1,427
Sep-21	22	506
Oct-21	20	86
Nov-21	23	107
Dec-21	22	140
Jan-22	21	106
Feb-22	20	94
Mar-22	22	160
Total	**258**	**9,559**

b. Annual traded volume as proportion of total deliverable supply

	Gold Mini Futures	Gold Mini Options
Annual Traded Volume (Kgs)	258	9,559
Deliverable Supply (Kgs)	7,47,203	
Ratio	0.03%	1.28%

c. Annual traded volume as proportion of total annual production

	Gold Mini Futures	Gold Mini Options
Annual Traded Volume (Kgs)	258	9,559
Annual Production (Kgs)	1,302	
Ratio	19.80%	734%

d. Annual average Open interest as proportion of total production

	Gold Mini Futures	Gold Mini Options
Annual Average OI (Kgs)	80	550
Annual Production 21-22 (Kgs)	1,302	
Ratio	6.14%	42.24%

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

	Gold Mini Futures	Gold Mini Options
Annual Average OI (Kgs)	80	550
Deliverable Supply (Kgs)	7,47,203	
Ratio	0.010%	0.073%

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

Months	**Gold Mini Futures**	**Gold Mini Options**
Apr-21	10.39	406.37
May-21	10.95	240.76
Jun-21	11.18	1,593.12
Jul-21	11.18	1,317.43
Aug-21	11.41	735.84
Sep-21	10.99	256.54
Oct-21	10.13	43.81
Nov-21	12.06	55.90
Dec-21	11.90	76.31
Jan-22	11.79	59.97
Feb-22	11.29	53.68
Mar-22	12.66	92.96
Total	**135.94**	**4,932.69**

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

Months	Gold Mini Futures	Gold Mini Options
Apr-21	-	1.00
May-21	-	1.00
Jun-21	-	-
Jul-21	-	-
Aug-21	-	-
Sep-21	-	-
Oct-21	-	-
Nov-21	-	-
Dec-21	-	-
Jan-22	-	-
Feb-22	-	-
Mar-22	-	-
Total	**-**	**2**

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

Months	Gold Mini Futures	Gold Mini Options
Apr-21	-	51,72,675
May-21	-	50,93,225
Jun-21	-	-
Jul-21	-	-
Aug-21	-	-
Sep-21	-	-
Oct-21	-	-
Nov-21	-	-
Dec-21	-	-
Jan-22	-	-
Feb-22	-	-
Mar-22	-	-
Total	**-**	**1,02,65,900**

i. Monthly and Annual Average Open Interest (OI)

Month	Gold Mini Futures Average Monthly OI (In kgs)	Gold Mini Futures Options Average Monthly OI (In Kgs)
Apr-21	50	1,677
May-21	61	505
Jun-21	82	46
Jul-21	110	847
Aug-21	86	580
Sep-21	77	615
Oct-21	71	388
Nov-21	73	579
Dec-21	77	694
Jan-22	71	58
Feb-22	80	609
Mar-22	73	74

Gold Mini Futures: Annual Average OI = 80 kgs

Gold Mini Options: Annual Average OI = 550 kgs

j. Annual average volume to open interest ratio

	Gold Mini Futures	Gold Mini Options
Avg of Traded Volume (Kgs)	100	3700
Avg of Open Interest (Kgs)	80	550
Ratio	125%	672.73%

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

	Gold Mini Futures	Gold Mini Options
Unique Members	1	13
Unique Clients	5	22

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 Mini Futures	Gold Mini Options
-	-

n. Algorithmic trading as percentage of total trading

Gold Mini Futures	Gold Mini Options
100	34.35

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 0.6669
- The ratio of Standard deviation was 0.76

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 spot prices is 0.6524
- The ratio of Standard deviation was 0.76

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

- The correlation between Exchange Futures and Exchange Spot prices is 0.9928
- The ratio of Standard deviation for the same period was 1.04

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 0.9984
- The ratio of Standard deviation was 1

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 Futures	2.77%	-2.12%	2.32%	-1.86%

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 2022-23

Commodity	Hedge Efficiency
Gold	99.18%

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 2022-23

Commodity	Unit	Average Return of Basis (Unit)	Standard deviation
Gold	Rs/10 gms	-1.05	40.29

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.	Programme Type	Location	No of participants
1	Awareness Program on Gold Mini Options	Webinar	56
2	Overview of Securities Market	Webinar	76
3	Gold Mini Options in Goods Contract.	Webinar	45
4	Gold Options in goods contract: Effective hedging and investment tool in association with IMC	Webinar	56
5	India Gem & Jewellery Conclave	Mumbai	600
6	Options in Goods -VIJISAN JEWELS & BSE	Webinar	25
7	Gold Mini Options in Goods: Effective Hedging and Investment Tool in association with IMC	Webinar	65
8	India Gold Conference Chennai	Chennai	500
9	Options on Goods Contracts and EGR Segment	Jaipur	350
10	Price Risk Management through BSE Gold Mini Options in Goods Contract in association with IMC	Webinar	86
11	Gold Panel Discussion	Webinar	24
12	Awareness Program on Gold Mini Options in association with Jeweller Sathi	Satara	76
13	Awareness Program on Gold Mini Options in association with Jeweller Sathi	Hingoli	82
14	Awareness Program on Gold Mini Options in association with Jeweller Sathi	Haryana	62
15	Udaan -Bullion Event in association with Investor Protection Fund	Himachal	126
16	Udaan -Bullion Event in association with Investor Protection Fund	Goa	72
17	Udaan -Bullion Event in association with Investor Protection Fund	MP	85
18	Udaan -Bullion Event in association with Investor Protection Fund	Karnataka	115
19	Udaan -Bullion Event in association with Investor Protection Fund	Bihar	107
20	Udaan -Bullion Event in association with Investor Protection Fund	Mumbai	102
21	Udaan -Bullion Event in association with Investor Protection Fund	Ahmednagar	62
22	Udaan -Bullion Event in association with Investor Protection Fund	Beed	60
23	Udaan -Bullion Event in association with Investor Protection Fund and National refinery Association	Sangli	85

Exchange conducted 7 webinars for the FY 22-23 exclusively for Bullion 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.

BSE has also signed Memorandum of Understanding (MoU) with premier bullion trade and industry associations,

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BSE organized multiple awareness sessions in association with IMC Chamber of Commerce and Industry , Gem And Jewellery Council exclusively for Bullion segment. BSE also participated in the India Gem & Jewellery Conclave in Mumbai held in the month of April 2022 and India Gold Conference at Chennai held in the month of July 2022.

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

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

- One to one meeting with corporate clients.
- Exclusive Events for Bullion
- Awareness sessions at Delivery Centres and various other potential centres and regions.
- Product Specific Seminars/Webinars with all the Association where we have signed MOU