



**ICEX**  
Seize the right opportunity



## NOW MANAGE PRICE VOLATILITY IN STEEL

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### ICEX-SOCIAL/



### ABOUT ICEX, Indian Commodity Exchange

Limited (ICEX) is a Securities and Exchange Board of India (SEBI) regulated online Commodity Derivative Exchange. Headquarter at Mumbai, the exchange provides nationwide trading platform through its appointed brokers. The exchange launched world's first ever Diamond derivative contracts. ICEX aims to provide price risk hedging instruments to the trade through innovative contract designing. ICEX boasts of some of the large institutions from public and private sectors as its shareholders, namely, MMTC Ltd., Indian Potash Ltd (IPL), Krishi Bharti (KRIBHCO), IDFC Bank, Reliance Capital and India Bulls.

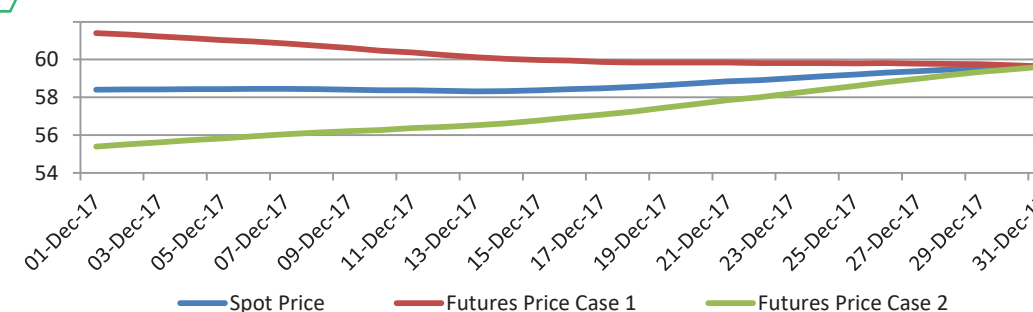
This exchange is ideally positioned to leverage the huge potential of commodities market and encourage participation of actual users to benefit from the opportunities of hedging, risk management and supply chain management in the commodities markets.



## INTRODUCTION TO SPOT AND FUTURES CONTRACTS

- Spot Contracts or Ready Delivery Contracts are contracts where delivery of goods and payment happens either immediately or within a period not exceeding 11 days of entering into the contract. In this price, quantity and time for delivery of goods are fixed. However, the time for giving or taking delivery of the goods should not exceed beyond 11 days of entering into the contract.
- Examples of Spot Contracts or ready delivery:
  - A Steel Re Rolling mill buying Ingots/Billets from the producer by paying in advance and taking delivery immediately.
  - Client buying US dollars at bank by paying Indian Rupees.
  - A real estate developer buying TMT steel rebars from Steel Re Rolling mill against immediate payment.
- In Futures Contract price and quantity are fixed as on date but actual transactions or change of hands happen later (eg a month or two months later i.e., beyond 11 days). In this price, quantity and time for delivery of goods are fixed. However, the time for giving or taking delivery of the goods should exceed beyond 11 days of entering into the contract. Futures contracts are used as an 'Insurance' for price risk. Recently, Steel Long has witnessed huge volatility. ICEX Steel Long Futures Contracts can be an effective tool for the Steel industry or any user of Steel Long Say construction industry to safe-guard the businesses from price-risk due to price volatility in Steel prices by taking 'price – risk Insurance'.
- Examples of Forward/Futures Contract:
  - Buying of US dollars in currency derivative exchanges
  - Purchase of home in an under construction project thus insulating from any price escalation
- Futures Contracts are always traded on regulated exchanges. For e.g. all stock & commodity derivative exchanges in India are regulated by Securities Exchange Board of India (SEBI).
- Price movement in Futures Contracts typically mirrors that of physical market. Futures Contract prices move in tandem with Spot price of underlying asset i.e. if the Spot price moves up then the Futures price also, generally, move up and if the spot price moves down then the futures price too generally move down.
- On expiry day, Futures Contract prices converge with the underlying asset price i.e. Spot price.

## INTRODUCTION TO INDIAN STEEL INDUSTRY

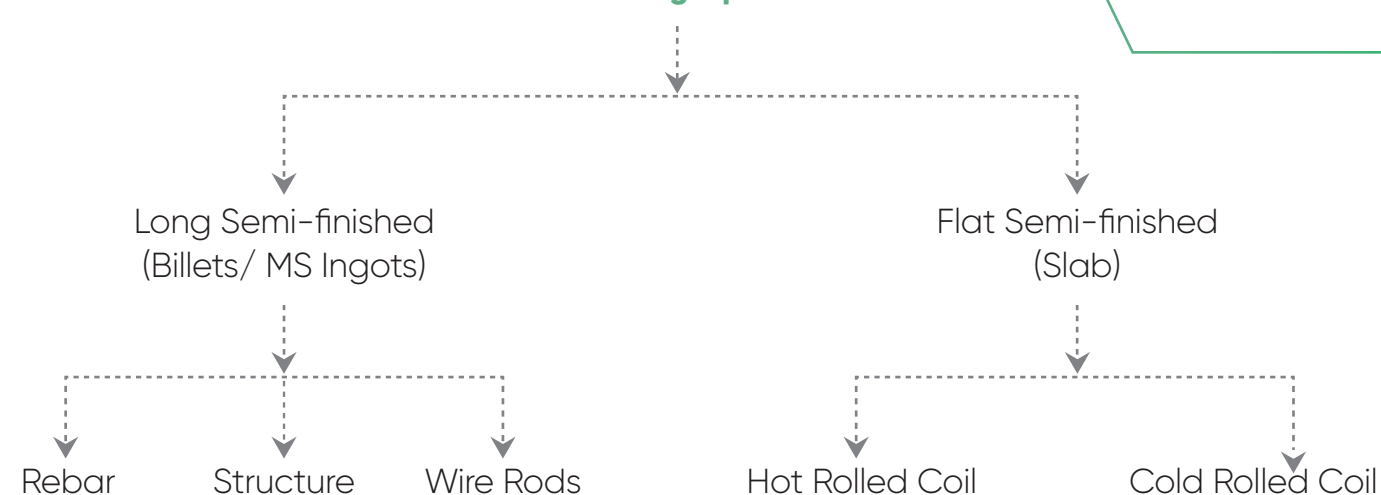


- Steel is an alloy of iron, carbon and other alloying elements viz.; Manganese, Silicon, Sulphur, Phosphorus, etc. Steel is a manufactured product and is defined by the underlying chemistry and physical shape.
- Steel is home to around 3,000 grades depending on the chemistry.
- In terms of physical dimensions, steel is categorised into Flat Products and Long products.
- Flat products consisting of sheets and plates are used in the automobile, domestic appliances, ship building, machine building etc.
- Long products consist of rebars, bars, wires are used primarily in the construction sector. The Steel Long contract underlying products viz. Mild Steel (MS) Ingots and Billets are semi-finished products that are used to produce finished long products. MS Ingots and Billets are covered under Bureau of Indian Standards (BIS) code numbers 2830 and 2831.
- While production of MS Ingots/Billets under BIS 2830 is compulsory since September 2012, the Ministry of Steel, Government of India, had omitted the introduction of compulsory production of MS Ingots/Billets under BIS 2831 vide its order on March 31, 2014.
- The Indian steel industry is the third largest producer as per the World Steel Association data. The Indian steel industry produces around 60% long steel products and 40% flat products as per market estimates. The Indian steel industry comprises large "Integrated Steel Plants" which produce Steel from the virgin raw materials viz.; Iron Ore and Coal/Coke and a vast number of mini Steel plants that recycle Steel from melting scrap.
- The Steel industry is decontrolled since January 16, 1992 in regards to pricing of the products and hence price controls are not applicable.
- The sale, production, imports and exports are governed by market fundamental viz demand and supply.



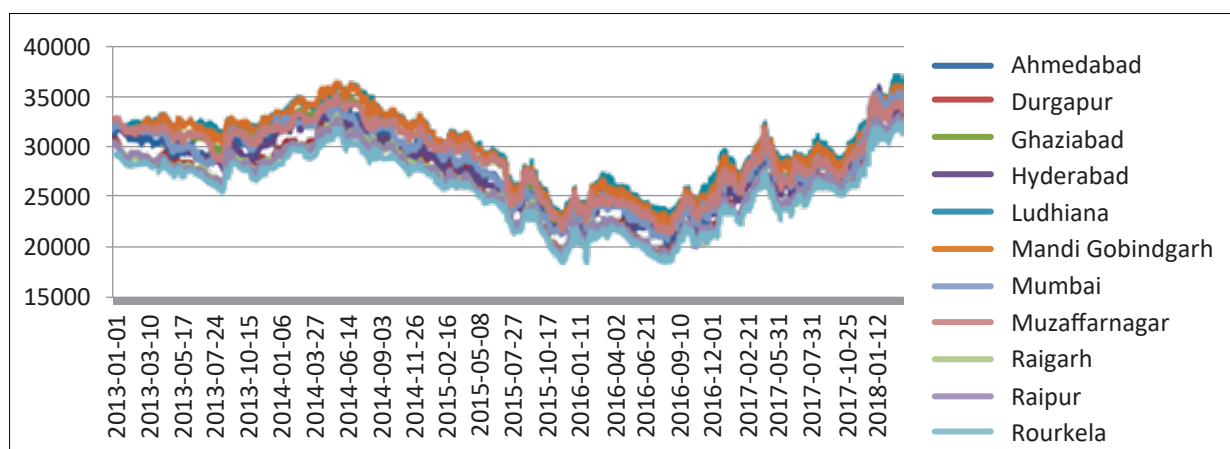
## PRODUCTION STRUCTURE

### Steel Melting Operations



### Challenges In Steel Long Products Industry

- Long products market is characterized by daily prices fluctuations.
- 65% of the Long products production originates from the non-integrated steel producers who are in the small and medium size category (also referred to earlier as secondary steel producers).
- Fragmented nature of the market across India. Major markets are Mandi Govindgarh, Ghaziabad, Raipur, Ahmedabad, Mumbai, Raurkela, Ludhiana, Duragapur and Hyderabad.
- No pricing power on the Steel making raw materials or finished products in respect of secondary steel sector participants.
- Secondary Steel sector participants are most vulnerable to volatile Steel prices and hence under continuous pressure to maintain their conversion costs and margins.



## PRODUCTION STRUCTURE

- The price of Mild Steel (MS) Ingots at Ghaziabad location varied from a low of Rs. 21,300/MT to a high of Rs. 35,100/MT during the period from January 2013 till March 2018.

- How would the secondary Steel sector be able to do business considering it is exposed to price risks on raw materials and finished Steel equally?

- So, is the market prepared to manage such risks arising out of daily price volatility? What is the solution?

### The Solution: ICEX Steel Long Futures Contracts

- The ICEX Steel Long futures contract would enable the Long products segment in the Steel sector viz Sponge iron manufacturers, induction melting furnaces producing MS Ingots/Billets, Steel Re Rolling Mills, traders, commission agents, construction industry buyers to safe-guard against the price uncertainty and protect the business margins. It is similar to taking insurance against price risk or price uncertainty by hedging on ICEX.
- The proposed ICEX Futures contracts allow to fix prices of Steel today thereby:
  - Protecting conversion margins of Steel induction furnaces, Re-Rolling mills.
  - Protecting business margins of construction industry participants.
  - Helping the producers or traders to offer fixed pricing solutions as a value added feature to their customers.

### Ms Ingot/billet Manufacturers

#### Challenges

- Prices of MS Ingots/Billets are determined on a daily basis at various locations by intermediaries/buyers.
- MS Ingots manufacturers have no control on the prices of key raw materials/finished products.
- Huge volatility in Steel prices have a direct bearing on the profitability of the manufacturers.
- No tool available to insure against falling Steel prices.

**Solution to MS Ingot manufacturer:** Illustration: A Manufacturer is buying Steel melting scrap from a trader while selling MS Ingots to a Steel Re Rolling in Spot (physical) market. The manufacturer has bought 120 MT of Steel scrap to produce MS Ingots. Every day he manufactures about 40 MT of MS Ingots, and in 3 days he manufactures 120 MT of MS Ingots, thereby consuming the stock for scrap. (assuming, conversion factor from scrap to ingot is 1:1). But, due to price volatility in MS Ingots, he fears that he might make losses on his unsold inventory. He does not want to SPECULATE or do business based on SPECULATION that the price will remain steady or will rise. As an astute business man he wants to cover all his RISK and focus only on his margins. He takes, price risk insurance from ICEX by doing reverse transaction in ICEX (futures market) i.e., for every buy in the Spot/physical market, he is doing a sell (reverse) transaction in ICEX.



## PRODUCTION STRUCTURE

## STEEL RE ROLLING MILLS

**An Example:** Let’s assume on 1<sup>st</sup> July, 2018 spot price of MS Ingot is Rs. 35,000/MT and ICEX September 2018 Futures is Rs. 35,500/MT.

Day/Date	Daily Spot price & activity	ICEX steel long futures contracts
July 1, 2018	Buy 120 MT steel scrap from trader @ Rs. 28,000/MT and stock.  MS Ingot rate is Rs. 35,000/MT	Sell 120 MT ICEX Sep 2018 contract @ Rs. 35,500/MT traded price
July 1, 2018 (next day price in physical market falls and he is forced to sell MS Ingots at the current price of Rs.34,700/ MT)	MS Ingot rate @ Rs. 34,700/MT Use 40 MT of scrap for producing MS Ingots  Loss on sale of 40 MT of MS Ingot @ Rs. (35000 – 34700)*40 = Rs 12000	ICEX price @ Rs. 35,200/MT Buy 40 MT @ Rs. 35,200/MT  Gain on squaring off 40 MT @ Rs. (35,500*40 – 35,200*40) = Rs. 12,000 (ICEX price mirroring physical market will also fall by similar amount)
July 3, 2018 (next day price in physical market goes up and he is now able to sell MS Ingots at a higher current price of Rs.35,100/ MT)	MS Ingot rate @ Rs. 35,100/MT Use another 40 MT of scrap for producing MS Ingots  Gain on sale of 40 MT of MS Ingot @ Rs. (35,100 – 35,000)*40 = Rs. 4,000	ICEX price @ Rs. 35,200/MT Buy 40 MT @ Rs. 35,200/MT  Gain on squaring off 40 MT @ Rs. (35,500*40 – 35,200*40) = Rs. 12,000 (ICEX price mirroring physical market will also fall by similar amount)
July 4, 2018 (next day price in physical market again falls and he is forced to sell MS Ingots at the current price of Rs. 34,900/ MT)	MS Ingot rate @ Rs. 34,900/MT Use last lot of 40 MT of scrap for producing MS Ingots  Loss on sale of 40 MT of MS Ingot @ Rs. (35,000 – 34,900)*40 = Rs. 4,000	ICEX price @ Rs. 35,400/MT Buy 40 MT @ Rs. 35,400/MT  Gain on squaring off 40 MT @ Rs. (35,500*40 – 35,400*40) = Rs. 4,000 (ICEX price mirroring physical market will also fall by similar amount)
	Profit/Loss = Rs. (-12,000+4,000-4,000) = Rs. 12,000 Loss	Profit/loss = Rs. (+12,000-4,000+4,000) = Rs 12,000 Profit
Overall impact	Rs. (12,000 – 12,000) = Rs 0 viz.; no profit/no loss	

**Conclusion:**  
Irrespective of whether the price of MS Ingots moves up or down in the physical market, by taking an opposite position on ICEX, the manufacturer owner protects himself from price risk thus saving on his margins. Therefore, instead of taking price risk or speculating on the prices to be in his favour, the manufacturer,, insures himself by hedging on ICEX.

### Challenges:

- Prices of finished Steel Long products directly linked to the daily prices of semi-finished products viz Ingots/Billets.

- High volatility seen in the prices of MS Ingots viz 16% annualised in FY 2017-2018.
- No price risk hedging tool available to minimise losses and secure margins.

### Solution for Steel Re Rolling Mill

Illustration: Steel Re Rolling Mill faces twin problems of price risk. One risk is due to price volatility in the input material –MS Ingots and another risk is due to price volatility in the output material – TMT Rebars. In both the cases, he can protect his business from price volatility by, hedging on ICEX. Typically, it has been seen that the re-rolling mills carry an inventory for MS Ingots/Billets and due to which he carries price risk. In this case, the manufacturer can protect his margin on TMT Rebars by selling in ICEX futures. Subsequently, as and when he consumes the Ingots/ Billets, he will cover his position on ICEX by reversing his transactions.

**An Example:** Let’s assume on 1<sup>st</sup> July, 2018 spot price of TMT rebar is Rs. 39,000/MT and ICEX September 2018 Futures is Rs. 35,500/MT.

Day/Date	Daily Spot price & activity	ICEX steel long futures contracts
July 1 <sup>st</sup> , 2018	Buy 150 MT MS Ingots from manufacturer @ Rs. 35,000/MT and stock.  TMT rebar rate is Rs. 39,000/MT	Sell 150 MT ICEX Sep 2018 contract @ Rs. 35,500/MT traded price
July 2 <sup>nd</sup> , 2018 (next day price in physical market falls and he is forced to sell TMT rebars at the current price of Rs. 38,700/ MT)	TMT rebar rate @ Rs. 38,700/MT Use 50 MT of MS Ingots for producing TMT rebars  Loss on sale of 50 MT of TMT rebars @ Rs. (39,000 – 8,700)*50 = Rs. 15,000	ICEX price @ Rs 35,200/MT Buy 50 MT @ Rs 35,200/MT  Gain on squaring off 50 MT @ Rs. (35,500*50 – 35,200*50) = Rs. 15,000
July 3 <sup>rd</sup> , 2018 (next day price in physical market rises and he is able to sell TMT rebars at the prevailing price of Rs. 39,100/MT)	TMT rebar rate @ Rs. 39,100/MT Use another 50 MT of MS Ingots for producing TMT rebars  Gain on sale of 50 MT of TMT rebars @ Rs. (39,100 –39,000)*50 = Rs. 5,000	ICEX price @ Rs 35,600/MT Buy 50 MT @ Rs 35,600/MT  Loss on squaring off 50 MT @ Rs. (35,600*50 – 35,500*50) = Rs. 5,000
July 4 <sup>th</sup> , 2018 (next day price in physical market falls and he is forced to sell TMT rebars at the prevailing price of Rs. 38,900/ MT)	TMT rebars rate @ Rs. 38,900/MT Use last lot of 50 MT of MS Ingots for producing TMT rebars  Loss on sale of 50 MT of TMT rebars @ Rs. (39,000 – 38,900)*50 = Rs. 5,000	ICEX price @ Rs. 35,400/MT Buy 50 MT @ Rs. 35,400/MT  Gain on squaring off 50 MT @ Rs. (35,500*50 – 35,400*50) = Rs. 5,000
	Profit/Loss = Rs. (-15,000+5,000-5,000) = Rs. 15,000 Loss	Profit/loss = Rs. (+15,000-5,000+15,000) = Rs. 15,000 Profit
Overall impact	Rs. (2,0000 – 2,0000) = Rs. 0 viz.; no profit/no loss	





Conclusion:

Irrespective of whether the price of MS Ingots moves up or down in the physical market, by taking an opposite position on ICEX, the Steel Re-Rolling Mill owner protects himself from price risk thus saving on his margins.

Challenges:

- Prices of TMT rebars are volatile due to very highly volatile MS Ingot/Billet prices.
- Volatility in raw material prices viz TMT rebars affect the project costs and profitability.

Solution for Construction Industry

Illustration: A construction company is taking “Steel price insurance” by buying in ICEX futures market and post buying from TMT rebar manufacturer in Spot (physical) he does a reverse transaction in ICEX (futures market) i.e., for every buy in the spot/physical market, he is doing a sell transaction in ICEX. A construction company plans its requirement for TMT rebars for its project running over say 6 months period. The company is worried about price volatility in TMT rebars which might affect its project profitability. It does not want to SPECULATE about the TMT prices remaining constant or coming down or leave it to fate. Being a business savvy company, it covers the price risk or uncertainty over TMT rebar price by hedging price at ICEX The company buys ICEX futures contracts as per its future requirements of TMT, and gradually as and when it buys the rebar from the physical market for the project work, the construction company covers its position in ICEX by selling its original positions.

**An Example:** Let’s assume on 1<sup>st</sup> July, 2018 spot price of TMT rebar is Rs. 39,000/MT and ICEX August 2018 Futures is Rs. 35,500/MT and the monthly requirement is 150 MT.

Day/ Date	Daily Spot price & activity	ICEX steel long futures contracts
July 1 <sup>st</sup> , 2018	TMT rebar rate is Rs. 39,000/MT	Buy 150 MT ICEX Aug 2018 contract @ Rs. 35,500/MT traded price
August 1 <sup>st</sup> , 2018 (next day price of TMT physical market moves up & the company is forced to buy at the current price of Rs. 39,700/ MT)	TMT rebar rate @ Rs 39,700/MT Buy 150 MT of TMT rebars @ Rs 39,700/MT Loss on buying of 150 MT of TMT rebars @ Rs. (39,700 – 39,000)*150 = Rs. 1,05,000	ICEX price @ Rs 36,200/MT Sell 150 MT @ Rs 36,200/MT Gain on squaring off 150 MT @ Rs. (35,500*50 – 35,200*50) = Rs. 1,05,000
	Profit/Loss = Rs. 1,05,000 Loss	Profit/loss = Rs. 1,05,000 Profit
Overall impact	Rs. (20,000 – 20,000) = Rs 0 viz.; no profit/no loss	

Conclusion:

Irrespective of whether the price of TMT rebar moves up or down in the physical market, by taking an opposite position on ICEX, the construction company protects itself from price risk thus saving on its margins.

Salient Features of Contract Specifications

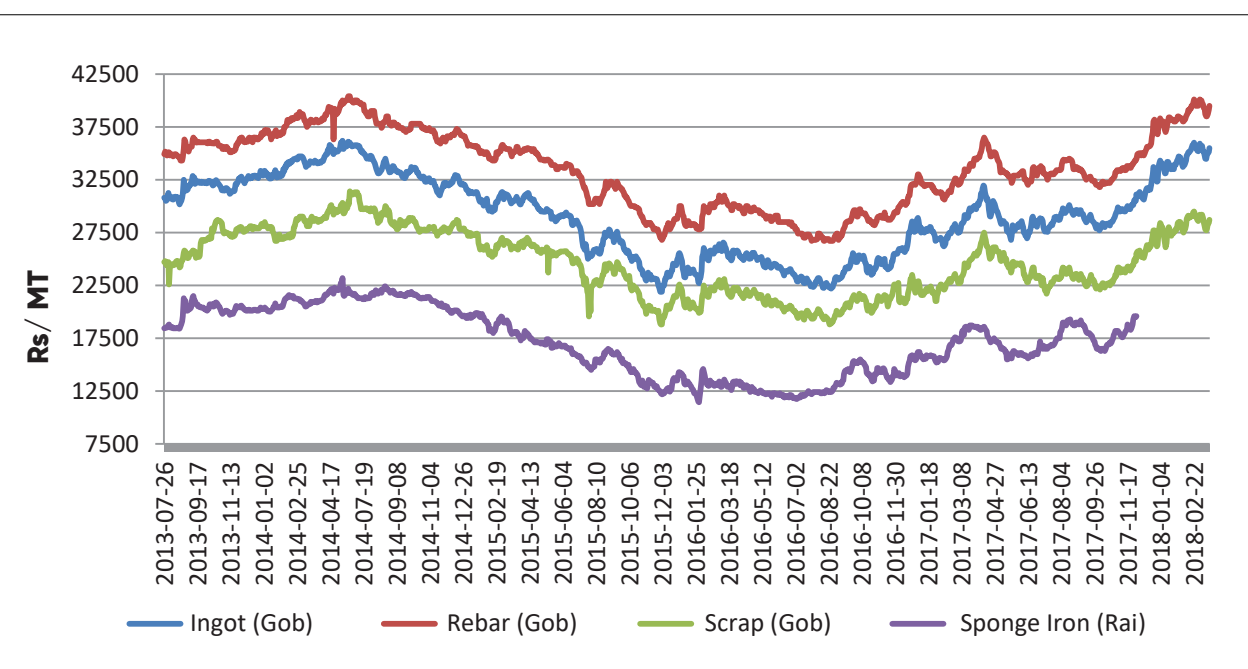
Product	Steel Long
Trading Unit	10 MT
Quotation/ Base Value	Rs. per MT
Price Quote	Ex - Ghaziabad (exclusive of GST and any other levies but inclusive of customs duties in case of imports)
Delivery Logic	Compulsory Delivery
Tick Size (Minimum movement of price Movement)	Rs. 10 per MT
Initial Margin	Min. 4 % or VaR whichever is higher and in addition to this ELM of 1% shall be levied.
Last Trading Day	5 <sup>th</sup> day of contract expiry month. If 5 <sup>th</sup> day is a holiday then preceding working day.
Due Date Rate (DDR)	DDR is calculated on the expiry day of the contract by way of taking simple average of Spot market prices of Ghaziabad for last 3 trading days viz., E0 (expiry day), E-1 and E-2. In the event the spot price for any one or both of E- 1 and E-2 is not available; the simple average of the last polled spot price of E0, E-1, E-2 and E-3, whichever available, shall be taken as DDR.
Trading Period	Monday to Friday
Trading Session	Monday to Friday: 10.00 a.m. to 11.30 / 11.55* p.m. *due to US day light saving timings
Number of Contracts	Three consecutive months running concurrently



## CONSTRUCTION INDUSTRY

### Benefits of ICEX Steel Long Contracts:

- Allows to buy Steel tomorrow at today's price.
- Fixing prices results in fixing business margins/commissions.
- The hedging cost of Steel Long on ICEX is lesser than the cost of general insurance cover.
- Market participants including manufacturers and traders can now acquire new clients by offering them fixed rate.
- Eliminates counter party risk when trading on ICEX Steel Long contracts.
- Offers high leverage as the margin required to take positions in Steel Long would be generally 5%.
- Beneficial to all manufacturers, traders and consumers across India since there is high degree of correlation between prices across various locations in India (as seen in the graph below).
- On account of the high degree of co-relation between MS Ingots and Steel making raw materials as well as finished Long Steel products, the contracts can be used as a proxy hedging medium for scrap, sponge iron, TMT rebar products.



## STRENGTH BUILDS ON STRENGTH: OUR MAJOR SHAREHOLDERS

ICEX is set up by the country's premiere large public sector institutions – MMTC, KRIBHCO, Indian Potash Ltd. & IDFC Bank, stalwarts with unmatched experience in the finance sector, and an impressive, forward thinking, trend setting set of private sector institutions – Reliance Exchange Next Ltd. (A group Company of Reliance Capital) & Indiabulls Housing Financial Services, to provide a hedging platform to the Commodities Market.

