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BULLION

PERFORMANCE REVIEW 2020-2021

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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.

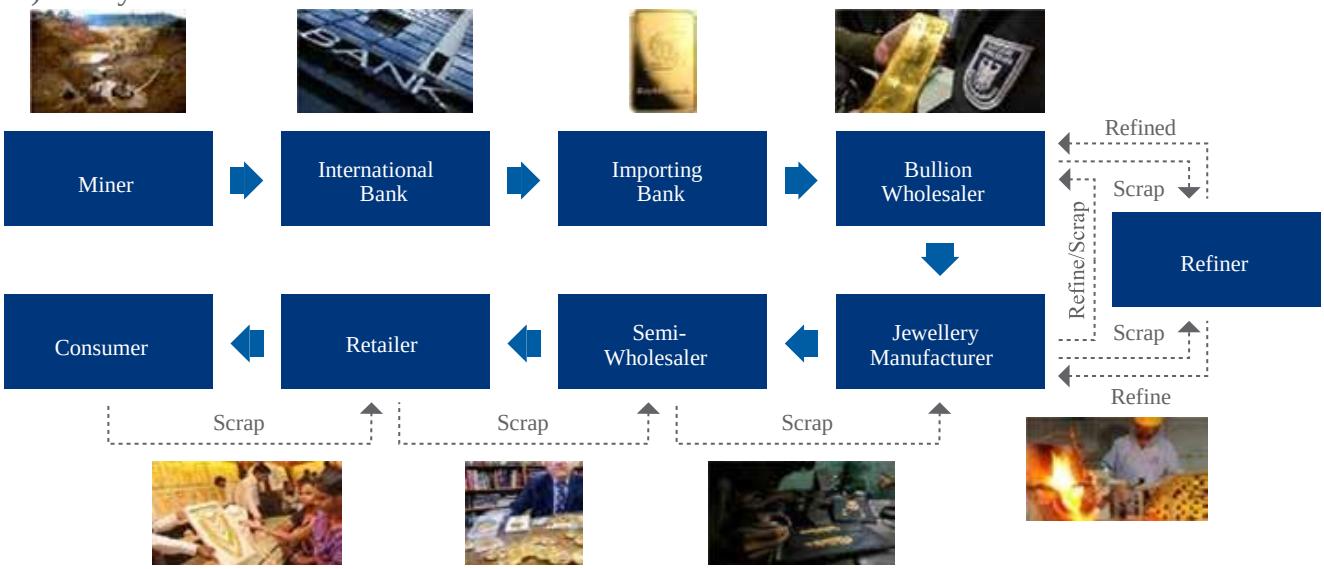
Silver (Ag) has been used for thousands of years for ornaments and utensils, trade, and as the basis for many monetary systems. Its value as a precious metal is considered second only to gold.

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	2019	2020
Opening Stocks	NA	NA
Production*	4814	4698
Others (if any)	-	-
Consumption	4386	3760
Closing Stocks	NA	NA

*Note: *Mine Production + Recycled Gold*

**Source: Metals Focus, Refinitiv GFMS, ICE Benchmark Administration, World Gold Council*

SILVER (In Tonnes)		
Global Scenario	2019	2020
Opening Stocks	NA	NA
Production[1]	31220	30064
Others (if any)	-	-
Consumption[2]	30960	27872
Closing Stocks	NA	NA

Note:

1. Mine Production + Recycling,

2. Consumption includes Jewellery, Silverware, Industrial demand, Net Physical Investment.

**Source – Metals Focus, World Silver Survey 2021*

GOLD (In Tonnes)		
Indian Scenario	2019	2020
Opening Stocks	NA	NA
Production[1]	131	105
Imports[2]	827	394
Total Supply	777	449
Exports	2.23	4.18
Domestic Consumption	690	446
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 211.5 and 114 tonnes for 2019 and 2020 respectively, and net import was 646.8 and 344.2 tonnes for the year 2019 and 2020 respectively.*

**Source – Metals focus, World Gold Council and 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	2019	2020
Opening Stocks	NA	NA
Production[1]	762	987
Imports	5566	2218
Total Supply	6328	3205
Exports[2]	34	218
Domestic Consumption[3]	6362	2902
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 2021*

GOLD (Metric Tonnes)		
Top 1 0 Gold Producing Countries	2019	2020
China	406	407
Australia	325	329
Russia	301	304
United States	225	257
Canada	187	197
Indonesia	177	161
Peru	152	154
South Africa	131	129
Mexico	118	116
Ghana	116	108

** Source: Metals Research, Refinitiv, An LSEG Business.*

SILVER (Metric Tonnes)		
Top 1 0 Silver Producing Countries	2019	2020
Mexico	5840	5541
Peru	4221	3411
China	3444	3377
Russia	1391	1323
Chile	1189	1474
Australia	1325	1362
Russia	1391	1323
Poland	1257	1225
United States	976	986
Bolivia	1153	930

**Source - Metals Focus, World Silver Survey 2021*

Gold			
2019		2020	
Top 10 Major Consuming Countries	Quantity in Metric Tonnes	Top 10 Major Consuming Countries	Quantity in Metric Tonnes
Greater China	899	Greater China	643
India	690	India	446
United States	151	United States	185
Germany	100	Germany	172
Turkey	90	Turkey	147
Iran	70	Iran	56
Vietnam	56	Vietnam	40
Indonesia	55	Indonesia	38
Russia	47	Russia	34
Saudi Arabia	48	Saudi Arabia	38

**Source – World Gold Council, Metals focus*

SILVER		
Top 10 Major Consuming Countries	2019	2020
USA	5704	6725
China	4778	4346
Japan	3081	3107
Germany	2133	2329
India	6362	2902
Canada	904	1118
Italy	968	789
Thailand	886	736
United Kingdom	592	552
South Korea	571	541

** Source – Metals Focus, World Silver Survey 2021*

Gold			
2019		2020	
Top 10 Major Exporting Countries	Quantity in Metric Tonnes	Top 10 Major Exporting Countries	Quantity in Metric Tonnes
Switzerland	1407	-	-
Ghana	1297	-	-
Hong Kong	575	-	-
United Kingdom	531	-	-
Peru	395	-	-
United States	391	-	-
Canada	371	-	-
Australia	362	-	-
Argentina	327	-	-
Chile	291	-	-

.*Source –IHS Markit, Metals Focus, Data Not available publicly for 2020*

SILVER		
Top 10 Major Exporting Countries	2019	2020

**data not available publicly.*

Gold			
2019		2020	
Top 10 Major Importing Countries	Quantity in Metric Tonnes	Top 10 Major Importing Countries	Quantity in Metric Tonnes
Switzerland	2104	-	-
UK	1528	-	-
China	988	-	-
India	834	-	-
Hong Kong	356	-	-
Canada	316	-	-
Turkey	290	-	-
Singapore	236	-	-
USA	218	-	-
Italy	167	-	-

**Source – IHS Markit, Metals focus, data not available publicly for 2020.*

SILVER		
Top 10 Major Importing Countries	2019	2020

**data not available publicly.*

GOLD		
Top 10 Major Producing states in India for gold	2019	2020
Karnataka	8.3	-

**Source - Metals focus (Metric Tonnes) and data not available publicly for year 2020.*

SILVER		
Top 10 Major Producing states in India for silver	2019	2020
Rajasthan	633	671

**Source - Silver Institute (Metric Tonnes)*

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

Union Budget impact on Indian bullion market

Finance Minister Ms. Nirmala Sitharaman outlined key announcements with relevance to the Indian bullion market during her annual budget speech: In the Union Budget of 2018-19 the government had indicated its intention to establish a system of regulated gold exchanges, and the current budget authorised SEBI as the regulator. It also expanded the responsibilities of the Warehousing Development and Regulatory Authority to include a commodity market eco-system, embracing vaulting, assaying and logistics, as well as warehousing. The current budget lowered custom duty on gold/silver bars and gold/silver doré in light of the significant increase in the gold and silver price since the duty was last raised (from 10% to 12.5%). The various changes to the components of import duty and rates are as follows:

a) Basic Customs Duty (BCD) on gold/silver bars and gold/silver doré is reduced to 7.5% and 6.9% from the previous level of 12.5% and 11.85%, respectively.

b) To improve agricultural infrastructure, an additional Agriculture and Infrastructure Cess (AIDC) is levied on several items, including gold/silver bars and gold/silverdoré, at a rate of 2.5%.

c) The Social Welfare Surcharge (SWS) is imposed on BCD at 10% for gold/silver bars and gold/silver doré but will not be applied to AIDC.

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

- Year 2020 posed unprecedented challenges to investors as the first global pandemic in a century ravaged the world economically and socially.
- COVID-19 significantly increased uncertainty by compounding existing risks and creating new ones. The rollout of new vaccines at the end of last year fuelled optimism that the worst was over. Yet the pandemic and the ensuing policy response from governments will likely have unintended consequences for, and create structural changes to, asset allocation strategies.
- As the gold price started a more consistent rise in 2019 the sentiment in the Indian gold ETF market improved marginally, before momentum picked up significantly in 2020. The rising gold price, increased volatility in equity markets and economic uncertainty due to COVID-19 fuelled safe-haven demand into Indian gold ETFs in 2020. These inflows were also fuelled by strong returns on gold during the year, which at +28.1% outperformed the BSE Sensex (+17.16%) and 10-year government bond (+11.89%), supporting gold's appeal as an asset class. As a result, inflows into Indian gold ETFs almost doubled in 2020 (48% of Indian gold ETF holdings), taking total gold holdings to 28.3t by the end of the year
- With Q2 of FY 2020-21 gold demand down 11% y-o-y to 1,015.7t, demand for the first half year was 6% weaker at 2,076t. The COVID-19 pandemic was again the main influence on the gold market in Q2, severely curtailing consumer demand while providing support for investment. The global response to the pandemic by central banks and governments, in the form of rate cuts and massive liquidity injections, fuelled record flows of 734t into gold-backed ETFs. These flows helped lift the gold price, which gained 17% in US dollar terms over the first half, hitting record highs in many other currencies.
- Total bar and coin investment weakened sharply in Q2, leading to a 17% y-o-y decline in H1 demand to 396.7t. This sector of investment saw a clear East/West divergence in investor behaviour, with most markets across Asia and the Middle East seeing a slowdown in investment, while Western investors increased demand.
- H1 jewellery demand slumped 46% y-o-y to 572t as markets remained in lockdown and consumers were deterred by the high price and a squeeze on disposable income. Similar factors were behind a 13% fall in gold used in technology to 140t in H1, as end-user demand for electronics collapsed.
- Central bank buying slowed again in Q2, although the comparison is with a record Q2 2019. The sector added a net 233t of gold in H1. The supply of gold was also impacted by the pandemic, falling 6% to 2,192t as both mine production and recycling were affected by lockdown restrictions.

- Quarterly inflows of 272.5t took global holdings of gold-backed ETFs (gold ETFs) to a new record of 3,880t. While the pace slowed a little from H1, sustained inflows throughout Q3 demonstrate the continued motivation of ETF investors to add to their holdings.
- The US dollar gold price rose to a record high of US$2,067.15/oz in early August. This was followed by a correction with the price closing the quarter around US$1,900/oz. Record high prices for gold were also seen in various other currencies, among them the rupee, the yuan, the euro and sterling.
- Bar and coin investment jumped to222.1t in Q3 – up 49% y-o-y. Most major retail investment markets saw strong growth though the largest volume increases were seen in Western markets, China and Turkey. This contrasted with continued strong sales in Thailand.
- The pandemic further impacted the jewellery sector. Weakness caused by COVID-19 was compounded by record gold prices: Q3 demand fell 29% y-o-y to 333t. While China and India accounted for the largest volume declines, weakness was global.
- Central banks generated modest net sales of 12t of gold in Q3. This was the first quarter of net sales since Q4 2010, primarily due to concentrated sales by two banks. Buying continues at a moderate pace, driven by the need for diversification and protection amid the negative rate environment.
- The US dollar gold price returned 25% in 2020 supported by investor demand. After reaching a record high in August across most currencies, the LBMA Gold Price PM dropped back to US$1,762.55/oz at the end of November, before recovering to close the year at US$1,887.6/oz.
- Inflows into global gold ETFs reached an annual record of 877.1t (US$47.9bn). Increased uncertainty and the policy response to the pandemic likely fuelled consistent inflows through October, before a recovery in sentiment and a drop in the gold price likely led to 130t of outflows in Q4.
- Demand for gold bars and coins grew 10% in Q4. A recovery in China and India in the second half of 2020 added to continued strength in Western markets to lift annual demand to 896.1t (+3%).
- 2020 marked a record low for gold jewellery demand. Despite a quarterly recovery in Q4, demand was unable to overcome the continued challenges presented by COVID-19.
- Gold buying by central banks slowed sharply in 2020, almost 60% lower at 273t. Q4 saw a return to net buying: global official reserves grew by 44.8t during the quarter, more than reversing the 6.5t of net sales from Q3.
- The Indian government's sustained campaign for improving overall tax compliance through a carrot-and-stick policy was reflected again in the 2021-22 Union Budget, with a few material announcements that impact gold.
- The impact of the pandemic on most elements of physical demand and supply was relatively straightforward. As a number of key silver mining countries were hit hard by lockdown restrictions, global silver supply declined. This was more than offset, however, by losses across most of silver's physical demand segments, which suffered as a result of restrictions to economic activity as well as depressed consumer sentiment and/or income loss. This resulted in the largest silver market surplus since at least 2010.
- The impact of the COVID pandemic, and the considerable interest this created for safe haven assets, underpinned the 27% rise in the 2020 annual silver price to a seven-year high of $20.55.
- Demand losses in 2020 were also notable, led by jewelry, silverware and industrial offtake, which comfortably offset a healthy recovery in physical investment.
- The pandemic also disrupted the inner workings of the silver bullion market. This was perhaps most notable in the explosion of the silver exchange for physical premium (EFP; the difference between the spot price and active COMEX futures contract) over April-July in particular. This, coupled with changes in mine output and physical demand in some key destinations, also fueled dramatic changes in silver bullion trade flows in 2020 as well as shifts in reported inventories, most notably into COMEX-approved depositories
- Far exceeding the drop in jewelry, silverware fabrication nearly halved in 2020 to a low for our series of 32.6Moz (1,014t). The main culprit was the slump in Indian fabrication, which fell by 58% due largely to the economic slowdown and the pandemic driven cancellations of weddings and social events. Excluding South Asia, the drop in global fabrication was still a noteworthy 23%.

- At the county level, the largest declines were in nations which implemented COVID-19 lockdowns that required mines to temporarily halt operations. This led to substantially lower silver production in India. (+1.2Moz, 38t)
- Global silver recycling increased for a second straight year in 2020, rising by a notable 7% to a seven-year high of 182.1Moz (5,665t). High silver prices were an important catalyst, with much of the increased volumes last year coming from jewelry and silverware, especially in India
- Global jewelry fabrication in 2020 fell by a hefty 26% to a low in our series back to 2010 of 148.6Moz (4,622t) and also registering its first drop since 2016. Nearly half of the global decline was driven by losses in the largest fabricator India where rising silver prices coupled with the negative impact of the pandemic on consumer spending meant that demand fell to its lowest since 2013
- Far exceeding the drop in jewelry, silverware fabrication nearly halved in 2020 to a low for our series of 32.6Moz (1,014t). The main culprit was the slump in Indian fabrication, which fell by 58% due largely to the economic slowdown and the pandemic driven cancellations of weddings and social events. Excluding South Asia, the drop in global fabrication was still a noteworthy 23%.
- The slump in demand in India led to a collapse in its imports from the UK to just 7.4Moz (232t), a drop of 86%.
- Indian silver imports (covering bullion and semi-manufactured forms) fell by 63% to 71.3Moz (2,218t) last year, recording its steepest fall since 2016. This is also only the fourth time in two decades that imports have slipped below 80Moz (2,500t). The drop in bullion imports specifically (-88%) was even more remarkable and it is the only time that these imports have fallen below 32Moz (1,000t) since the turn of the millennium.
- Offtake for the largest jewelry fabricator globally, India, fell for the second year in a row, by 41% to 40.5Moz (1,260t), its lowest level since 2013. This is also the steepest fall in demand in our series back to 2010. That said, it is worth noting that fabrication in 2019 was the second-highest this decade. As elsewhere, demand was hit hard by the pandemic's lockdowns and cutbacks in discretionary spending but rising silver prices were also critical here.
- The lockdown announced in March 2020 had a severe impact on an already slowing economy and it is now estimated that in the 2021 financial year (April 2020 to March 2021), the Indian economy will have contracted by 7%. While lockdowns hit purchases from as early as March, the rising silver price later on saw consumers delay making their purchases. To put this into context, silver prices in the domestic market surged to record levels during 2020, more than doubling between March and August. The impact of this and the economic slowdown were particularly felt in rural India where consumers often tend to be highly price-sensitive due to limited incomes. That aside, a general cutback in discretionary spending meant that both urban and rural consumption suffered during the year.
- Indian silverware fabrication fell by a severe 58% to 17.4 Moz (541t), its lowest level and steepest fall in our series since 2010.

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-20	140	0.6	59	0.5	6975	3811	1264
May-20	269	0.7	95	0.8	16324	8430	2828
Jun-20	291	0.7	102	1.0	22387	10321	3919

Jul-20	364	0.7	101	0.9	34769	15764	6358
Aug-20	356	1.8	128	2.4	31214	15162	6616
Sep-20	310	1.1	86	1.4	18927	10288	4861
Oct-20	244	0.9	64	1.0	17347	9776	4698
Nov-20	293	1.0	72	1.2	18080	8765	4681
Dec-20	234	1.3	71	1.3	16950	9560	5462
Jan-21	244	1.2	67	1.3	15618	8574	5222
Feb-21	240	1.6	76	1.6	15565	7821	4834
Mar-21	236	1.4	68	1.4	10303	5854	3994
FY 20-21	3,220	13	990	20	2,24,457	1,14,126	54,736

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

Month	GOLD OPTIONS	SILVER OPTIONS	GOLD OPTIONS IN GOODS
Apr-20	11	221	-
May-20	27	212	-
Jun-20	17	506	-
Jul-20	29	623	0.0
Aug-20	33	1309	0.0
Sep-20	41	322	0.7
Oct-20	10	349	0.7
Nov-20	39	571	1.8
Dec-20	21	242	0.7
Jan-21	41	363	0.0
Feb-21	17	616	0.0
Mar-21	27	216	0.0
FY 20-21	313	5550	4.0

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

Annual traded volume in gold all variants for calendar year 2020: 4704

Total deliverable gold supply: 449

Annual traded volume as proportion of total deliverable supply for gold: 10

Annual traded volume in silver all variants for calendar year 2020: 394366

Total deliverable silver supply: 3205

Annual traded volume as proportion of total deliverable supply for silver: 123

*total deliverable supply is available publicly for calendar year so we have taken annual traded volume for calendar year 2020.

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

Annual traded volume in gold all variants for calendar year 2020: 4704

Total annual production of gold: 105

Annual traded volume as proportion of total annual production for gold: 45

Annual traded volume in Silver all variants for calendar year 2020: 394366

Total annual production of silver: 987

Annual traded volume as proportion of total annual production for silver: 400

*total annual production is available publicly for calendar year so we have taken annual traded volume for calendar year 2020.

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

Annual average Open interest in gold all variants: 20

Total annual production of gold: 105

Annual average Open interest as proportion of total production for gold: 0.19

Annual average Open interest in silver all variants: 436

Total annual production of silver: 987

Annual average Open interest as proportion of total production for silver: 0.44

*total annual production is available publicly for calendar year so we have taken annual average Open interest for calendar year 2020.

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

Annual average Open interest in gold all variants: 20

Total deliverable gold supply: 449

Annual average Open interest as proportion of total deliverable supply: 0.04

Annual average Open interest in Silver: 436

Total deliverable silver supply: 3205

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

*total deliverable supply is available publicly for calendar year so we have taken annual average Open interest for calendar year 2020.

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

Month	GOLD	GOLD GUINEA	GOLD MINI	GOLD PETAL	SILVER	SILVER MINI	SILVER MICRO
Apr-20	64254	266	27066	243	29559	16175	5453
May-20	124722	330	44003	381	75203	39076	13121
Jun-20	137606	337	48178	486	108614	50506	19180
Jul-20	182395	362	50446	453	199608	90220	36483
Aug-20	187839	982	67839	1269	217257	105695	46098
Sep-20	157368	589	43855	732	122026	66370	31439
Oct-20	123588	449	32502	516	106738	60156	28930
Nov-20	147193	529	36349	619	112227	54810	29293
Dec-20	115988	645	35086	663	111907	62983	35997
Jan-21	121151	616	33490	636	105608	57834	35231
Feb-21	113057	754	35715	741	108601	54642	33760
Mar-21	105646	652	30360	625	68389	38947	26587
FY 20-21	1580806	6512	484890	7364	1365737	697416	341574

Month	GOLD OPTIONS	SILVER OPTIONS	GOLD OPTIONS IN GOODS
Apr-20	4681	968	-
May-20	12269	992	-
Jun-20	8181	2460	-
Jul-20	14131	3552	9
Aug-20	17194	8797	3
Sep-20	21106	2200	389
Oct-20	5354	2234	350
Nov-20	19882	3620	914
Dec-20	10617	1587	352
Jan-21	20794	2410	12
Feb-21	8285	4198	5
Mar-21	12547	1503	1
FY 20-21	155043	34521	2034

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-20	69	-	5	4.9	-	-	455
May-20	-	-	530	0.0	39510	-	-
Jun-20	702	1.0	90	1.0	-	3600	5603
Jul-20	-	0.1	126	6.1	72120	-	-
Aug-20	605	0.0	93	0.0	-	8430	4035
Sep-20	-	4.0	444	0.4	127500	-	-
Oct-20	67	0.1	396	0.5	-	-	-
Nov-20	-	0.3	82	8.1	-	6180	2991
Dec-20	141	0.1	70	2.1	120510	-	-
Jan-21	-	0.4	424	1.3	-	-	-
Feb-21	292	0.4	77	0.1	-	7530	2670
Mar-21	1564	0.4	705	3.8	116580	-	-
FY 20-21	3440	7	3218	28	476220	25740	15754

Annual quantity of delivery (in kilograms):

Variant	Delivery in kilograms
GOLD	3440
GOLD GUINEA	7
GOLD MINI	3218
GOLD PETAL	28
SILVER	476220
SILVER MINI	25740
SILVER MICRO	15754

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	30	-	2	2	-	-	2
May-20	-	-	237	-	164	-	-
Jun-20	330	0.5	42	0.5	-	17	27
Jul-20	-	0.04	61	3	351	-	-
Aug-20	327	0.01	50	-	-	55	26
Sep-20	-	2	226	0.2	856	-	-
Oct-20	34	0.1	198	0.2	-	-	-
Nov-20	-	0.2	42	4	-	37	18
Dec-20	69	0.1	34	1	734	-	-
Jan-21	-	0.2	212	0.6	-	-	-
Feb-21	140	0.2	37	0.1	-	53	19
Mar-21	682	0.2	470	2	782	-	-
FY 20-21	1612	3	1529	14	2886	162	92

Annual value of delivery (in Rs. Crores):

Variant	Delivery (in ₹ Crores)
GOLD	1612
GOLD GUINEA	3
GOLD MINI	1529
GOLD PETAL	14
SILVER	2886
SILVER MINI	162
SILVER MICRO	92

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	19	0.02	1.3	0.02	145	27	17
May-20	21	0.02	1.0	0.02	229	43	22
Jun-20	19	0.02	1.2	0.03	375	47	28
Jul-20	19	0.02	1.2	0.03	407	54	32
Aug-20	18	0.03	1.6	0.04	498	50	27
Sep-20	17	0.04	1.6	0.04	486	48	29
Oct-20	15	0.04	1.2	0.04	490	52	33
Nov-20	14	0.04	1.4	0.05	461	48	34
Dec-20	12	0.04	1.6	0.05	398	56	38
Jan-21	14	0.05	1.8	0.06	410	65	45
Feb-21	14	0.07	2.5	0.08	442	62	40
Mar-21	16	0.08	2.9	0.09	366	80	55

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

Month	GOLD OPTIONS	SILVER OPTIONS	GOLD MINI OPTIONS
Apr-20	2.4	41	-
May-20	3.6	36	-
Jun-20	2.1	51	-
Jul-20	3.2	62	0.00
Aug-20	3.3	133	0.00
Sep-20	4.7	47	0.03
Oct-20	2.6	80	0.06
Nov-20	4.2	75	0.09
Dec-20	3.7	45	0.05
Jan-21	4.9	72	0.01
Feb-21	2.0	94	0.00
Mar-21	3.2	26	0.00

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

Variant	AOI
GOLD	17
GOLD GUINEA	0.04
GOLD MINI	1.6
GOLD PETAL	0.05
SILVER	396
SILVER MINI	53
SILVER MICRO	34

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

Variant	AOI
GOLD	3.4
SILVER	62.3
GOLD MINI	0.02

j. Annual average volume to open interest ratio

Variant	Volume to Open Interest ratio
GOLD	0.7
GOLD GUINEA	2.5
GOLD MINI	2.4
GOLD PETAL	2
SILVER	2.2
SILVER MINI	8.4
SILVER MICRO	6.4

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

Total number of UCC in Gold is 225054, Silver is 297110 and overall Bullion is 360716 during the FY 20-21.

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	21,260.70	26.62	70.60
GOLD	Options	KGs	2,988.89	54.16	10.90
SILVER	Futures	KGs	2,31,359.78	21.55	46.32
SILVER	Options	KGs	38,783.33	39.45	27.17

Note: Details are provided based on weekly disclosure on the Exchange website for the period April 2020 to May 2020 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 for the period April 2020 to May 2020.

Average based on Daily data					
Commodity	Instrument	Unit	Avg. Open Interest based weekly data	% FPOs/ Farmers/ VCPs/ Hedgers	
				% of Short OI	% of Long OI
GOLD	Futures	KGs	18,163.83	17.84	57.86
GOLD	Options	KGs	3,419.08	27.99	22.52
SILVER	Futures	KGs	5,24,936.06	15.29	47.05
SILVER	Options	KGs	66,548.19	42.60	31.86

Note: Details are provided based on weekly disclosure on the Exchange website for the period June 2020 to March 2021 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 for the period June 2020 to March 2021.

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

Commodity	Value Chain Participants (VCPs)/ Hedgers
GOLD	2991
SILVER	3151

Note:- Based on the classification provided by the members as on March 31, 2021 for clients traded during FY 2020-21. In case of classification of OWN (Prop Account) is uploaded as VCPs for any commodity, the same is included in "VCPs/ Hedger' category.

n. Algorithmic trading as percentage of total trading

% Algorithmic Turnover to Total Turnover (F.Y. 2020-21)

Financial Year	Base Asset	
	GOLD (%) (Includes all Variants)	SILVER (%) (Includes all Variants)
2020-21	36.92%	43.56%

o. Delivery defaults:

Variant	Number of instances	Quantity involved (in kilograms)	Value involved (in Rs. Crores)
GOLD	0	0	0
GOLD GUINEA	3	0.03	0.02
GOLD MINI	5	6	3
GOLD PETAL	3	0.12	0.06
SILVER	0	0	0
SILVER MINI	3	25	0.2
SILVER MICRO	4	7	0.04

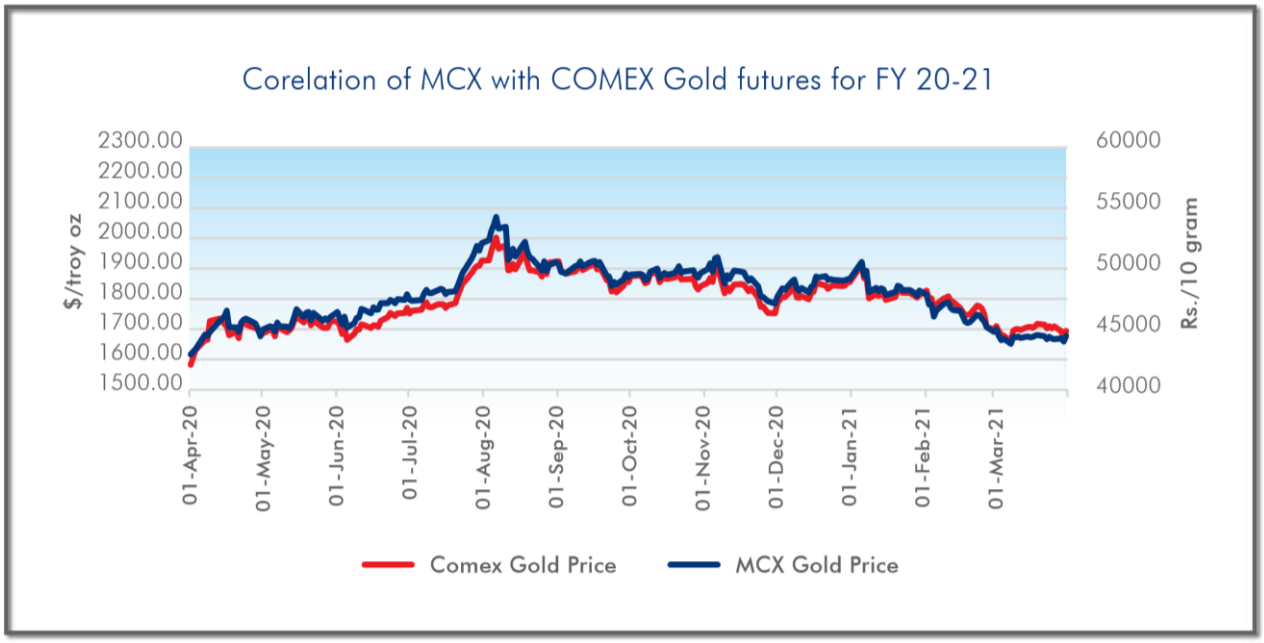
3. PRICE MOVEMENTS

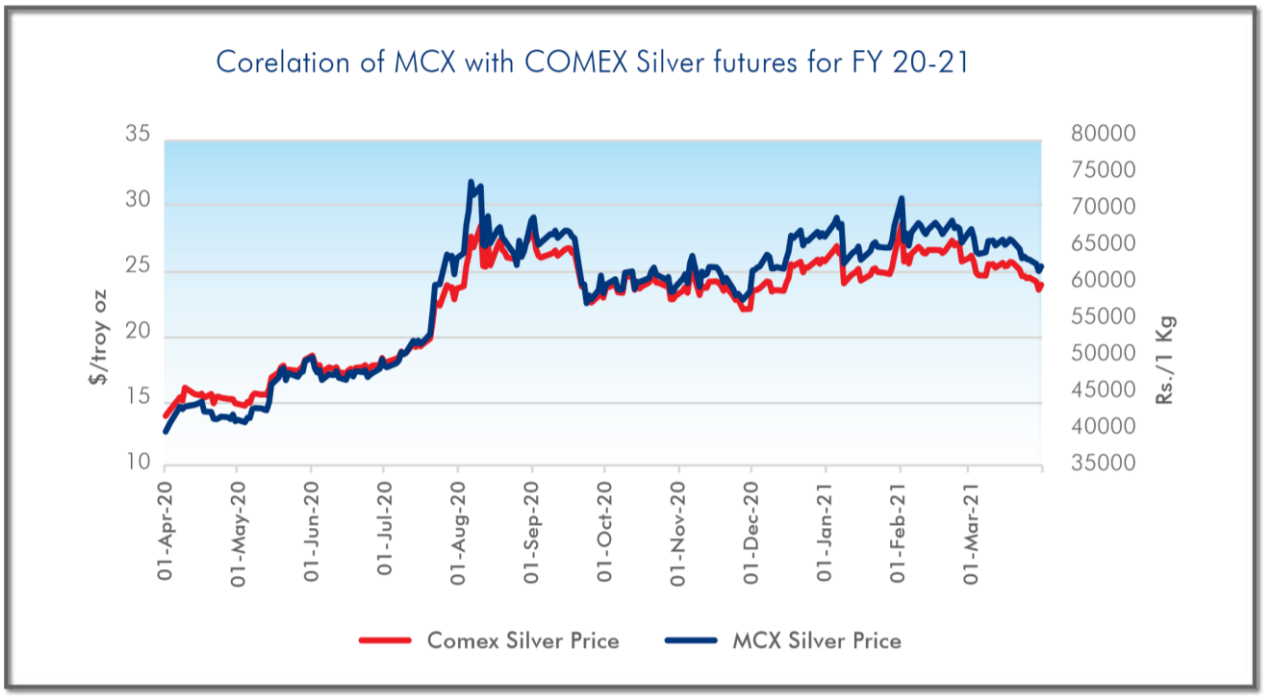
a. Comparison, correlation and ratio of standard deviation of Exchange futures price vis-à-vis international futures price (wherever relevant comparable are available).

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

Gold: 97 % | Silver: 99 %

Ratio of standard deviation of Exchange futures price vis-à-vis international futures price:
Gold: 0.95 | Silver: 0.88





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: 98.5 % | Silver: 98 %

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

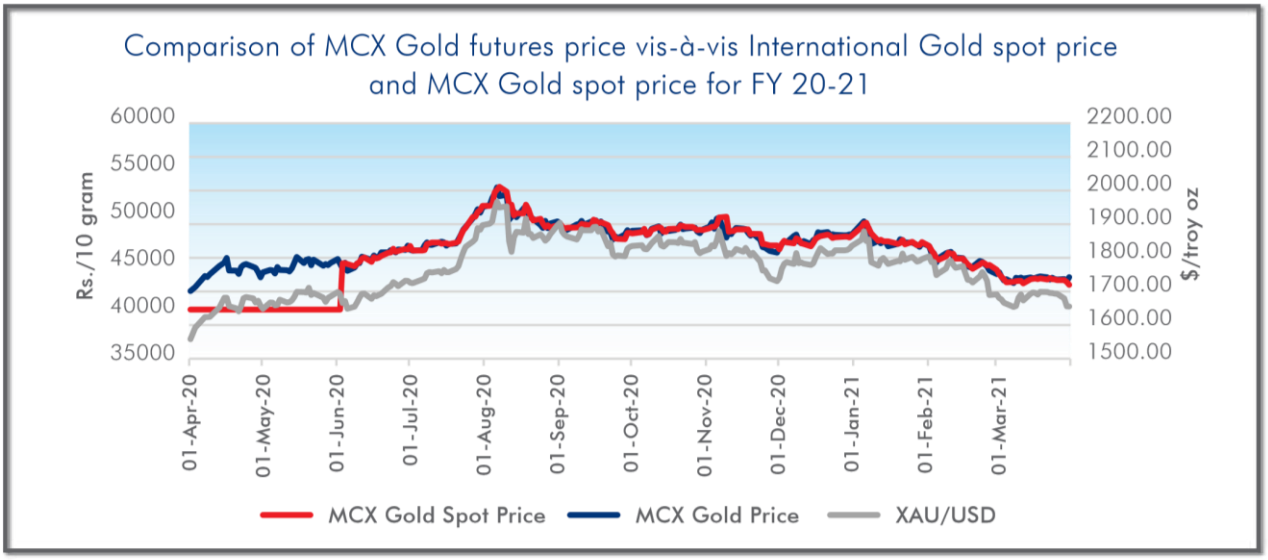
Gold: 0.90 | Silver: 0.91

Note: Due to nationwide lockdown, MCX spot price was not available from April 1, 2020 to June 2, 2020, so correlation and ratio of standard deviation of Exchange futures price and Exchange polled spot price was taken from June 3, 2020 to March 31, 2021.

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

Gold: 95 % | Silver: 98.6 %

Ratio of standard deviation of Exchange futures price vis-à-vis international Spot price: Gold: 1.01 | Silver: 0.97





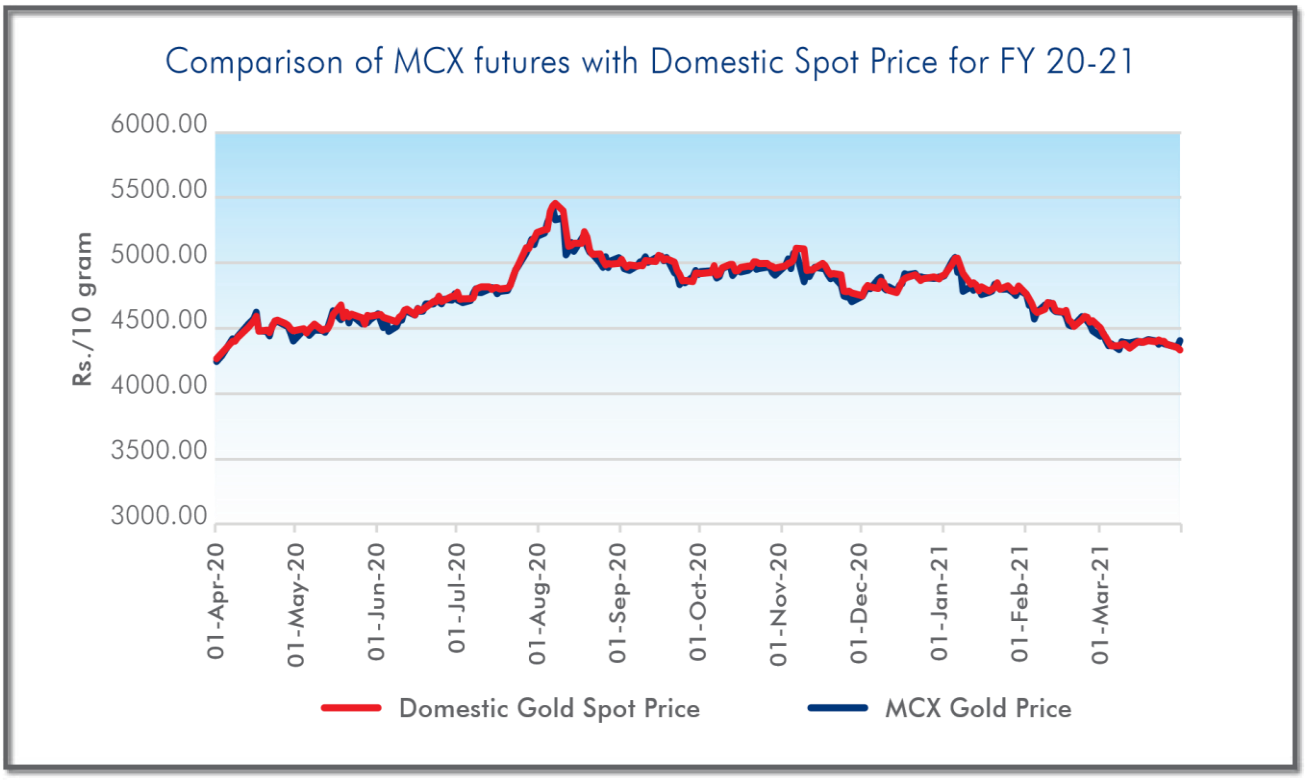
c. Correlation between Exchange futures & domestic spot prices along with ratio of standard deviation.

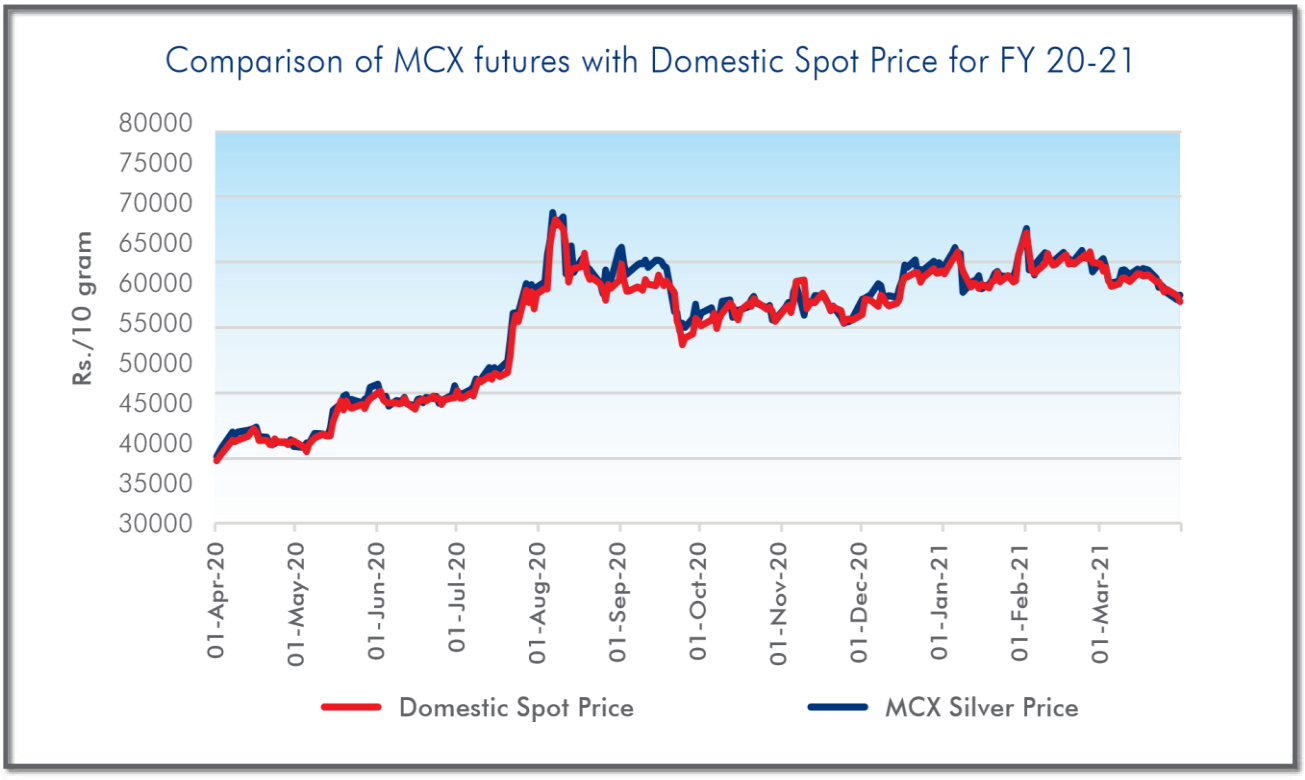
Correlation of Exchange futures price vis-à-vis domestic Spot price:

Gold: 98.8 % | Silver: 99.10 %

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

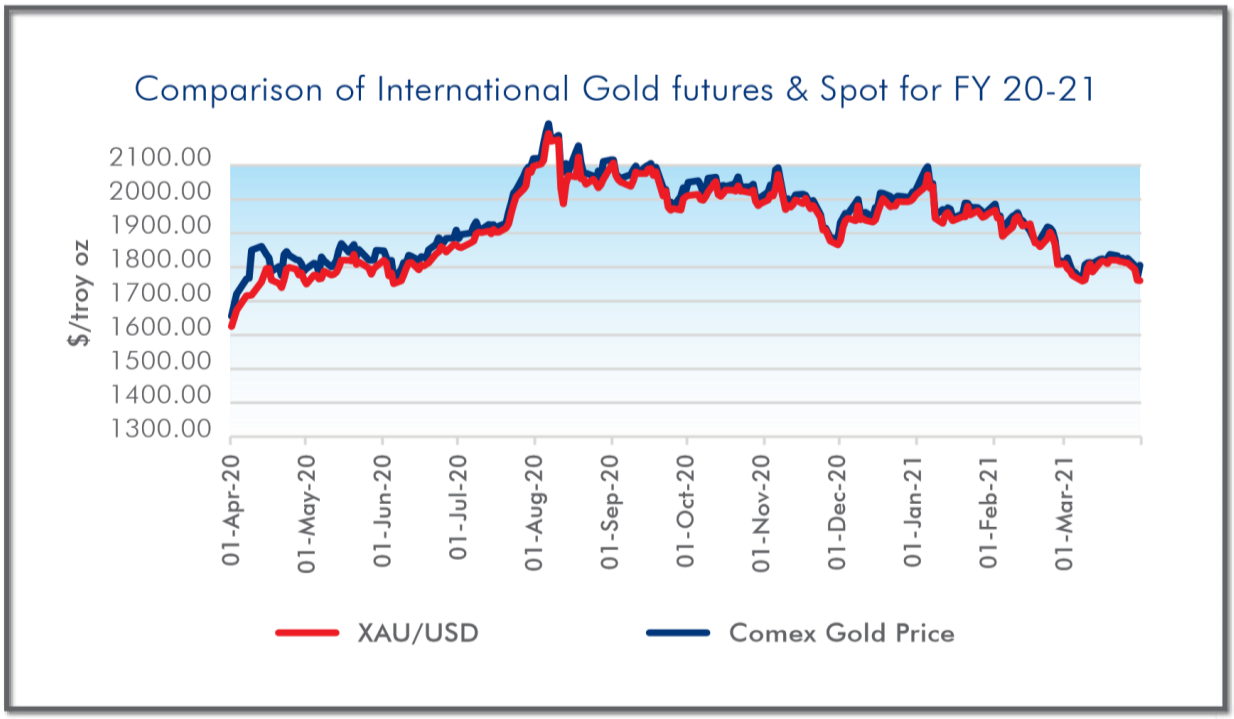
Gold: 1.29 | Silver: 1.13

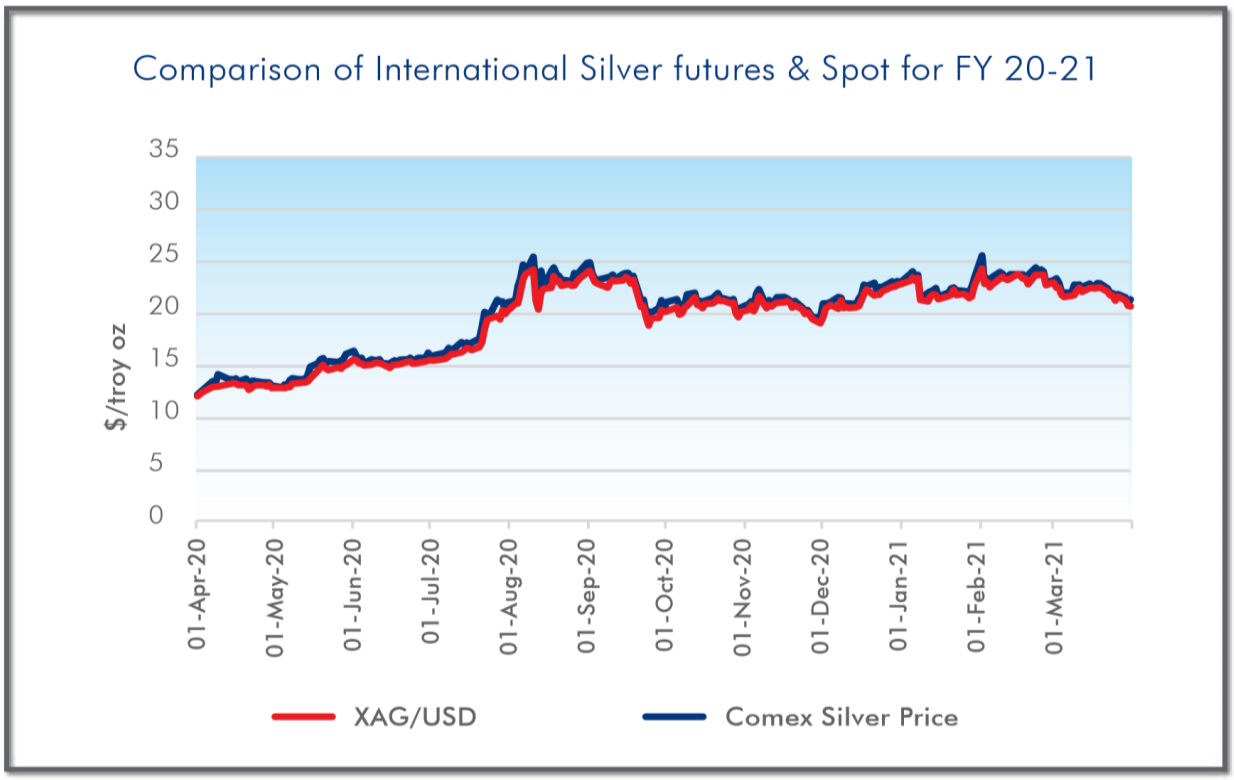




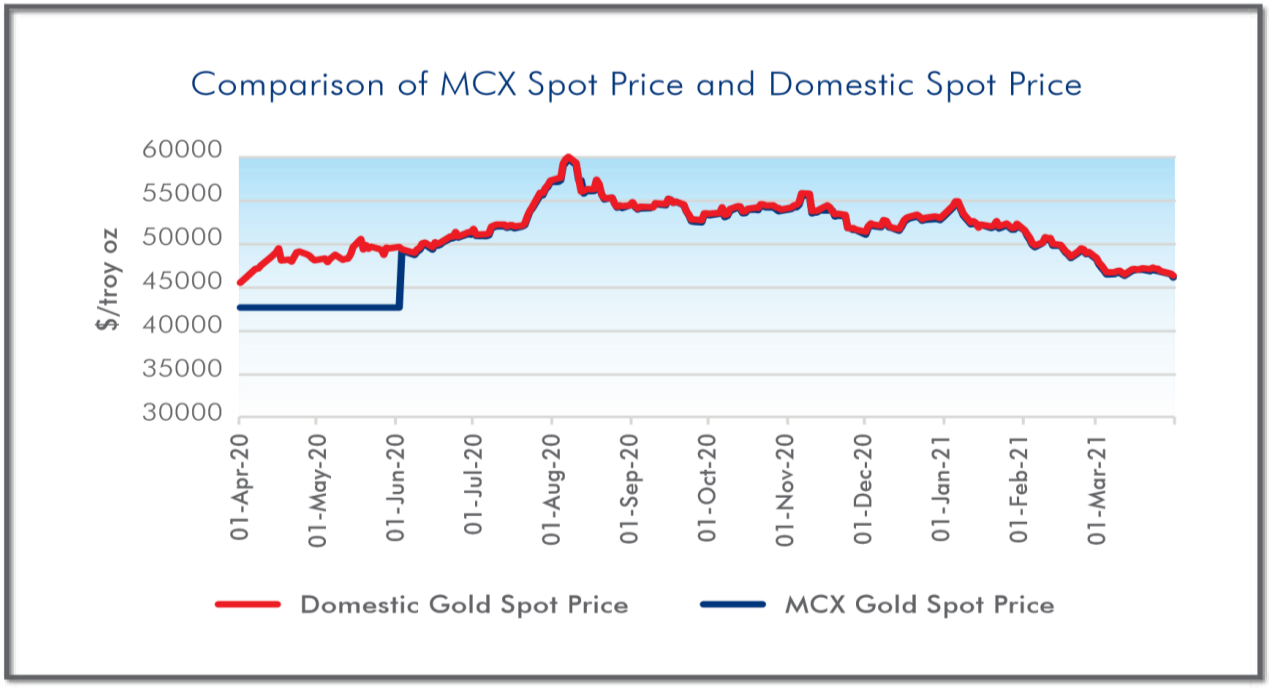
d. Correlation between international futures & international spot prices along with ratio of standard deviation (wherever relevant comparable are available).

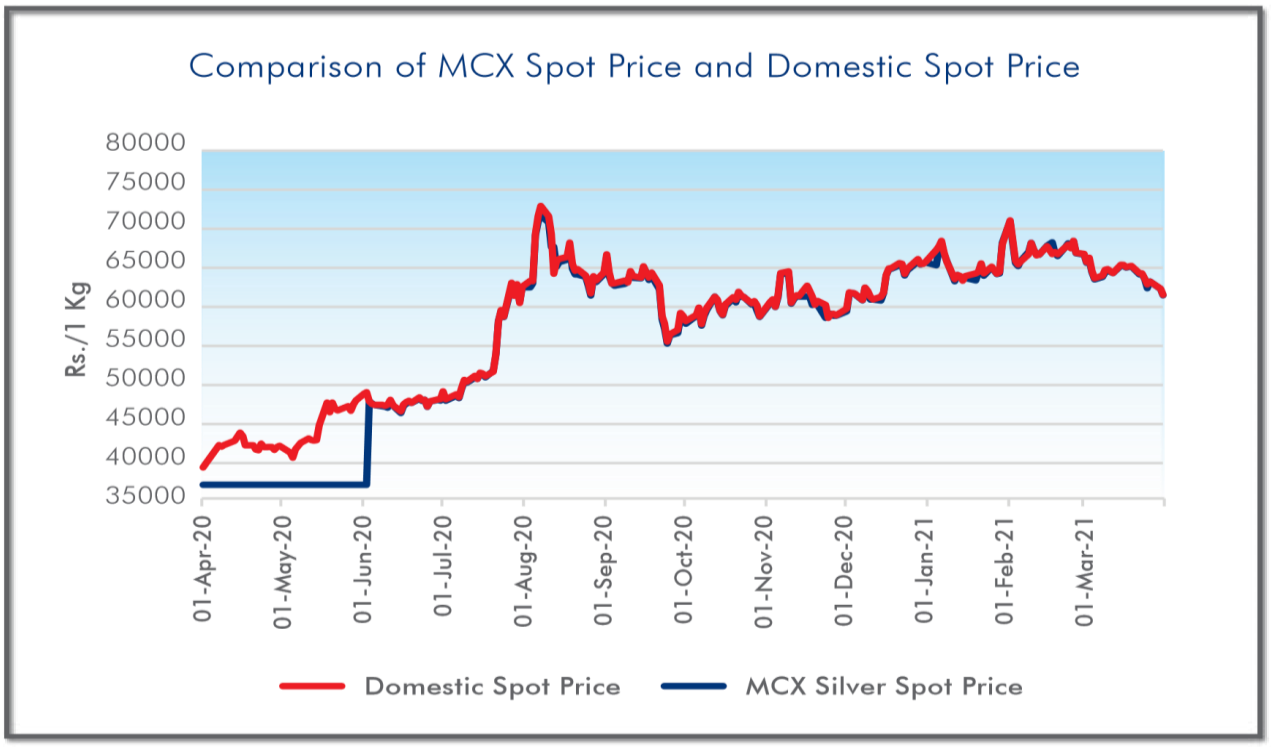
Correlation of international futures price vis-à-vis international spot prices:
Gold: 98.8 % | Silver: 99.5 %
Ratio of standard deviation of international futures price vis-à-vis international spot prices:
Gold: 0.85 | Silver: 1.10





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.





Note: Due to nationwide lockdown, MCX spot polling price was not available from April 1, 2020 to June 2, 2020

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	1.76	0.70	3.22	0.40
GOLDGUINEA	1.78	0.56	3.22	0.40
GOLDM	1.76	0.67	3.22	0.40
GOLDPETAL	1.86	0.60	3.24	0.28
SILVER	4.46	1.52	6.93	1.05
SILVERM	4.41	1.48	6.93	1.05
SILVERMIC	4.41	1.47	6.93	1.05

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.

Commodity	Number of times contango/backwardation by more than 4%
GOLD	1
GOLDGUINEA	1
GOLDM	1
GOLDPETAL	1
SILVER	23
SILVERM	25
SILVERMIC	25

Note: Due to nationwide lockdown Spot polling prices were not available from April 1, 2020 to June 2, 2020. So this period is not considered.

The lockdown announced in March 2020 had a severe impact on an already slowing economy. To put this into context, gold and silver prices in the domestic market surged to record levels during 2020, more than doubling between March and August. The impact of this and the economic slowdown were particularly felt in rural India where consumers often tend to be highly price-sensitive due to limited incomes. That aside, a general cutback in discretionary spending meant that both urban and rural consumption suffered during the year.

The impact of the pandemic on most elements of physical demand and supply was relatively straightforward. As a number of key silver mining countries were hit hard by lockdown restrictions, global silver supply declined. This was more than offset, however, by losses across most of silver's physical demand segments, which suffered as a result of restrictions to economic activity as well as depressed consumer sentiment and/or income loss. This resulted in the largest silver market surplus since at least 2010.

The pandemic also disrupted the inner workings of the silver bullion market. This was perhaps most notable in the explosion of the silver exchange for physical premium (EFP; the difference between the spot price and active COMEX futures contract) over April-July in particular. This, coupled with changes in mine output and physical demand in some key destinations, also fuelled dramatic changes in silver bullion trade flows in 2020 as well as shifts in reported inventories, most notably into COMEX-approved depositories.

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.

Please note that since spot prices were unchanged for about two months of the year 2020-21, we have estimated the parameters with two different assumptions:

Assumption (i) - Ignoring both futures and spot data for those dates; and

Assumption (ii) - Considering the futures price as the proxy for the spot price for those dates.

Accordingly, the results are given below.

Under assumption (i)

Hedge Ratio for 2020-21	
Commodity	Hedge Ratio
Gold	0.23
Silver	0.31

Basis Risk for 2020-21			
Commodity	Unit of Basis	Avg Return of Basis (unit)	Basis Risk
Gold	Rs/10 grams	0.05	20.59
Silver	Rs/Kg	-1.80	6.81

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.*

Under assumption (ii)

Hedge Ratio for 2020-21	
Commodity	Hedge Ratio
Gold	0.43
Silver	0.41

	Basis Risk for 2020-21		
Commodity	Unit of Basis	Avg Return of Basis (unit)	Basis Risk
Gold	Rs/10 grams	0.04	20.64
Silver	Rs/Kg	-1.82	6.82

Note:

1. *Dates where spot prices are not available futures prices have been considered as spot price, 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.*

The Basis Risk is approximately the same under both the assumptions.

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			
2019	Quantity (Metric Tonnes)	2020	Quantity (Metric Tonnes)
Delhi	423	Delhi	133
Cochin	156	Chennai	35
Chennai	127	Ahmedabad	16
Ahmedabad	39	Hyderabad	10
Kolkata	28	Kolkata	8
Hyderabad	23	Mumbai	7
Mumbai	26	Bangalore	3
Bangalore	8	Others	7
Coimbatore	2	-	-
Surat	1.4	-	-

*** 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.

Source: Ministry of Commerce, GOI; Metals Research, Refinitiv, An LSEG Business for 2020 data Data in Fine Gold Basis.

India Top 10 major importing cities - Silver			
2019	Quantity (Metric Tonnes)	2020	Quantity (Metric Tonnes)
Chennai	4870	-	-
Kandla	703	-	-
Delhi	145	-	-
Ahmedabad	142	-	-
Mumbai	105	-	-
Jaipur	30	-	-
Surat	7	-	-
Hyderabad	8	-	-
Kolkata	3	-	-
Bangalore	2	-	-

Note: Data is not available publically for the year 2020.

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 102 awareness programs in FY 2020-21 targeted 5133 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.

- MCX has introduced Additional delivery centres at Agra, Chennai, Delhi, Jaipur, Mumbai, Rajkot and Salem for Silver contract from May 2020 contract and onwards.
- MCX empanelled two refiners M.D Overseas Ltd and Kundan Care Products Ltd. as per "MCX Good Delivery Norms for BIS-Standard Gold/Silver" for delivery in Gold Mini (100 grams) futures and Gold Mini (100 grams) options in goods contracts with effect from March 6, 2021
- Alignment of trading lot and delivery lot of silver mini contracts from June 2020 contract and onwards and successfully done delivery of 25740 bars (since June 2020) in FY 20-21.
- We continuously do awareness programs along with the bullion and jewellery associations for jewellers and bullion traders across the country.
- The improvement of performance of all bullion contract is evident from the below performance of bullion contracts in FY 20-21.

Futures Contracts:

- Total Bullion turnover of Rs.50226 crores registered a seven year high on July 28, 2020
- Silver all variant turnover of Rs.33239 crores registered a seven and half year high on July 28, 2020
- Silver all variant volume of 5469 MT registered a seven and half year high on July 22, 2020

Options Contracts:

- Silver Options (30 kg) registered turnover of Rs.741 Crores On August 26,2020
- Silver Options (30 kg) registered volume of 111 MT hitting all time high On August 26, 2020
- Silver Options (30 kg) registered an open Interest of 172 MT hitting all time high on August 17, 2020

Delivery:

- MCX has recorded the first delivery of 190 kg Indian refined Gold from MCX empanelled domestic refiners as per "MCX Good Delivery Norms for BIS-Standard Gold/Silver" in the Gold Mini April 2021 futures contract.
- Silver futures contract witnessed highest delivery since inception in FY 2020-21 of 518 Metric Tonnes.
- MCX sets a record of twelve year high (in a series of contract) in Silver delivery of 140 Metric Tonnes in September 2020 futures contract.
- Silver (30 kg) futures contract witnessed delivery for the first time in additional delivery centre Mumbai of 120 kgs in Silver March 2021 futures contract.

New Product Design Success In Bullion:

- Gold Petal future contract (first ever deliverable one gram gold contract in the world) designed to cater to organized retail investor demand, by providing a systematic investment plan (SIP) type of flexibility with an electronic accumulation, saw successful delivery of 36.4 kgs (36,438 coins till March 31, 2021), since it's launch in October 2019.
- Gold petal future contract registered highest delivery of 8.06 kgs (8061 coins) in November 2020 since it's launch in October 2019.
- Similarly, Silver (1kg) Micro contract that became deliverable with one kilogram silver bar as delivery lot from February 2020 contract, has seen successful delivery of 16,208 kgs (till March 31, 2021).
- Silver Mini (5 Kg) contract that became deliverable with Silver (five nos. of one kilogram bars) as delivery lot from June 2020 contract, has seen successful delivery of 25,740 kgs (till March 31, 2021).

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