Parameters for Performance Review of Commodity for the Financial year 2020-21

Silver

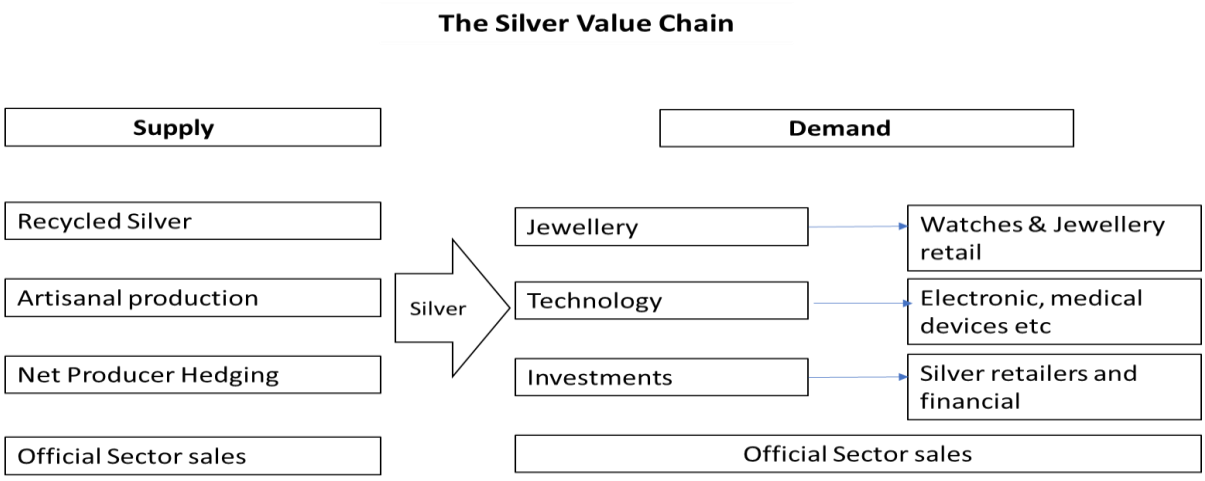
1. **Background**

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

Silver is soft and lustrous metal that is grouped in the category of noble metals. Its brilliant white colour, malleability and resistance to atmospheric oxidation have enhanced its value as a highly desired precious metal which is used in many industrial applications. Apart from its monetary and decorative uses, silver is known to have the highest electrical conductivity amongst all metals that enhances its potential in modern age applications, viz, for printed electric circuits, coating for electronic conductors and in alloys of gold & copper for electrical contacts.

Source: India Mineral yearbook

Value Chain for Silver



Various grades of Silver found in India

The Bureau of Indian Standards (BIS) has formulated the standard for Refined Gold and Silver Bars for Good Delivery — IS 17278: 2019

As per BIS standard IS 2112:2014 silver hallmark consists of following grade: 9999, 9995,999,990,925,900,835,800

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

Global Silver Scenario		
In tonnes	2019	2020
Opening Stock	-	-
Production	23,620	23,620
Others	-	-
Consumption	31,886	22,237
Closing Stocks	-	
Source: World Silver Survey 2021		

India Silver Scenario		
In tonnes	2019	2020
Opening Stocks	-	-
Production*	633	612
Import (Tonnes)	5,805	2,218
Total Supply	6,330	2,830
Exports	166	-
Domestic Consumption**	3,554	-
Closing Supply	-	-
Source: World Silver Survey 2021 ****mine production numbers are considered*** *****Consumer Demand Numbers are considered***		

Top 10 Major producing countries

Top 10 Major producing countries (in tonnes)		
Country	2019	2020
Mexico	5324	5049
Peru	3847	3109
China	3138	3078
Chile	1082	1343
Australia	1207	1241
Russia	1267	1204
Poland	1145	1116
USA	890	898
Bolivia	1051	847
Argentina	932	649
Source: World Silver Survey 2021		

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Top 10 Major consuming countries

Not Available

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	2019
Rajasthan	658	633
Source: Silver Institute		

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

As per the circular No. 40-3/2020-DM-I (A) Dated 24th March 2020 of Government of India Ministry of Home Affairs, the bullion spot market was closed pan India due to the lockdown

In union budget 2021-22, the customs duty on silver was reduced from 12.5% to 7.5%. Silver dore bars attract customs duty of 6.1%. These items will also attract Agriculture Infrastructure and Development Cess at the rate of 2.5 per cent. Customs duty on silver findings was halved to 10% from 20%

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

The 2020 silver performance in terms of price was its best in a decade, considering the safe haven nature, along with gold, in a volatile market impacted by Covid.

- 2020 posed many challenges for the international mining sector, resulting in a widespread reduction in mined output. Operations in countries such as Peru, Mexico and Argentina were forced to temporarily halt operations due to COVID-19 lockdowns, which impacted supply.

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- Silver also benefited not only from safe haven demand, fuelled by unprecedented easing of global liquidity, but industrial demand as well.
- Silver a crucial component of photovoltaic (PV) cells, found in solar panels, also saw renewed demand.

2. Trading related parameter

a) Monthly and Annual traded volume

Month	Traded volume (in Kg)		
	Silver Futures	Silver Options	Silver KG Options
Apr-20	-	-	-
May-20	-	-	-
Jun-20	600	-	34,740
Jul-20	-	-	1,266
Aug-20	-	6,480	13,856
Sep-20	-	1,37,010	9,506
Oct-20	-	95,640	13,368
Nov-20	-	67,680	11,562
Dec-20	-	75,210	13,446
Jan-21	-	62,640	13,598
Feb-21	-	58,410	14,320
Mar-21	-	86,700	14,846
Total	600	5,89,770	1,40,508

b) Annual traded volume as proportion of total deliverable supply

Silver Futures: 0.0228%

- Annual Traded Volume (Kg): 600
- Deliverable Supply (Kg): 26,33,671

Silver Options: 22.3935%

- Annual Traded Volume (Kg): 5,89,770
- Deliverable Supply (Kg): 26,33,671

Silver KG Options: 5.3351%

- Annual Traded Volume (Kg): 1,40,508
- Deliverable Supply (Kg): 26,33,671

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c) Annual traded volume as proportion of total annual production

Silver Futures: 0.0980%

- Annual Traded Volume (Kg): 600
- Annual Production (Kg): 6,12,350

Silver Options: 96.3126%

- Annual Traded Volume (Kg): 5,89,770
- Annual Production (Kg): 6,12,350

Silver KG Options: 22.9457%

- Annual Traded Volume (Kg): 1,40,508
- Annual Production (Kg): 6,12,350

d) Annual average Open interest as proportion of total production

Silver Futures: Nil

- Annual Average OI (Kg) = Nil
- Annual Production (Kg) = 6,12,350

Silver Options: 0.0147%

- Annual Average OI (Kg) = 90
- Annual Production (Kg) = 6,12,350

Silver KG Options: Nil

- Annual Average OI (Kg) = Nil
- Annual Production (Kg) = 6,12,350

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

Silver Futures: Nil

- Annual Average OI (Kg) = Nil
- Deliverable Supply (Kg) = 26,33,671

Silver Options: 0.003%

- Annual Average OI (Kg) = 90
- Deliverable Supply (Kg) = 26,33,671

Silver KG Options: Nil

- Annual Average OI (Kg) = Nil
- Deliverable Supply (Kg) = 26,33,671

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f) Monthly and Annual value of trade (In Crores)

Month	Silver Futures	Silver Options	Silver KG Options
Apr-20	-	-	-
May-20	-	-	-
Jun-20	2.91	-	177.52
Jul-20	-	-	6.94
Aug-20	-	42.86	90.91
Sep-20	-	888.65	60.65
Oct-20	-	592.25	83.55
Nov-20	-	423.99	73.77
Dec-20	-	487.65	88.58
Jan-21	-	426.42	92.32
Feb-21	-	413.24	102.21
Mar-21	-	582.11	101.15
Total	**2.91**	**3,857.17**	**877.60**

g) Monthly and Annual quantity of delivery

Month	Quantity of Delivery (in Kgs)		
	Silver Futures	Silver Options	Silver KG Options
Apr-20	-	-	-
May-20	-	-	-
Jun-20	-	-	-
Jul-20	-	-	-
Aug-20	-	-	-
Sep-20	-	-	30
Oct-20	-	-	30
Nov-20	-	-	30
Dec-20	-	-	30
Jan-21	-	-	-
Feb-21	-	-	30
Mar-21	-	-	-
Total	**-**		**150**

h) Monthly and Annual value of delivery

Month	Value of Delivery (in Rs.)		
	Silver Futures	Silver Options	Silver KG Options
Apr-20	-	-	-
May-20	-	-	-
Jun-20	-	-	-

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Jul-20	-	-	-
Aug-20	-	-	-
Sep-20	-	-	17,11,620
Oct-20	-	-	18,46,545
Nov-20	-	-	18,03,030
Dec-20	-	-	20,07,510
Jan-21	-	-	-
Feb-21	-	-	20,85,510
Mar-21	-	-	-
Total	**-**		**94,54,215**

i) Monthly and Annual Average Open Interest (OI)

Month	Monthly Average OI (in Kgs)		
	Silver Futures	Silver Options	Silver KG Options
Apr-20	-	-	-
May-20	-	-	-
Jun-20	-	-	-
Jul-20	-	-	-
Aug-20	-	-	1
Sep-20	-	-	-
Oct-20	-	30	-
Nov-20	-	30	-
Dec-20	-	-	-
Jan-21	-	-	-
Feb-21	-	-	-
Mar-21	-	-	-

Annual Average Open Interest Silver Futures = Nil

Annual Average Open Interest Silver Options = 90

Annual Average Open Interest Silver KG Options = Nil

j) Annual average volume to open interest ratio

Silver Futures: Nil

- Average Traded Volume (Kg): 90
- Average OI (Kg): Nil

Silver Options: 4333%

- Average Traded Volume (Kg): 3900
- Average OI (Kg): 90

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Silver KG Options: Nil

- Average Traded Volume (Kg): 651
- Average OI (Kg): Nil

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

Silver Futures

- Unique Members = 5
- Unique Clients = 5

Silver Options

- Unique Members = 15
- Unique Clients = 19

Silver KG Options

- Unique Members = 14
- Unique Clients = 23

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

Nil

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

Nil

n) Algorithmic trading as percentage of total trading

Silver futures – 50%

Silver Options – 13.67%

Silver KG Options – 27.03%

o) Delivery defaults

- **Number of instances = Nil**
- **Quantity involved = Nil**
- **Value involved = Nil**

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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).

No Sufficient Data to plot the chart for BSE Silver futures prices.

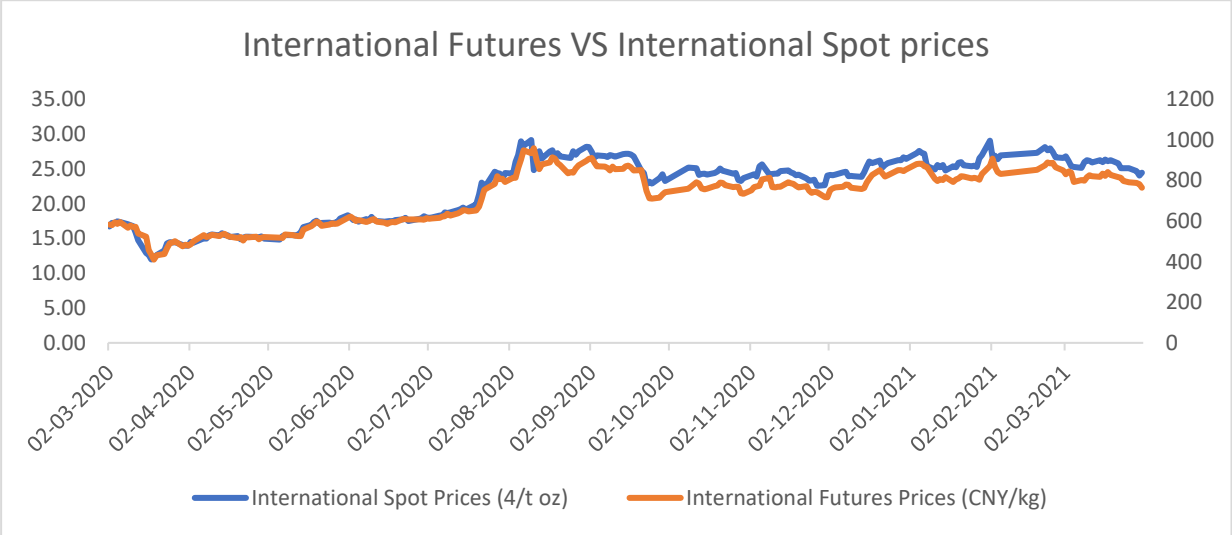
b) Comparison, correlation, and ratio of standard deviation of Exchange futures price vis-à-vis international spot price (wherever relevant comparable are available) and domestic spot price (exchange polled price).

No Sufficient Data to plot the chart for BSE Silver futures prices.

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

No Sufficient Data to plot the chart for BSE Silver futures prices.

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



- The correlation between International futures and International Spot Prices for the period FY2020-21 was 0.9863
- The standard deviation of International Futures prices was 2.51% for period FY 2020-21
- The standard deviation of International Spot prices was 2.87% for period FY 2020-21
- The ratio of Standard Deviation for the same period was 0.87

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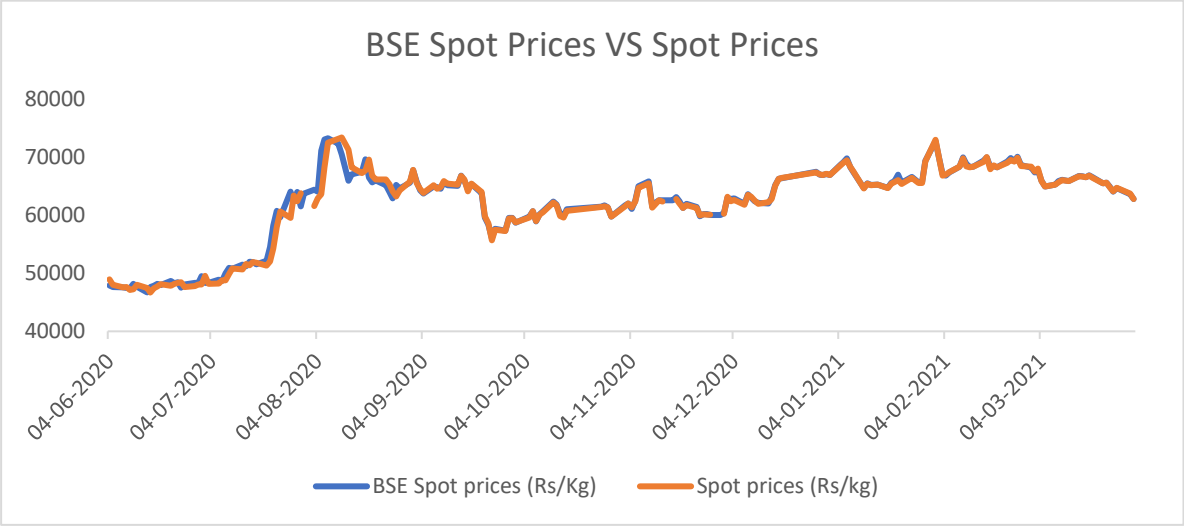
e) Comparison of Exchange polled price and mandi price (in case of agricultural commodities) / other relevant price (in case non-agricultural commodities) at basis centre



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

No Sufficient data available

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

No Sufficient data available

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 2020-21: No Sufficient data Available

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 2020-21: No Sufficient data Available

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

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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 only one Delivery Centre- Ahmedabad

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

BSE has its Delivery Centre as Ahmedabad. Physical Marketwise OI 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	Awareness Session – Development of the Gold Market Post Covid -19	Webinar	288
2	Awareness Session OPTIONS ON GOODS-GOLD SILVER	Webinar	406
3	Awareness Session OPTIONS ON GOODS-GOLD SILVER	Webinar	70
4	Awareness Session OPTIONS ON GOODS-GOLD SILVER	Webinar	80
5	Awareness Session OPTIONS ON GOODS-GOLD SILVER	Webinar	90
6	Awareness Session OPTIONS ON GOODS-GOLD SILVER	Webinar	120
7	Awareness Session OPTIONS ON GOODS-GOLD SILVER	Webinar	60
8	Awareness Session OPTIONS ON GOODS-GOLD SILVER	Webinar	110
9	PANEL DISCUSSION ON OPPORTUNITIES IN OPTIONS ON GOODS -GOLD & SILVER	Webinar	181
10	Awareness Session OPTIONS ON GOODS-GOLD SILVER	Webinar	75
11	Awareness Session OPTIONS ON GOODS-GOLD SILVER	Webinar	85
12	Awareness Session OPTIONS ON SILVER KG	Webinar	50
13	Training Session on Hedging Strategies with Options On Goods Contract- The Most Cost Effective Way To Hedge Gold & Silver	Webinar	250
14	Awareness Session OPTIONS ON GOODS-GOLD SILVER KG	Webinar	40
15	Awareness Session GOLD OPTION AND SILVER KG	Webinar	40
16	Awareness Session GOLD OPTION AND SILVER KG	Webinar	40
17	Awareness on Gold Mini Contracts	Webinar	30
18	Sensex gold mini for short term and long term	Webinar	40
19	Sensex & gold mini research outlook	Webinar	45
20	Sensex & gold mini research outlook	Webinar	50
21	A Research Outlook on Sensex & Gold Mini	Webinar	65
22	New changes and Fundamental /Technical outlook on Sensex 50 and gold mini	Webinar	65
23	New changes and Fundamental /Technical outlook on Sensex 50 and gold mini	Webinar	50
24	New changes and Fundamental /Technical outlook on Sensex 50 and gold mini	Webinar	60

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25	New changes and Fundamental /Technical outlook on Sensex 50 and gold mini	Webinar	50
26	New Changes and Fundamental / Technical Outlook on Sensex 50 & Gold Mini	Webinar	40
27	New Changes and Fundamental / Technical Outlook on Sensex 50 & Gold Mini	Webinar	45
28	INVESTOR AWARENESS ON SENSEX 50 AND GOLD MINI	Webinar	45

Apart from the above awareness sessions we had also conducted several awareness sessions 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**
   - Introduced BIS Standard for Gold & Sliver

MOU with Associations

BSE signed Memorandum of Understanding (MoU) with premier bullion trade and industry associations based in Sangli and Yavatmal in Maharashtra, Amritsar in Punjab, and Ahmedabad in Gujarat. The associations include Sangli Sarafa Association, Yavatmal Sarafa Association, Amritsar Sarafa Association, Shree Choksi Mahajan Association and Gems and Jewellery Trade Council of India (GJTCI). These associations collectively represent close to 2200 members, engaged in retail sale and trade of bullion.

BSE proposes to improve effectiveness in the contract by having One to one meeting with corporate clients, exclusive events for Bullion and more MOU with Associations for networking and extensive reach, in the coming financial year.

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