MCX
METAL & ENERGY
Trade with Trust



BULLION

PERFORMANCE REVIEW

2021-2022

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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

i) Introduction

Gold (Au) is primarily a monetary asset and partly a commodity. It is the world's oldest international currency and an important element of global monetary reserve.

Gold has diverse applications being one of the most malleable and ductile metals with high melting point and easy recyclability. It is useful in medicine and dentistry and, lately, has emerged as a key nanomaterial. Global gold demand hinges on four main categories: jewellery, investment, central bank reserves, and technology.

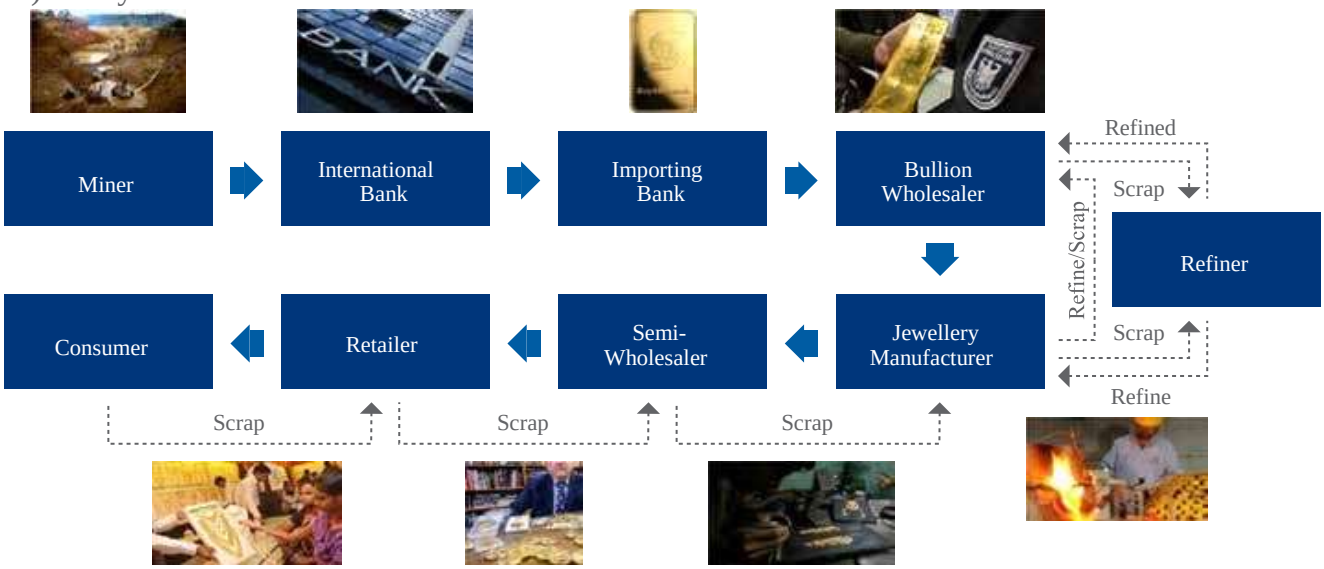
Silver (Ag) has been used for thousands of years for ornaments and utensils, trade, and as the basis for many monetary systems. Its value as a precious metal is considered second only to gold.

Silver is a brilliant grey-white metal that is soft and malleable. Its unique properties include its strength, malleability, ductility, electrical and thermal conductivity, sensitivity, high reflectance of light, and reactivity. The main source of silver is lead ore, although it can also be found associated with copper, zinc and gold and produced as a by-product of base metal mining activities. Secondary silver sources include coin melt, scrap recovery, and dis-hoarding from countries where export is restricted.

ii) Sample Picture



iii) Lifecycle



iv) Various varieties/grade of the commodity found in India

1. The Bureau of Indian Standards (BIS) has formulated the standard for Refined Gold and Silver Bars for Good Delivery - IS 17278 : 2019
2. The Bureau of Indian Standards (BIS) has formulated standards IS 1417:2016 for hallmarking gold jewellery in three grades -- 14 carat, 18 carat and 22 carat
3. As per BIS standard IS 2112:2014 silver hallmark consists of following fineness: 9999, 9995, 999, 990, 925, 900, 835, 800

b. Table - Fundamentals & Balance sheet (quantity)

GOLD (In Tonnes)		
Global Scenario	2020	2021
Opening Stocks	NA	NA
Production[1]	4767	4711
Others (if any)	-	-
Consumption[2]	3659	4021
Closing Stocks	NA	NA

Note:
1. Mine Production + Recycled Gold
2. Consumption is considered as demand of Jewellery fabrication, Technology, Investment and Central Bank & other Inst.
Source: Metals Focus, Refinitiv GFMS, ICE Benchmark Administration, World Gold Council

SILVER (In Tonnes)		
Global Scenario	2020	2021
Opening Stocks	NA	NA
Production[1]	29339	30969
Others (if any)	-	-
Consumption[2]	27370	32627
Closing Stocks	NA	NA

Note:
1. Mine Production + Recycling,
2. Consumption is considered as demand of Jewellery, Silverware, Industrial and Net Physical Investment.
**Source – Metals Focus, World Silver Survey 2022*

GOLD (In Tonnes)		
Indian Scenario	2020	2021
Opening Stocks	NA	NA
Production[1]	105	82
Imports[2]	400	1003
Total Supply	454	1007
Exports	4.18	0.1
Domestic Consumption[3]	446	797
Closing Supply	NA	NA

Note:

1. *Scrap + Domestic supply from local mine production, recovery from imported copper concentrates and disinvestment.*
2. *Gross Import of which dore was 108 and 220 tonnes for 2020 and 2021 respectively, and net import was 349 and 925 tonnes for the year 2020 and 2021 respectively.*
3. *Domestic consumption is considered as Consumer demand.*

**Source – Metals focus, World Gold Council and export data taken from Ministry of Commerce (7108 GOLD (INCL GOLD PLTD WTH PLTNM) UNWROUGHT OR IN SEMI MNFCTRD FORMS/IN PWDR FORM Unit)*

SILVER (In Tonnes)		
Indian Scenario	2020	2021
Opening Stocks	NA	NA
Production[1]	1166	1146
Imports	2218	2773
Total Supply	3384	3919
Exports[2]	218	495
Domestic Consumption[3]	2902	4508
Closing Supply	NA	NA

Note:

1. *Mine Production + Recycling*
2. *Export data was taken from Ministry of Commerce, available for Commodity: 7106 SILVER (INCLD SLVR PLTD WTH GOLD/PLTNM) UNWROGHT/IN SEMI MNFCTRD FORM/IN*
3. *Domestic consumption includes Industrial demand, Jewellery, Silverware, Brazing & alloy, Physical Investment*

**Source - Metals Focus, World Silver Survey 2022*

GOLD (Metric Tonnes)		
Top 10 Gold Producing Countries	2020	2021
China	368	332
Russia	332	331
Australia	328	315
Canada	173	193
United States	193	187
Ghana	130	129
Peru	102	127
Mexico	110	125
Indonesia	101	117
South Africa	102	114

** Source: Metals Focus*

SILVER (Metric Tonnes)		
Top 10 Silver Producing Countries	2020	2021
Mexico	5605	6118
China	3407	3510
Peru	3160	3355
Australia	1337	1334
Poland	1226	1307
Bolivia	930	1290
Chile	1474	1281
Russia	1323	1212
United States	986	1011
Argentina	707	823
India	671	689

**Source - Metals Focus, World Silver Survey 2022*

Gold			
2020		2021	
Top 10 Major Consuming Countries	Quantity in Metric Tonnes	Top 10 Major Consuming Countries	Quantity in Metric Tonnes
Greater China	641	Greater China	995
India	446	India	797
United States	187	United States	266
Germany	166	Germany	172
Turkey	147	Turkey	95
Switzerland	43	Vietnam	43
Vietnam	40	Indonesia	47
Indonesia	38	Russia	47
Russia	35	Saudi Arabia	44
Saudi Arabia	31	Switzerland	44

Table is for Consumer Demand

**Source – World Gold Council, Metals focus*

SILVER		
Top 10 Major Consuming Countries	2020	2021
USA	6263	7860
China	4346	4678
India	2902	4508
Japan	3107	3221
Germany	2142	2326
United Kingdom	934	1186
Italy	747	921
Australia	537	622
South Korea	541	582
Canada	315	444

** Source – Metals Focus, World Silver Survey 2022*

Note: Consumption consider for demand of Industrial , Photography, Jewelry, Silverware, Net Physical Investment

Gold			
2020		2021	
Top 10 Major Exporting Countries	Quantity in Metric Tonnes	Top 10 Major Exporting Countries	Quantity in Metric Tonnes
-	-	-	-

**data not available publicly*

SILVER		
Top 10 Major Exporting Countries	2020	2021
-	-	-

**data not available publicly.*

Gold			
2020		2021	
Top 10 Major Importing Countries	Quantity in Metric Tonnes	Top 10 Major Importing Countries	Quantity in Metric Tonnes
-	-	-	-

**Data not available publicaly.*

SILVER		
Top 10 Major Importing Countries	2020	2021
-	-	-

**data not available publicly.*

GOLD		
Top 10 Major Producing states in India for gold	FY 2020-21	FY 2021-22
Karnataka	1.13	1.23
Gujarat	4.3	8.7

**Source – Ministry of Mines, Government of India*

SILVER		
Top 10 Major Producing states in India for silver	FY 2020-21	FY 2021-22
Rajasthan	705.8	647

**Source – Ministry of Mines, Government of India*

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

- There has been no major changes in the polices governing trade in the spot markets of the commodity.

d) Geo political issues in the commodity and its impact on Indian scenario.

- Bullion in initial few months of 2021 gained some traction as President Biden's fiscal stimulus measures, weaker unemployemnet data, tightened monetary policy, risen inflation etc.
- Russian invasion of Ukrain on February 24, 2022 continued to be a matter of concern increased distress in the market and Gold prices hitted a near 13-month high.
- London Bullion Market Association (LBMA) suspended accreditation of 6 Russian Gold refineries.
- Resurgence of Covid cases in China and few other countries was infusing fear in the market.
- For the calendar year 2021, India imported 1,067.72 tonnes of gold, as compared to 430.11 tonnes in 2020. The industry is witnessing a surge in exports and domestic sales of gold jewellery (Plain & Studded) post pandemic. In the calendar year 2021, exports of gold jewellery grew by 50% to USD 8807.50 million as compared to USD 5876.39 million in 2020.

- Jewellery consumer demand in India staged a strong recovery in 2021. It grew 93% to 611t from previous year 2020.

- Bar and coin investment maintained its momentum, jumping 43% to an seven-year high of 187t.

- Following a hefty drop in 2020, Indian silver imports jumped by 25% y/y, albeit from a low base, to 89.2Moz (2,773t). Even so, imports were still nearly 50% below the 10-year average.

- Industrial offtake in India rebounded by 28% in 2021 to 34.2Moz (1,065t) from 2020's low base as economic activity improved.

- Activity in the world's largest silver jewelry fabricator India jumped by 45%y/y to 58.7Moz (1,827t) in 2021, the highest annual growth rate since the start of series in 2010. As the country returned to a more normal footing,the entire precious metals jewelry market (covering silver, gold and platinum) enjoyed a strong recovery. However, this growth was concentrated in the second half as India saw a massive surge in COVID infections between March-April, with cases only starting to recede sharply from June.

- Indian silverware fabrication rose by 40% to 24.4Moz (758t) in 2021. The jump in demand reflected three main factors: an improving economic recovery as the pandemic eased; pent-up wedding/festive demand, and the return of corporate orders as business activity normalized. It is important to note that the bulk of the recovery last year was mainly a story of the second half of the year as the first half saw a severe second wave of COVID infections.

2. TRADING RELATED PARAMETERS

a. Monthly and Annual traded volume (quantity in appropriate units)Monthly and annual traded volume (in Metric Tonnes):

Month	GOLD	GOLD GUINEA	GOLD MINI	GOLD PETAL	SILVER	SILVER MINI	SILVER MICRO
Apr-21	162	1.5	54	1.4	9613	5129	3818
May-21	193	1.3	56	1.3	12589	6583	4772
Jun-21	166	1.2	49	1.2	11433	5084	4057
Jul-21	186	0.9	42	1.1	8675	3532	3030
Aug-21	154	0.8	40	1.0	9514	4193	3338
Sep-21	177	0.8	43	0.9	8702	4588	3531
Oct-21	153	0.9	43	0.8	9299	5312	3975
Nov-21	174	0.9	44	1.0	9838	5137	3786
Dec-21	121	0.6	33	0.7	8189	3927	3001
Jan-22	133	0.5	29	0.6	8854	4045	3103
Feb-22	142	0.6	38	0.9	8707	4368	3561
Mar-22	211	1.1	62	1.4	8233	5439	4667
FY 21-22	1971	11	533	12	113645	57336	44639

Monthly and annual traded volume of options (in Metric Tonnes):

Month	GOLD OPTIONS	SILVER OPTIONS	SILVER MINI OPTIONS
Apr-21	16	318	-
May-21	33	240	-
Jun-21	17	586	-
Jul-21	37	257	6
Aug-21	22	718	20
Sep-21	52	325	23

Oct-21	27	498	38
Nov-21	55	738	46
Dec-21	20	208	15
Jan-22	35	386	45
Feb-22	28	745	91
Mar-22	107	244	66
FY 21-22	449	5263	351

b. Annual traded volume as proportion of total deliverable supply(quantity in Metric Tonnes)

Annual traded volume in gold all variants for calendar year 2021: 2846.5

Total deliverable gold supply: 1007

Annual traded volume as proportion of total deliverable supply for gold: 2.8

Annual traded volume in silver all variants for calendar year 2021: 242427

Total deliverable silver supply: 3205

Annual traded volume as proportion of total deliverable supply for silver: 76

Note: total deliverable supply is available publicly for calendar year 2021 so we have taken annual traded volume for calendar year 2021.

c. Annual traded volume as proportion of total annual production(quantity in Metric Tonnes)

Annual traded volume in gold all variants for calendar year 2021: 2846.5

Total annual production of gold: 82

Annual traded volume as proportion of total annual production for gold: 35

Annual traded volume in Silver all variants for calendar year 2021: 242427

Total annual production of silver: 1146

Annual traded volume as proportion of total annual production for silver: 211.5

Note: total annual production is available publicly for calendar year 2021 so we have taken annual traded volume for calendar year 2021.

d. Annual average Open interest as proportion of total production(quantity in Metric Tonnes)

Annual average Open interest in gold all variants: 16.5

Total annual production of gold: 82

Annual average Open interest as proportion of total production for gold: 0.2

Annual average Open interest in silver all variants: 548

Total annual production of silver: 1146

Annual average Open interest as proportion of total production for silver: 0.48

Note: total annual production is available publicly for calendar year 2021 so we have taken annual average Open interest for calendar year 2021.

e. Annual average Open interest as proportion of total deliverable supply(quantity in Metric Tonnes)

Annual average Open interest in gold all variants: 16.5

Total deliverable gold supply: 1007

Annual average Open interest as proportion of total deliverable supply: 0.02

Annual average Open interest in Silver: 548

Total deliverable silver supply: 3919

Annual average Open interest as proportion of total deliverable supply: 0.14

Note: total deliverable supply is available publicly for calendar year 2021 so we have taken annual average Open interest for calendar year 2021.

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

Month	GOLD	GOLD GUINEA	GOLD MINI	GOLD PETAL	SILVER	SILVER MINI	SILVER MICRO
Apr-21	75736	698	25477	664	65258	34888	25990
May-21	92886	648	26888	615	90029	47095	34145
Jun-21	79627	585	23363	583	80356	35871	28642
Jul-21	88793	419	19926	516	59366	24233	20819
Aug-21	72535	400	18671	479	60841	26927	21454
Sep-21	82399	385	20005	424	53756	28450	21938
Oct-21	72604	408	20439	396	58943	33746	25276
Nov-21	84157	432	21470	479	63719	33425	24658
Dec-21	58189	310	15826	322	50469	24321	18589
Jan-22	63629	221	13709	274	55061	25308	19453
Feb-22	70513	308	19087	432	55259	27885	22782
Mar-22	110379	591	32242	756	56709	37566	32253
FY 21-22	951447	5406	257103	5941	749767	379716	295999

Month	GOLD OPTIONS	SILVER OPTIONS	SILVER MINI OPTIONS
Apr-21	7417	2188	-
May-21	16167	1740	-
Jun-21	8186	4165	-

Jul-21	17900	1783	41
Aug-21	10591	4679	132
Sep-21	24343	2091	152
Oct-21	13164	3231	247
Nov-21	26685	4863	307
Dec-21	9625	1345	100
Jan-22	17105	2484	290
Feb-22	14306	4780	590
Mar-22	55615	1683	459
FY 21-22	221104	35032	2318

g. Monthly and Annual quantity of delivery (in appropriate units)

Monthly quantity of delivery (in kilograms):

Month	GOLD	GOLD GUINEA	GOLD MINI	GOLD PETAL	SILVER	SILVER MINI	SILVER MICRO
Apr-21	61	0.8	59	0.7	-	6265	5312
May-21	-	0.1	640	0.8	50070	-	-
Jun-21	415	0.1	284	4.6	-	11850	5535
Jul-21	-	0.3	518	8.8	46260	-	-
Aug-21	94	0.1	111	1.3	-	12890	4672
Sep-21	-	6.6	238	2.2	25560	-	-
Oct-21	426	5.7	493	0.4	-	-	-
Nov-21	-	0.2	96	1.1	-	8585	3569
Dec-21	335	0.5	435	0.3	50160	-	-
Jan-22	-	2.9	522	0.2	-	-	-
Feb-22	158	0.1	59	4.3	-	10665	4708
Mar-22	852	0.1	345	0.3	52500	-	-
FY 21-22	2341	17	4037	25	224550	50255	23796

Annual quantity of delivery (in kilograms):

Variant	Delivery in kilograms
GOLD	2341
GOLD GUINEA	17
GOLD MINI	4037

GOLD PETAL	25
SILVER	224550
SILVER MINI	50255
SILVER MICRO	23796

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

Monthly value of delivery (in Rs. Crores):

Month	GOLD	GOLD GUINEA	GOLD MINI	GOLD PETAL	SILVER	SILVER MINI	SILVER MICRO
Apr-20	27	0.4	26	0.3	-	43	37
May-20	-	0.1	297	0.4	341	-	-
Jun-20	203	0.1	139	2.1	-	80	38
Jul-20	-	0.1	241	4.2	313	-	-
Aug-20	45	0.0	53	0.6	-	81	29
Sep-20	-	3	112	1.0	161	-	-
Oct-20	196	3	226	0.2	-	-	-
Nov-20	-	0.1	46	0.6	-	54	22
Dec-20	159	0.3	207	0.1	309	-	-
Jan-21	-	1	249	0.1	-	-	-
Feb-21	76	0.04	28	2.2	-	70	31
Mar-21	434	0.02	178	0.2	345	-	-
FY 20-21	1141	8	1924	12	1469	328	157

Annual value of delivery (in Rs. Crores):

Variant	Delivery (in Crores)
GOLD	1141
GOLD GUINEA	8
GOLD MINI	1924

GOLD PETAL	12
SILVER	1469
SILVER MINI	328
SILVER MICRO	157

i. Monthly and Annual Average Open Interest (OI) (in appropriate units)

Month wise Average Open Interest of Futures Contracts (in Metric Tonnes):

Month	GOLD	GOLD GUINEA	GOLD MINI	GOLD PETAL	SILVER	SILVER MINI	SILVER MICRO
Apr-20	13	0.06	2	0.08	311	64	50
May-20	14	0.05	2	0.08	319	70	54
Jun-20	14	0.06	2	0.08	396	82	69
Jul-20	15	0.05	2	0.08	355	89	80
Aug-20	14	0.05	2	0.08	409	122	111
Sep-20	15	0.06	2	0.08	356	131	113
Oct-20	14	0.05	2	0.08	370	137	102
Nov-20	13	0.05	2	0.07	361	117	89
Dec-20	11	0.05	2	0.07	382	135	123
Jan-21	13	0.05	2	0.06	375	134	122
Feb-21	17	0.04	2	0.06	322	118	96
Mar-21	22	0.04	2	0.05	206	78	69

Month wise Average Open Interest of Options Contracts (in Metric Tonnes):

Month	GOLD OPTIONS	SILVER OPTIONS	SILVER MINI OPTIONS
Apr-20	2.4	29.9	-
May-20	3.1	24.5	-
Jun-20	2.3	49.2	-
Jul-20	3.6	29.9	1.0
Aug-20	2.3	66.9	2.2
Sep-20	3.5	48.2	2.7
Oct-20	2.4	66.1	4.6
Nov-20	3.5	62.7	4.8
Dec-20	2.5	42.5	4.8

Jan-21	3.3	56.5	6.7
Feb-21	2.1	64.3	7.0
Mar-21	5.4	34.2	5.8

Annual average Open Interest of Futures Contracts (in Metric Tonnes):

Variant	AOI
GOLD	15
GOLD GUINEA	0.05
GOLD MINI	2
GOLD PETAL	0.07
SILVER	347
SILVER MINI	106
SILVER MICRO	90

Annual average Open Interest of options (in Metric Tonnes):

Variant	AOI
GOLD	3.1
SILVER	47.7
SILVER MINI	4.6

j. Annual average volume to open interest ratio

Variant	Volume to Open Interest ratio
GOLD	0.5
GOLD GUINEA	0.9
GOLD MINI	1
GOLD PETAL	0.7
SILVER	1.3
SILVER MINI	2.1
SILVER MICRO	1.9

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

Total number of UCC in Gold is 174882, Silver is 257457 and overall Bullion is 326351 during the FY 21-22.

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

Average based on Weekly data					
Commodity	Instrument	Unit	Avg. Open Interest based weekly data	% FPOs/ Farmers/ VCPs/ Hedgers	
				% of Short OI	% of Long OI
GOLD	Futures	KGs	16918.85	72.66	16.52
GOLD	Options	KGs	3051.25	13.96	14.36
SILVER	Futures	KGs	542856.61	39.65	12.27
SILVER	Options	KGs	50956.66	10.90	8.81

Note: Details are provided based on daily disclosure on the Exchange website for the period April 2021 to March 2022 in line with SEBI circular no SEBI/HO/CDMRD/DNPMP/CIR/P/2019/08 Dated January 04, 2019 Based on the data provided by the members from time to time pertaining to Farmers/ FPOs, VCPs/ Hedgers as on March 31, 2022.

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

Commodity	Value Chain Participants (VCPs)/ Hedgers
GOLD	2186
SILVER	2529

Note: Count of VCPs/Hedgers includes all variant of respective commodity and based on the classification uploaded by the members as on March 31, 2022 for clients traded during FY 2021-22. In case of classification of OWN (Prop Account) is uploaded as VCPs for respective commodity, the same is included in "VCPs/ Hedger' category.

n. Algorithmic trading as percentage of total trading

% Algorithmic Turnover to Total Turnover (F.Y. 2021-22)

Financial Year	Base Asset	
	GOLD (%) (Includes all Variants)	SILVER (%) (Includes all Variants)
2020-21	42.66%	45.67%

o. Delivery defaults:

Variant	Number of instances	Quantity involved (in kilograms)	Value involved (in Rs. Crores)
GOLD	0	0	0
GOLD GUINEA	3	0.08	0.04
GOLD MINI	3	0.4	0.2
GOLD PETAL	4	0.01	0.01
SILVER	0	0	0
SILVER MINI	1	5	0.03
SILVER MICRO	5	14	0.09

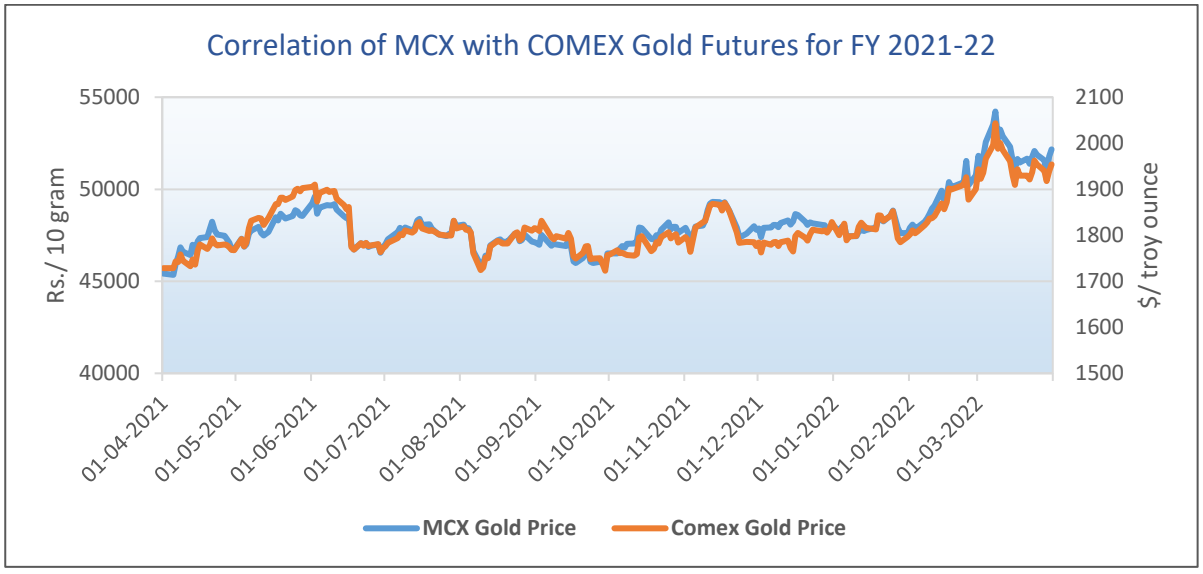
3. PRICE MOVEMENTS

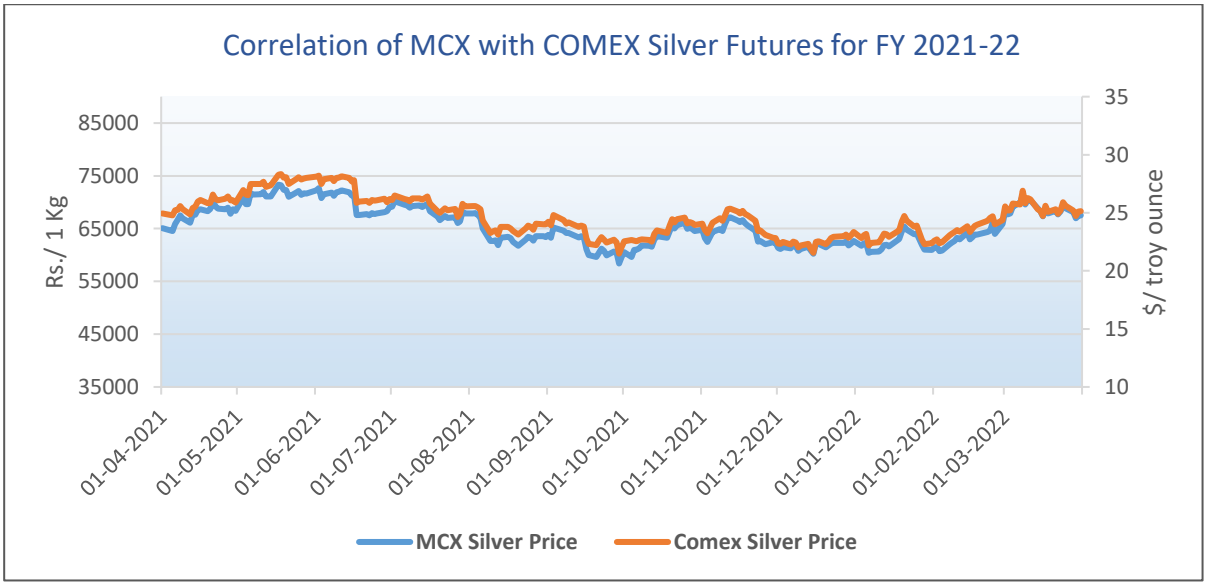
a. Comparison, correlation and ratio of standard deviation of Exchange futures price vis-à-vis international futures price (wherever relevant comparable are available).

Correlation of Exchange futures price vis-à-vis international futures price:

Gold: 99.3 % | Silver: 99.5 %

Ratio of standard deviation of Exchange futures price vis-à-vis international futures price:
Gold: 0.86 | Silver: 0.79





b. Coparison, 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).

Correlation of Exchange futures price vis-à-vis domestic Spot price (Exchange polled price):

Gold: 97.5 % | Silver: 97.2 %

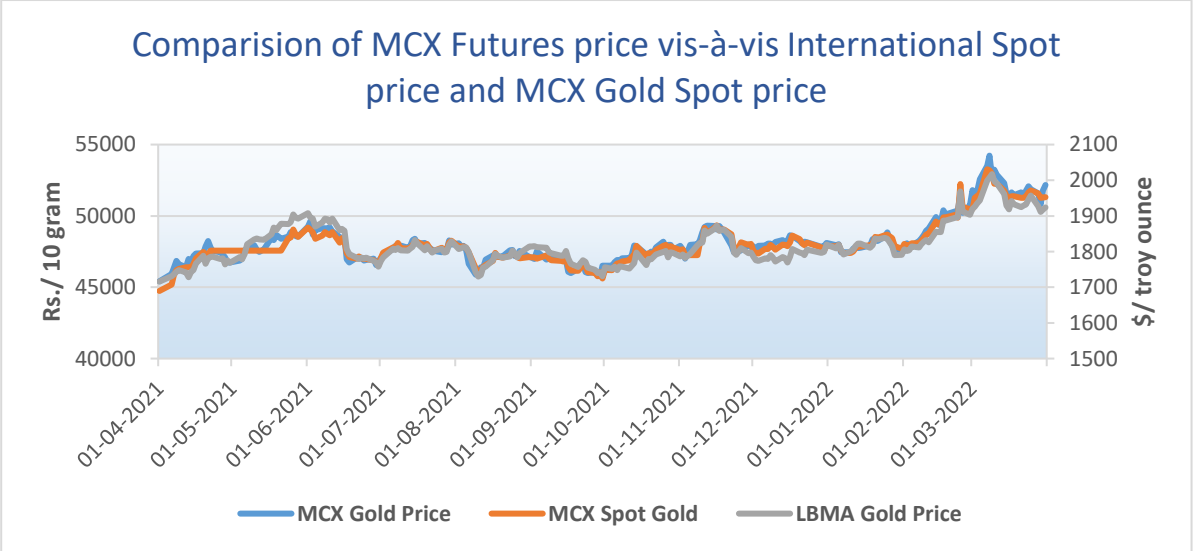
Ratio of standard deviation of Exchange futures price vis-à-vis domestic Spot price (Exchange polled price):

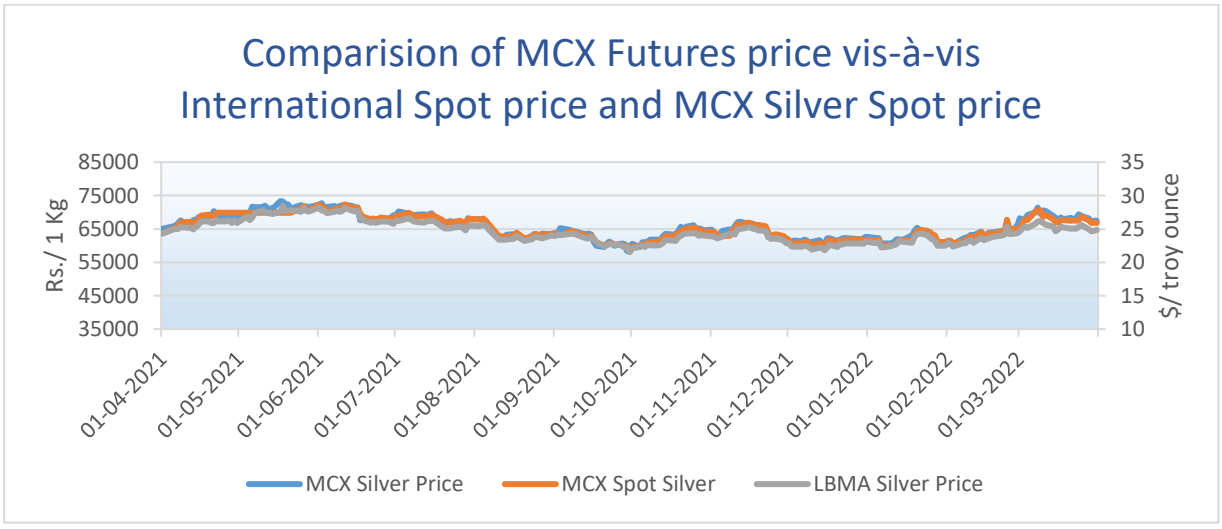
Gold: 1.11 | Silver: 1.13

Correlation of Exchange futures price vis-à-vis international Spot price:

Gold: 93.07 % | Silver: 97 %

Ratio of standard deviation of Exchange futures price vis-à-vis international Spot price: Gold: 0.86 | Silver: 0.79



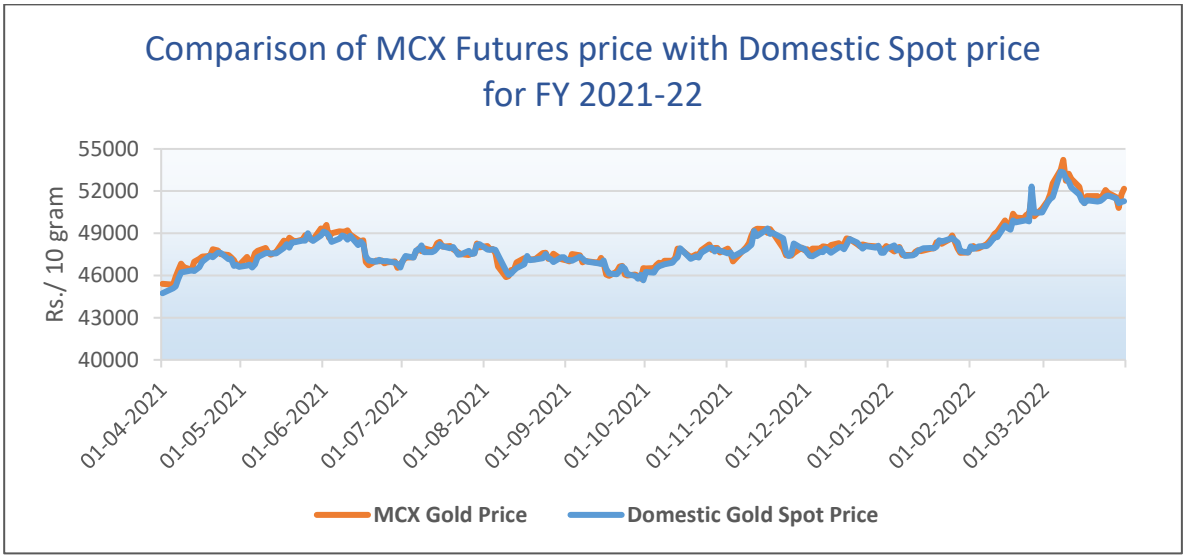


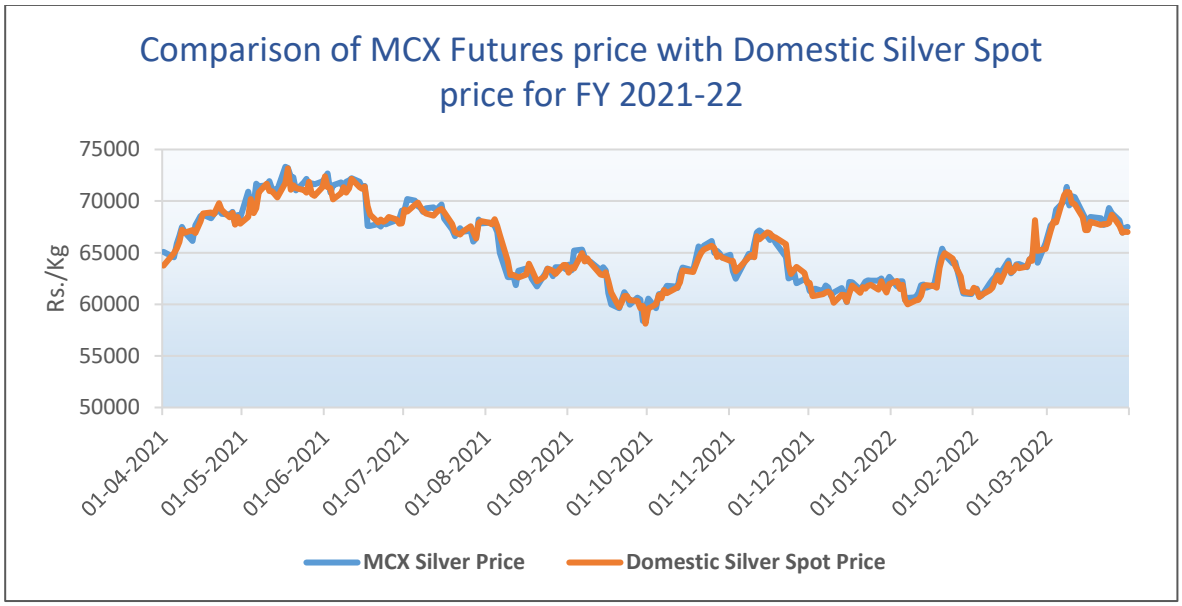
c. Correlation between Exchange futures & domestic spot prices along with ratio of standard deviation.

Correlation of Exchange futures price vis-à-vis domestic Spot price:

Gold: 98.18 % | Silver: 98.22 %

Ratio of standard deviation of Exchange futures price vis-à-vis domestic Spot price:
Gold: 1.05 | Silver: 1.07

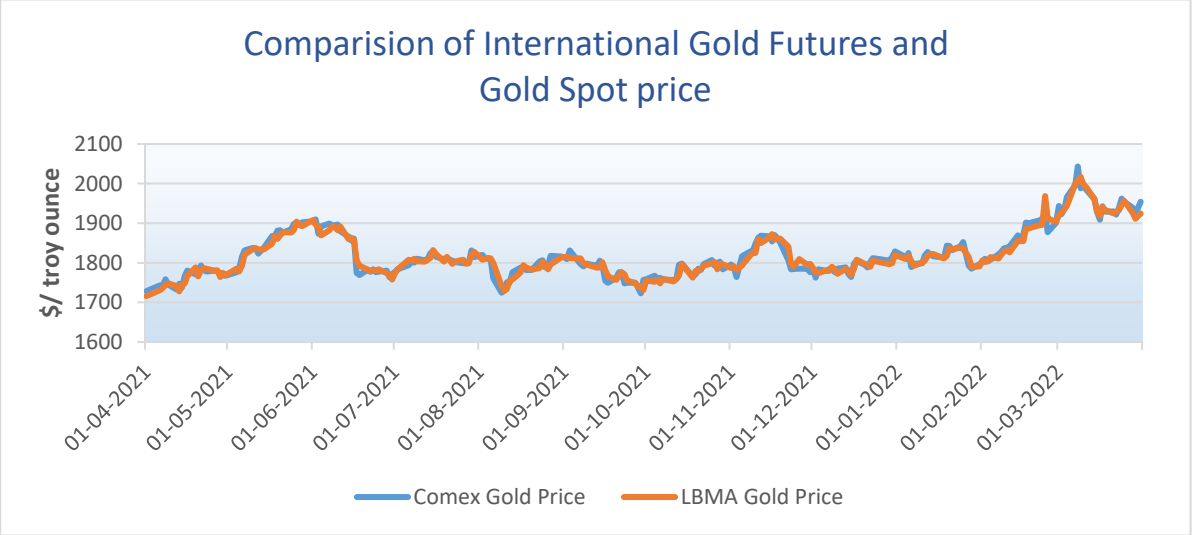




Source: Domestic spot prices are IBJA prices

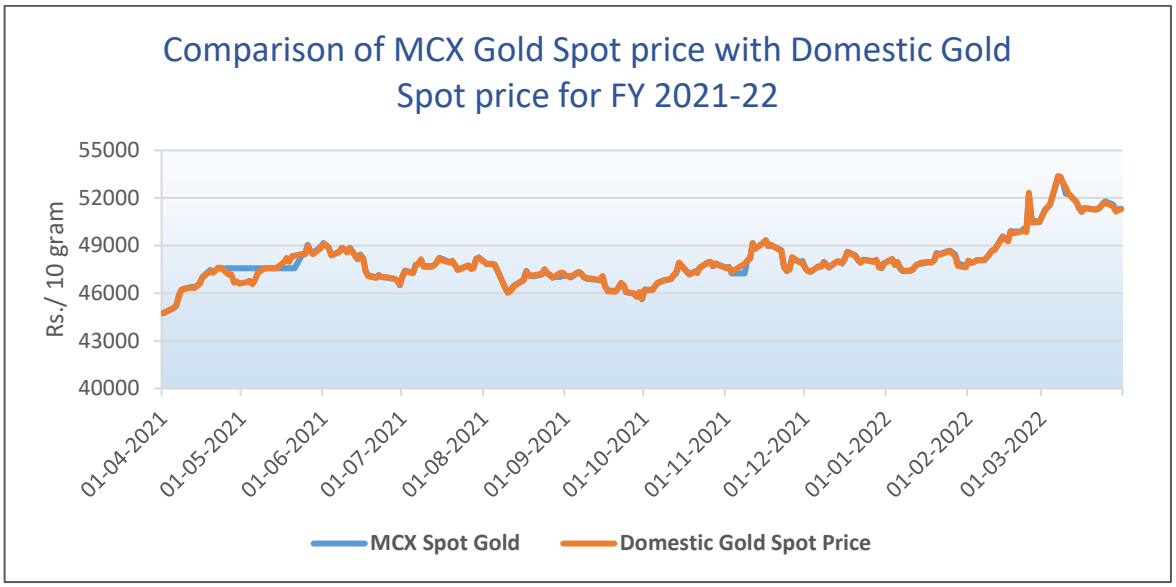
d. Correlation between international futures & international spot prices along with ratio of standard deviation (wherever relevant comparable are available).

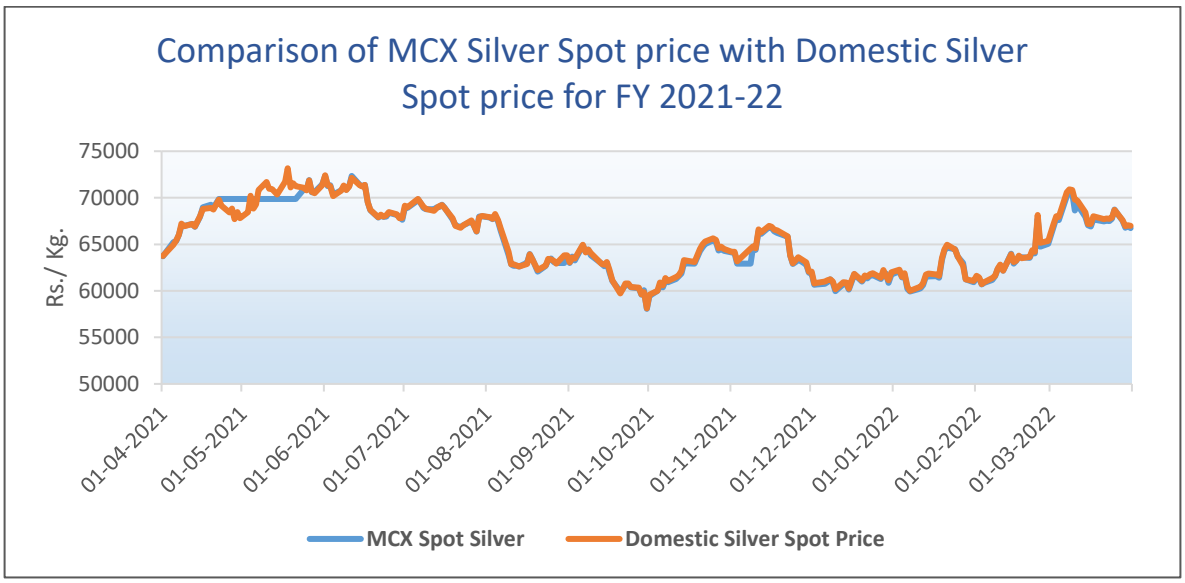
Correlation of international futures price vis-à-vis international spot prices:
Gold: 97.9 % | Silver: 98.51 %
Ratio of standard deviation of international futures price vis-à-vis international spot prices:
Gold: 0.78 | Silver: 0.71





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.





Source: Domestic spot prices are IBJA prices

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 Future Price Volatility %	Min Future Price Volatility %	Max Spot Price Volatility %	Min Spot Price Volatility %
GOLD	1.37	0.47	1.50	0.35
GOLDGUINEA	1.23	0.43	1.50	0.35
GOLDM	1.34	0.45	1.50	0.35
GOLDPETAL	1.29	0.39	1.58	0.46
SILVER	1.74	1.03	2.07	0.62
SILVERM	1.65	1.00	2.07	0.62
SILVERMIC	1.67	0.99	2.07	0.62

Method of Computation of volatility: Exponentially Weighted Moving Average (EWMA)

Note: Only near month contracts have been considered for above working.

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.

There is no backwardation/contango by more than 4% for the near month contract in the period under review.

4. OTHERS 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 Ratio for 2021-22	
Commodity	Hedge Ratio
Gold	0.41
Silver	0.35

Hedge ratio is the value of slope between return of near month futures and returns of MCX spot during the financial year.

Basis Risk for 2021-22			
Commodity	Unit of Basis	Avg Return of Basis (unit)	Basis Risk
Gold	Rs/10 grams	-2.34	26.88
Silver	Rs/Kg	-1.28	12.55

Note:

1. *Dates where spot prices are not available have been ignored for the analysis.*
2. *Basis Risk is computed as the Standard deviation of daily normal return in Basis, which is excess of Spot over Futures price.*
3. *In case Basis is zero for any day, next day's Basis return has been ignored for computing the standard deviation.*

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

Based on top Gold and Silver importing and consumption cities of India, MCX has established delivery and additional delivery centers in major cities.

India Top 10 major importing cities - Gold			
2020	Quantity (Metric Tonnes)	2021	Quantity (Metric Tonnes)
Delhi	133	Acc Coimbatore	3.7
Chennai	35	Ahmedabad Air Cargo Complex	19.9
Ahmedabad	16	Bangalore Airport	14.2
Hyderabad	10	Chennai Air	60.4
Kolkata	8	Chennai Epz	0.0
Mumbai	7	Cochin Airport	0.7
Bangalore	3	Delhi Air	366.9

Others	7	Dpcc Mumbai	1.6
		Epz/Sez Surat	2.0
		Gift Gandhinagar	14.4
		Hyderabad Airport	28.8
		Jaipur A.C.	0.1
		Kolkata Air	5.2
		Mani Kanchan Sez	1.6
		Mumbai Air	9.0
		Riico Sez I, Sitapura	0.1
		Riico Sez-Ii Sitapura	0.7
		Seepz	11.2
		Sez Cochin	1.1
		Sez Noida	2.9
		Sri City Pvt Ltd	315.3

*** Data does not include gold imported directly by the importers for the purpose of export. Only partially accounted. This means, this data will not match fully with the total imports of the country that calculated in different table (For the year 2020).

Note: Data for 2021 is available in Portwise Gold Imports for FY 2021-22.

Source: Ministry of Commerce, GOI; Metals Research, Refinitiv, An LSEG Business for 2020 data Data in Fine Gold Basis. IGPC Annual report 2021-22

India Top 10 major importing cities - Silver			
2020	Quantity (Metric Tonnes)	2021	Quantity (Metric Tonnes)
-	-	-	-

Note: Data is not available publically

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.

MCX PMT – Bullion team has done 82 awareness programs in FY 2021-22 targeted 5696 members of Bullion fraternity including refiners, bullion traders and potential jewellers.

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

Following steps has taken to improve hedging effectiveness of all Bullion contracts as well as to improve the performance of illiquid contracts.

- After success of Silver Options with Silver (30 kg) Futures as underlying contract, MCX launched Silver Mini Options with Silver Mini (5 KG) Futures as underlying on July 19, 2021.

  The average daily turnover of Silver Mini Options with Silver Mini (5 KG) Futures as underlying during FY 2021-22 was 12.66 crore.

Silver Mini Options with Silver Mini (5 kilograms) Futures as underlying recorded the highest volume and turnover of 8105 kg and 52 crore respectively on February 15, 2022 and recorded the highest open interest of 11405 kg on February 4, 2022 during the FY 2021-22.

- In pursuit of the Atmanirbhar Bharat mission, the Company has embarked upon the path of recognizing domestic bullion refiners for good delivery of Gold on Exchange platform.

  MCX has recorded the delivery of 1011 kg of Indian refined Gold valued at 493 crore via MCX empanelled domestic refiners for delivery of Gold under the existing contract specifications of Gold Mini (100 grams) Futures contract during the FY 2021-22.

Disclaimer: *The information contained in this report is provided for information purpose only, and are provided on as available basis. Along with MCX information, this report also contains the information obtained from third party sources/ market sources on best effort basis. The user of the information assumes the entire risk of any use of such information provided herein at its sole discretion. MCX ensures accuracy and reliability of information, to the best of its endeavors, however, makes no warranty or representation as to the accuracy, completeness or reliability of any of the information along with the third party information contained herein. MCX expressly disclaims any and all liability whatsoever to any person for any damage or loss of any nature arising out of use or as a result of reliance, any error, misrepresentations or omissions of any of the information provided herein. The information contained in this document is not intended to provide any professional council or investment advice. No information contained herein may be reproduced, stored in a retrieval system or transmitted in any form, or by any means - electronic, mechanical, photocopying, recording, scanning, or otherwise without explicit prior permission of MCX*