MCX
METAL & ENERGY
Trade with Trust

INDEX FUTURES PERFORMANCE REVIEW



(FY 2021-22)

FOREWORD

The Index Futures Performance Report (PR) is the outcome of the SEBI circular SEBI/HO/CDMRD/DNPMP/CIR/P/2020/21 dated February 04, 2020, directing all recognised Stock Exchanges offering Commodity Derivatives Segment to conduct performance review of commodity derivatives contracts on an annual basis based on various parameters. The said performance review shall be consulted with the Product Advisory Committee (PAC) and the same shall be disclosed by 30th June of the following financial year.

The Index Futures Performance Report highlights information on the Volume, Turnover, Open Interest of Index Futures on MCX iCOMDEX BULLDEX®, METLDEX® and ENRGDEX® on the Exchange, along with the Price Correlations with underlying instrument.

Acknowledgement:
We have been ably guided by the MCX PAC members in improving the content of the report and we are extremely thankful to them. We hope to keep improvising the report going forward.

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1. BACKGROUND

a. Brief about the Commodity Index.

MCX India Commodity Indices (iCOMDEX) are Excess Return indices which consist of Single Commodity Indices, Sectoral Indices and Composite Index. MCX iCOMDEX indices derive values from prices of futures contracts traded on Multi Commodity Exchange of India (MCX). An excess return index is considered to be ideal for benchmarking and trading as, along with price returns, it also shows the return attributed to rolling constituent contracts to a new expiry.

I. BULLDEX

MCX iCOMDEX Bullion Index is one of the sectoral indices in the MCX iCOMDEX family that reflects real-time performance of bullion sector as a whole. It provides an efficient tool to investors looking to manage their investments in bullion. The index includes gold and silver futures listed on MCX. Each commodity within the index is weighted three-fourths by its liquidity and one-fourth by its physical market size in India, determined by local production and imports.

Long-term investors can use the MCX iCOMDEX Bullion Index for gaining from exposure to the bullion sector as an asset class. Market participants including individual investors, professional traders and financial institutions such as hedge funds and mutual funds, can use the MCX iCOMDEX Bullion Index either as a reference benchmark for their investments in bullion or related asset classes or as the basis of investment products which provide direct exposure to bullion.

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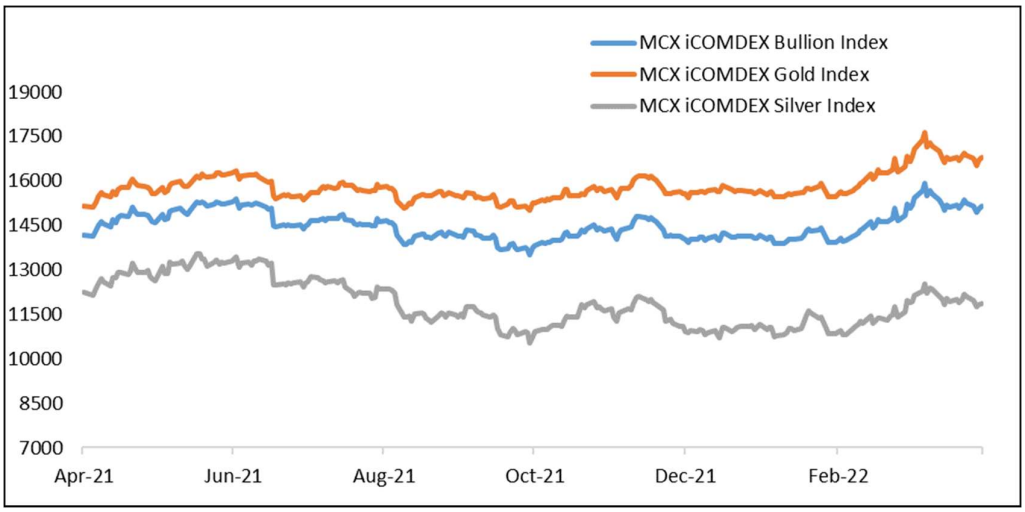
The price movements in the MCX iCOMDEX Bullion, Gold and Silver indices are provided below.



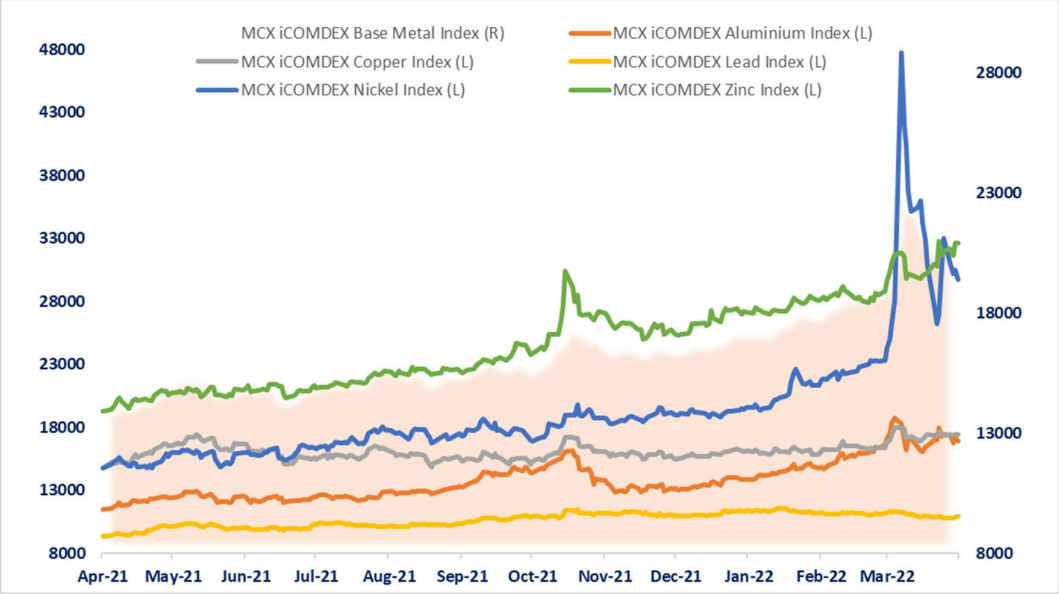
II. METLDEX

MCX iCOMDEX Base Metal Index is one of the sectoral indices in the MCX iCOMDEX family, providing an efficient tool to investors looking to manage their investments in base metals. The index includes 5 base metals futures listed on MCX: Aluminium, Copper, Lead, Nickel and Zinc. This index can therefore serve as an indicator of the performance of the Indian industrial sector. Every commodity within the base metal index is weighted three-fourths by its liquidity and one-fourth by its physical market size in India, determined by local production and imports. Additionally, the commodity selection process is also subject to further conditions and needs to meet the threshold set forth in the methodology.

Market participants including individual investors, professional traders and financial institutions such as hedge funds and mutual funds, can use the MCX iCOMDEX Base Metal Index either as a reference benchmark for their investments in base metals or related asset classes, or as the basis of investment products to provide direct exposure to Indian base/industrial metals.

The MCX iCOMDEX Base Metal Index conforms to the standards of the International Organisation of Securities Commissions (IOSCO) Principles for Financial Benchmarks (July, 2013) in its computation and governance.

The price movements in the MCX iCOMDEX Base Metal Index and other single commodity indices are provided below.



III. ENRGDEX

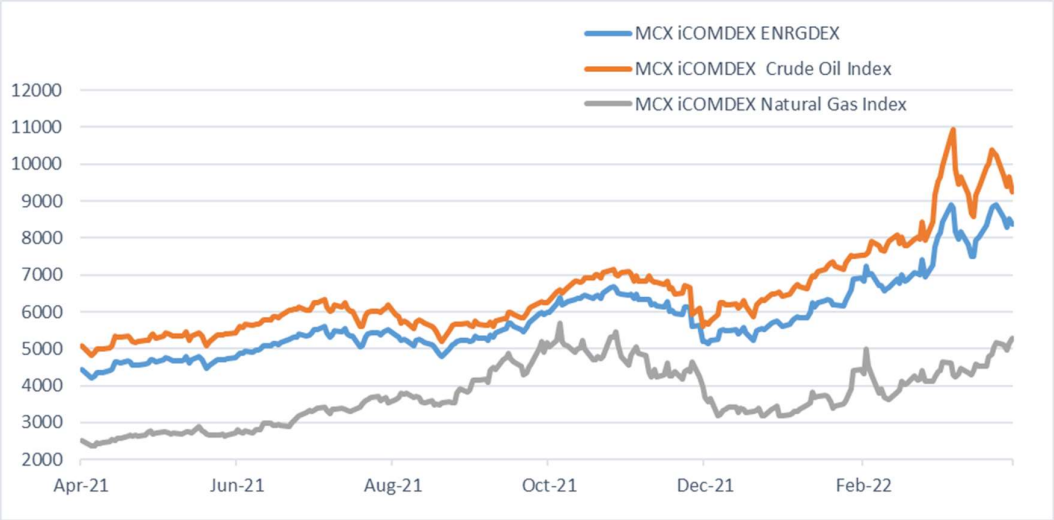
MCX iCOMDEX Energy® Index is one of the sectoral indices in the MCX iCOMDEX family, providing an alternative tool to investors looking to manage their investments in energy sector. The index includes crude oil and natural gas futures listed on MCX. To arrive at the weights of the constituents, each commodity within the index is weighted three-fourths by its liquidity and one-fourth by its physical market size in India, determined by local production and imports and subject to caps and floors as per the methodology of MCX iCOMDEX indices.

Market participants including individual investors, professional traders and financial institutions such as hedge funds and mutual funds, can use the MCX iCOMDEX Energy Index either as a reference benchmark for their investments in the energy sector or related asset classes or as the basis of investment products which provide direct exposure to energy sector.

The MCX iCOMDEX Energy Index conforms to the International Organisation of Securities Commissions (IOSCO) Principles for Financial Benchmarks (July, 2013) in its computation and governance

On receipt of SEBI approval, Exchange launched Futures on MCX iCOMDEX Energy Index on October 07, 2021.

The price movements in the MCX iCOMDEX Energy Index and other single commodity indices are provided below.



b. Commodity fundamentals and balance sheet

c. 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.

Please find details in respect to points 1 (b), (c) and (d) below.

The brief fundamentals of underlying commodities are elucidated as under.

MCX iCOMDEX Bullion Index futures

- Surged by about 7% by the end of FY2021-22.
- Was world's most traded commodity index futures contract in the year 2021, as per data released by the Futures Industry Association.
- Global annual jewellery consumption rebounded to pre-pandemic levels, bounced by Q4 sprint finish. Annual jewellery consumption grew 52% in 202, fully recovering the losses sustained during 2020.
- In value terms, annual demand reached US$ 123 bn to virtually match the 2013 record. Rocketing Indian demand helped drive the fourth quarter global total to 713t - the highest since Q2 2013.
- Jewellery fabrication rose 67% to 2,221t - the highest since 2018 - in response to strong consumer demand and inventory building of 97t during the year.
- India was a key driver in Q4, but jewellery demand in markets across the globe - almost without exception - was stronger y-o-y. continued economic recovery and, crucially, the less widespread use of strict lockdown measures to contain COVID, were reasons.

- In case of Silver, in 2021, global mine production increased by 5.3% y/y to 822.6 Moz (25,587t). Recycling rose for a secound year in a row, up 7% in 2021 to an eight-year high of 173.0 Moz (5,382t).
- After a slump in 2020, global silver demand rose by a healthy 19% last year to 1.05Boz (32,627t), surpassing pre-pandemic volumes and achieving its highest level since 2015. Physical Investment rose for the fourth consecutive year in 2021, up by 36% to a six-year high of 278.7 Moz (8,668t).
- Global silver jewelry fabrication rebounded by 21% in 2021 to 181.4 Moz (5,641t) as economies re-opened and consumer sentiment began to improve.
- On May 19, 2021, turnover in BULLDEX® futures was highest in FY 2021-22, at Rs. 359.36 crore.

MCX iCOMDEX Base Metal Index futures

- Rose to approx. 52% by the end of FY2021-22.
- On January 19, 2022, METLDEX® futures made a record turnover exceeding Rs. 400 crore.
- Russia-Ukraine conflict impacted NICKEL futures, which has a weight of approx. 25% in the METLDEX®
- Base metal segment one of the best-performing sectors in the second half of FY 2021-22. The base metals complex witnessed strong buying during the period, with most of them including copper, zinc, aluminium and nickel touching a new high. The run up was primarily attributed to supply disruptions.
- All metals in recent times have faced supply disruptions due to multiple reasons including COVID restrictions/ protocols and shipping container congestions. Adding to the problem is low availability of visible stock globally under Exchanges.
- These industrial metals were further impacted after the Russia-Ukraine war. Russia is one of leading sources of these metals and the sanctions post war accentuate further disruptions. On the demand side, Central Banks world over are worried about the staggering inflation and are swiftly acting to raise interest rate to tame it. This also impacts the currencies rates. Consequently it influenced commodity prices as most of those are priced against the US Dollar.

MCX iCOMDEX Energy Index futures

- Was launched on October 7, 2021.
- Rose to approx. 68% by the end of FY2021-22.
- There was a rise in crude oil prices on the prospects of heavier sanctions on Russia, the top crude exporter during the FY 2021-22.
- During first half of FY22, crude prices gained as lockdown restrictions eased in Europe and fuel demand improved. Also, Crude prices gained on geopolitical concerns in eastern Europe from disrupted crude supplies due to Russia-Ukraine war.

For further details, please refer to Performance Review report of respective individual commodity.

2. TRADING RELATED PARAMETER

a. Monthly and Annual traded volume (quantity in appropriate units)

Volume (in lots)

Month/ Year	BULLDEX	METLDEX	ENRGDEX
Apr-21	50,112	24,195	NA
May-21	61,958	47,177	NA
Jun-21	55,286	37,350	NA
Jul-21	46,862	42,180	NA
Aug-21	45,360	37,941	NA
Sep-21	50,234	44,723	NA
Oct-21	51,222	54,684	13,479
Nov-21	58,549	42,663	14,547
Dec-21	43,102	38,106	9,205
Jan-22	33,033	45,278	8,524
Feb-22	38,453	47,222	11,059
Mar-22	38,993	15,039	2,771
FY 21-22	**5,73,164**	**4,76,558**	**59,585**

Note: Contract size is 50 times of Index.

b. Annual traded volume as proportion of total deliverable supply (quantity in appropriate units)

c. Annual traded volume as proportion of total annual production (quantity in appropriate units)

d. Annual average Open interest as proportion of total production

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

- Points 2 (b) to 2 (e) are Not Applicable

For product specific details of underlying commodities, please refer to Performance Review report of respective individual commodity.

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

Turnover (Rs. in Crores)

Month/ Year	BULLDEX	METLDEX	ENRGDEX
Apr-21	3,680	1,775	NA
May-21	4,668	3,594	NA
Jul-21	4,119	2,792	NA
Jun-21	3,435	3,253	NA
Aug-21	3,223	2,967	NA
Sep-21	3,499	3,584	NA
Oct-21	3,637	4,672	1,080
Nov-21	4,230	3,570	1,103
Dec-21	3,040	3,227	626
Jan-22	2,331	4,023	659
Feb-22	2,785	4,417	961
Mar-22	2,992	1,631	285
Total	**41,640**	**39,505**	**4,714**

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

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

Points 2 (g) and 2 (h) are Not Applicable

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

Average Daily Open Interest (in lots)

Month/ Year	BULLDEX	METLDEX	ENGRDEX
Apr-21	1,103	541	-
May-21	872	821	-
Jun-21	1,422	786	-
Jul-21	1,432	872	-
Aug-21	2,160	857	-
Sep-21	2,271	920	-
Oct-21	1,697	1,144	154
Nov-21	1,592	1,061	221
Dec-21	1,772	832	186
Jan-22	1,671	1,249	207
Feb-22	1,090	1,134	197
Mar-22	622	376	79
FY 21-22	**1,478**	**876**	**173**

j. Annual average volume to open interest ratio

Index Futures	Average Daily Volume (in lots)	Average Daily Open Interest (in lots)	Volume to Open Interest ratio
BULLDEX	2213	1478	1.50
METLDEX	1840	876	2.10
ENGRDEX	477	173	2.76

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

Index Futures	Total number of unique members	Total number of unique clients
BULLDEX	209	18,797
METLDEX	191	13,593
ENRGDEX	201	2,653

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

Commodity	Instrument	UNIT	Average of Open Interest	Average of FPOs/ Farmers Long VCPs/ Hedgers Long	Average of FPOs/ Farmers Short VCPs/ Hedgers Short	Average of Long %	Average of Short %	Max of FPOs/ Farmers Long VCPs/ Hedgers Long	Max of FPOs/ Farmers Short VCPs/ Hedgers Short
MCXBULLDEX	Futures	UNIT	73,875.87	1,227.61	3,870.27	1.54	5.66	6,450.00	12,300.00
MCXENRGDEX	Futures	UNIT	21,649.00	-	-	-	-	-	-
MCXMETLDEX	Futures	UNIT	43,818.34	1,859.65	2,889.19	4.16	6.94	20,550.00	13,250.00

Note: Details are provided based on daily disclosure on the Exchange website for the period Aparil 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

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

Index Futures	VCPs/Hedgers
BULLDEX	41
METLDEX	32
ENRGDEX	2

Note:

- *Data compiled based on the classification provided by the members as on March 31, 2022 for clients traded during FY 2021-22.*

n. Algorithmic trading as percentage of total trading

Index Futures	Percentage
BULLDEX	37.73
METLDEX	51.97
ENRGDEX	40.15

o. **Delivery defaults**
    - **Number of instances**
    - **Quantity involved**
    - **Value involved**

- Not Applicable

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 representative Index futures are traded globally.

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).

Not Applicable

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

Correlation with MCX iCOMDEX Bullion Index Futures:

	MCX iCOMDEX Bullion Index	Gold Index	Silver Index
Correlation (%)	99.70	96.54	92.07
Ratio of standard deviation	0.98	1.11	0.66

Correlation with MCX iCOMDEX Base Metal Index Futures:

	MCX iCOMDEX Base Metal Index	Aluminum Index	Copper Index	Lead Index	Nickel Index	Zinc Index
Correlation (%)	97.38	35.36	57.83	31.64	89.19	52.29
Ratio of standard deviation	1.04	1.2	1.5	2.5	0.47	1.24

Note: Correlation computed based on daily returns using: LN(Pt/ Pt-1)

Correlation with MCX iCOMDEX Energy Index Futures:

	MCX iCOMDEX Energy Index	Crude Oil Index	Natural Gas Index
Correlation (%)	84.58	72.27	46.79
Ratio of standard deviation	1.02	0.91	0.60

- *MCXENRGDEX Was launched on 07 October 2021*

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

- No representative Index futures are traded globally.

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.

- Not Applicable

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

The volatility details for MCXBULLDEX, MCXMETLDEX and MCXENRGDEX or F.Y. 2021-22 is provided as under:

Commodity	Max Future Price Volatility %	Min Future Price Volatility %	Max Spot Price Volatility %	Min Spot Price Volatility %
MCXBULLDEX	1.38	0.46	1.46	0.61
MCXMETLDEX	5.64	0.67	5.40	0.77
MCXENRGDEX	3.73	1.16	3.88	1.45

Note: Above details are based on Near Month contract volatility and for the period 1-Apr-21 to 31-Mar-22.

Methodology adopted for computing the volatility is Exponential Weighted Moving Average (EWMA).

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

Particulars	No. of times Index Futures contract	In Contango/ Backwardation
METLDEX®	1 (March 08, 2022)	In Contango
ENRGDEX®	1 (March 10, 2022)	In Contango

Formula: (Index Futures – Underlying Index)/Underlying Index *100

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 and Basis risk for BULLDEX, METLDEX and ENRGDEX futures:

The methodology adopted is also indicated below.

Hedge Ratio for 2021-22	
Commodity	**Hedge Ratio**
MCXBULLDEX	1.02
MCXMETLDEX	0.94
MCXENRGDEX	0.83

- Hedge ratio is the value of slope between returns of near-month index futures and returns of MCX iCOMDEX index during the financial year.
- MCXENRGDEX Was launched on 07 October 2021

Basis Risk for 2021-22			
Commodity	**Unit of Basis**	**Avg Return of Basis**	**Basis Risk**
MCXBULLDEX	Rs/Unit	-0.98	7.30
MCXMETLDEX	Rs/Unit	-2.63	27.74
MCXENRGDEX	Rs/Unit	-1.13	11.21

Note:

- *Basis Risk is computed as the Standard deviation of daily normal return in Basis, which is excess of MCX iCOMDEX index over index futures price.*
- *In case Basis is zero for any day, next day's Basis return has been ignored for computing the standard deviation.*
- *MCXENRGDEX Was launched on 07 October 2021*
- *'Hedge Ratio' is defined as the number of units of futures contracts which minimises the risk of the hedged asset position. When futures prices are perfect estimators of spot prices, Hedge Ratio is expected to be 1. That is, one unit of the asset position can be fully hedged by one unit of the futures contract. But, with imperfect link between spot and futures prices, as well as unequal volatility, the hedge ratio usually diverges from 1.*

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).

- Not Applicable

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

- Not Applicable

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

Index Futures	No. of awareness programs	No. of Target audience
FY2021-22	835	28374
FY2020-21	823	22886

Target audience includes value chain participants, financial institutions and investors.

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

- Conducted more than 800 awareness programs during the FY 2021-22.
- Carried out Mock-Trading sessions for the benefit of market participants.

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.*