DCE
DALIAN COMMODITY EXCHANGE

IRON ORE FUTURES AND OPTIONS

JUNE
2021

Disclaimer:

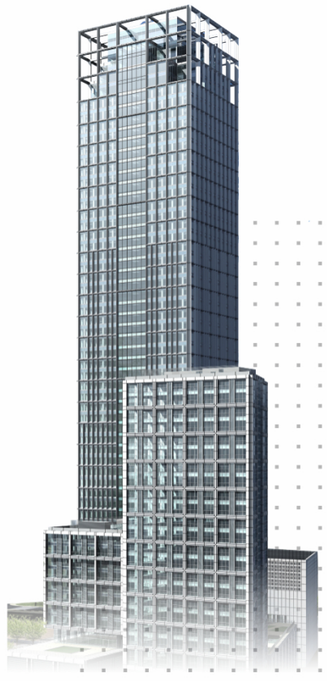
This document is prepared by DCE for the sole purpose of providing general information about the futures market in China.

This document is confidential and may not be distributed, published or reproduced in whole or in part, nor should its contents be disclosed by recipients to any other person. Certain of the information contained in this document has been obtained from published sources prepared by other parties. Whilst sources are believed to be reliable, neither DCE nor any other person accepts responsibility for the accuracy or completeness of such information. No representation or warranty, express or implied is given in connection with any information given in this document and no responsibility is accepted by DCE, its associates or any of their directors, officers, employees or agents, in respect thereof. The delivery of this document does not imply that the information herein is correct.

All statements of opinion and/or belief contained in this document and all views expressed and all projections, forecasts or statements relating to expectations regarding future events or the possible future performance of DCE represent its own assessment and interpretation of information available to it as at the date of this document. No representation is made or assurance given that such statements, views, projections or forecasts are correct or that the objectives of DCE will be achieved.

The information, opinions and projections contained in this document are strictly private and confidential and accordingly the contents of this document and any other information or opinions subsequently supplied or given in connection with the seminar constitute confidential information and may not be published, reproduced, copied or disclosed to any person other than the professional advisers to the recipient of this document having a need to know and who are aware that it is confidential, nor used for any purpose other than in connection with the seminar. The recipient will keep this document and all information subsequently supplied or given to it or its agents and advisers safe and secure so as to prevent any unauthorized person having access to it.

www.dce.com.cn
Address: No.129 Huizhan Road, Dalian 116023, China
Tel: (86) 411-8480 8888 Fax: (86) 411-8480 8588



About Dalian Commodity Exchange (DCE)

Established in 1993, Dalian Commodity Exchange (DCE) is one of the five futures exchanges under the supervision and administration of the China Securities Regulatory Commission (CSRC) upon approval of the State Council. DCE futures products cover agricultural, petrochemical, energy and metal sectors, serving several important industries in China's national economy.

The Dalian futures market helps in price discovery and risk management for market participants and facilitates the development of related industries. In 2020, DCE was ranked 7th by the Futures Industry Association (FIA) in terms of total trading volume.

LISTED CONTRACTS

Futures:

- Corn
- Corn Starch
- No.1 Soybean
- Egg
- No.2 Soybean
- Soybean Meal
- Soybean Oil
- RBD Palm Olein
- Fiberboard
- Blockboard
- Polished Round-grained rice
- Live Hog
- LLDPE
- PVC
- PP
- Coking Coal
- Coke
- Iron Ore
- Ethylene Glycol
- Ethenylbenzene
- LPG

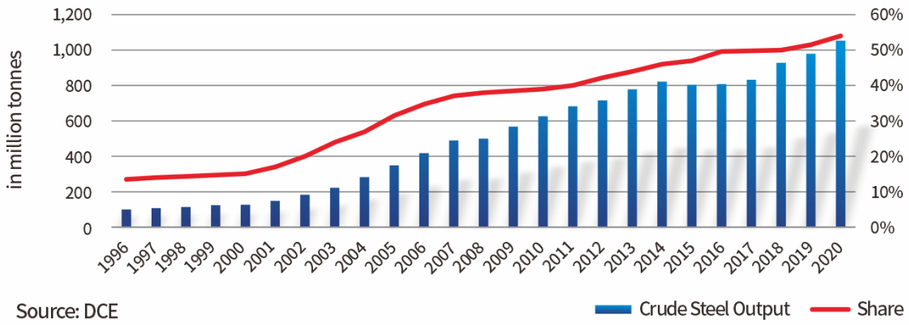
Options:

- Soybean Meal
- Corn
- RBD Palm Olein
- Iron Ore
- LPG
- LLDPE
- PVC
- PP

INTRODUCTION

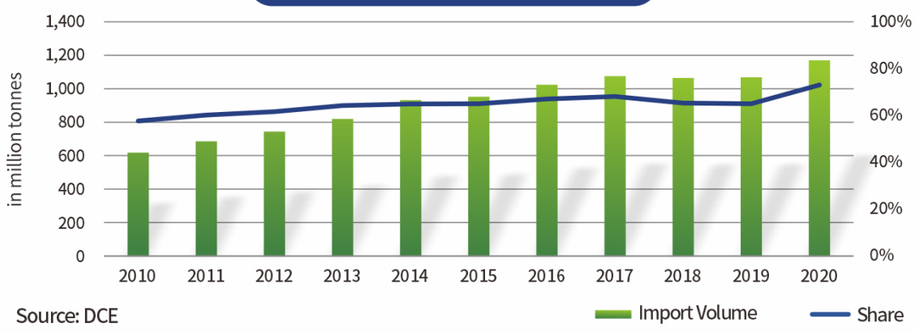
China has become the largest steel producer since 2000s, which resulted in a strong need for high-quality iron ore imports. China also remained as the largest importer of iron ore and consumes over 60% of iron ore worldwide during the past few years. The import volume has reached 10 million metric tonnes since 2016, China imported around 11 million metric tonnes of iron ore in 2020, while Australia, Brazil and South Africa were main exporters.

China Crude Steel Production



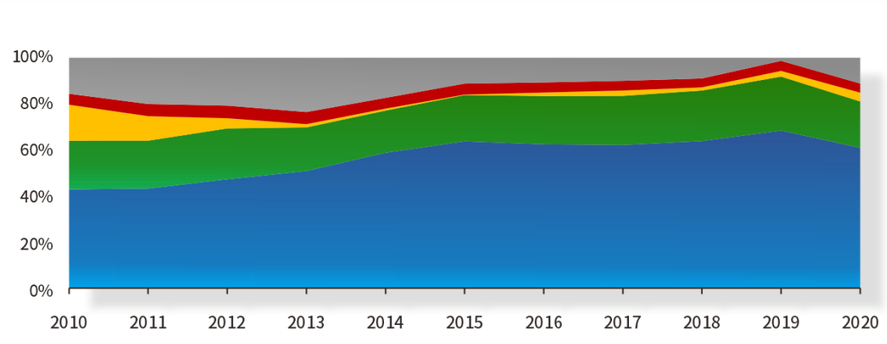
Source: DCE

China Iron Ore Import Volume



Source: DCE

Source of China Iron Ore Import



Source: DCE

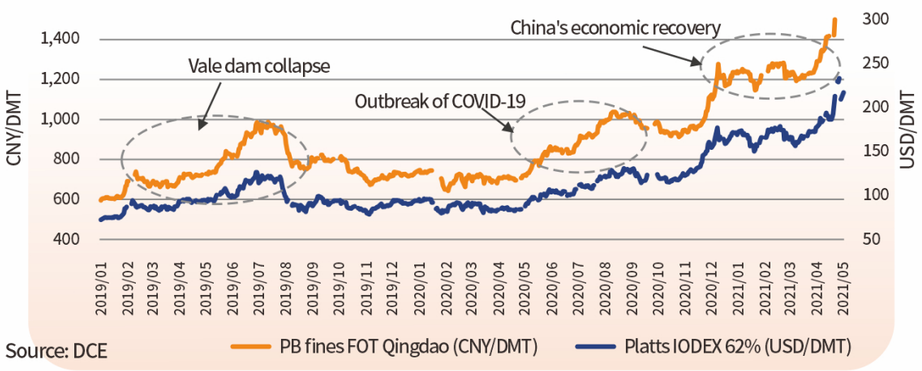
Before 2000s, iron ore was priced with annual price benchmarking system which stepped into the history in 1980s. Under this system, major miners prefer an annual negotiation with representatives of steel mills. The price agreed would be set as the annual benchmark in later negotiations with other buyers.

Since 2000, developing countries especially China have experienced rapid economic growth, China has replaced Japan and became the largest steel maker, hence the supply-demand relationship of iron ore was shifted dramatically. Due to the global financial crisis and demand downswing, China refused the benchmark price set by major miners in 2010, thus the annual price benchmarking system collapsed and replaced by quarterly or monthly index-linked pricing system which synchronized with spot market trends. The index-linked pricing system was built on price assessments published by price reporting agencies (PRA).

As one of the most traded commodities worldwide, iron ore could be rather vulnerable to factors including macroeconomic environment, demands, natural disasters etc. Especially in the past 2019 and 2020, iron ore industry has witnessed drastic price fluctuations due to various natural disasters and the COVID-19, annual price volatility of iron ore has reached over 30%, which presented a considerable threat to industrial participants and their risk management. In such circumstances a reliable hedging tool seems indispensable.

IRON ORE
FUTURES AND OPTIONS

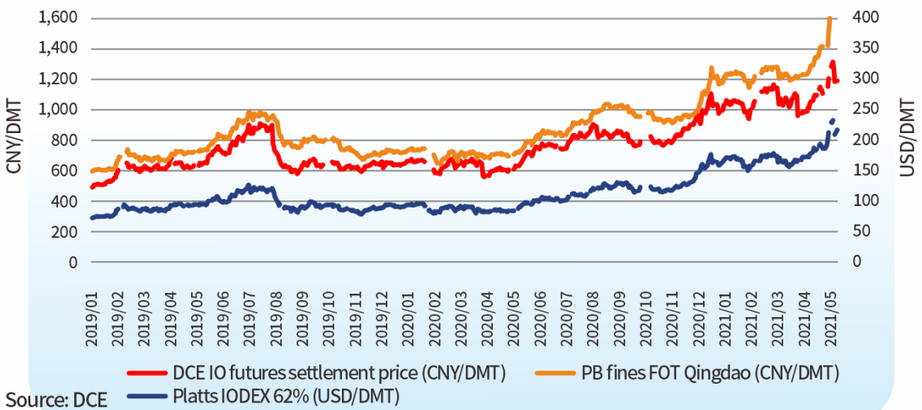
Iron Ore Spot Price (2019.1-2021.5)



Source: DCE

DCE has launched physically-settled iron ore futures in 2013 and iron ore options in 2019, which helps with price discovery and hedging for industrial participants. Since the listing, DCE iron ore futures have evolved to be the most traded iron ore futures products and second most traded metal futures worldwide. DCE iron ore futures provided industrial participants with a reliable hedging instrument to manage price risks. The correlations between DCE iron ore futures and underlying spot market remains relatively high, thus the hedging efficiency of DCE iron ore futures could be as high as 95%.

DCE Iron Ore Futures Price vs Iron Ore Spot Price



Source: DCE

IRON ORE
FUTURES AND OPTIONS

Prices discovered on DCE serve as important references for the iron ore physical market. DCE is reshaping trading patterns of the iron ore spot market, with increasing amount of iron ore priced with DCE prices.

Since introducing overseas investors into its iron ore futures in May 2018, DCE has always been devoted to open up more products to overseas investors. Currently overseas investors could have access to iron ore futures, RBD palm olein futures and RBD palm olein options in DCE.

DCE provided direct access for overseas investors where overseas futures brokers and proprietary traders could apply for **Overseas Special Participants**, besides, overseas investors could also open accounts either through DCE futures company members directly or through sub-delegation channel where they have access to DCE futures company members via registered overseas brokers.

CONTRACT SPECIFICATIONS

Iron Ore Futures Contract of Dalian Commodity Exchange (DCE)

Product	Iron Ore
Trading Unit	100 MT/Lot
Price Quote Unit	CNY/MT
Minimum Tick Size	0.5 CNY/MT
Daily Price Limit Range*	4% of last settlement price
Contract Months	Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec
Trading Hours	9:00 - 11:30 a.m., 1:30 - 3:00 p.m., Beijing Time, Monday to Friday, and other trading hours announced by DCE
Last Trading Day	The 10th trading day of the contract month
Last Delivery Day	The 3rd trading day after the last trading day
Deliverable Grades	Iron Ore Delivery Quality Standard of DCE(F/DCE I004-2021), the deliverable brands and the brand discounts and/or premiums will be separately prescribed by DCE.
Delivery Point	The delivery warehouses and delivery locations of iron ore designated by DCE
Minimum Trading Margin*	5% of the contract value
Delivery Form	Physical delivery
Ticker Symbol	I
Listed Exchange	DCE

Note: DCE may adjust the daily price limit ranges and the trading margins of each contract according to market conditions. For details of current trading parameters of each contract, please see below website: www.dce.com.cn/DCE/TradingClearing/Business%20Parameters/Trading%20Parameters/index.html

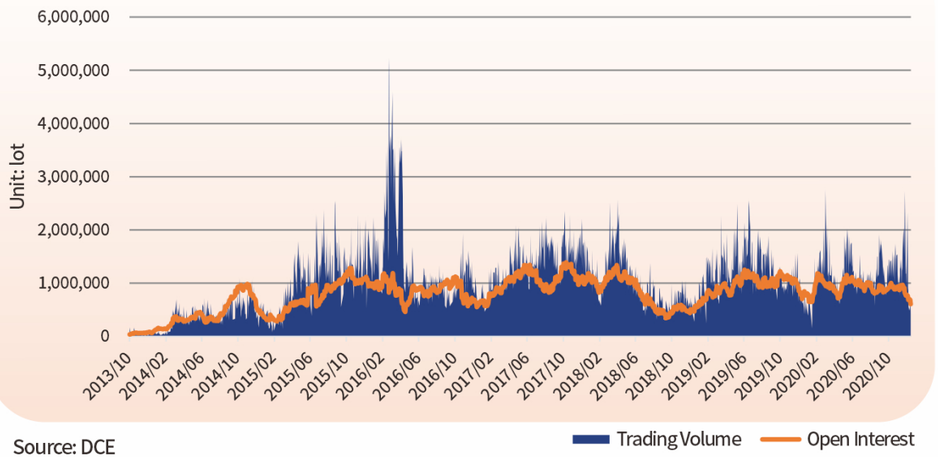
IRON ORE
FUTURES AND OPTIONS

Iron Ore Options Contract of Dalian Commodity Exchange (DCE)

Product	Iron Ore Options
Underlying	Iron Ore Futures Contract
Contract Type	Call Options, Put Options
Trading Unit	One lot (100 MT) iron ore futures contract
Quote Unit	CNY / MT
Minimum Tick Size	0.1 CNY / MT
Price Limit	The same with that of iron ore futures contract
Contract Months	January, February, March, April, May, June, July, August, September, October, November, and December
Trading Time	09:00 - 11:30 and 13:30 - 15:00 every Monday to Friday, other time specified by the Exchange
Last Trading Day	The 5th trading day in the month preceding the delivery month of the underlying futures contract
Expiration Day	The same with the last trading day
Exercise Prices	The exercise price is the settlement price of iron ore futures contract on the last trading day plus or minus 1.5 times of the price limit on that day. When the exercise price is no more than 300 CNY / MT, the exercise price interval is 5 CNY / MT; when the exercise price is no more than 1,000 CNY / MT but no less than 300 CNY / MT, the exercise price interval is 10 CNY / MT; when the exercise price is more than 1,000 CNY / MT, the exercise price interval is 20 CNY / MT.
Exercise Style	American Style: the buyer can exercise at any trading time before the expiration day or before 15:30 on the expiration day.
Trading Code	Call Options: I-Contract Month-C-Exercise Price Put Options: I-Contract Month-P-Exercise Price
Listed Exchange	DCE

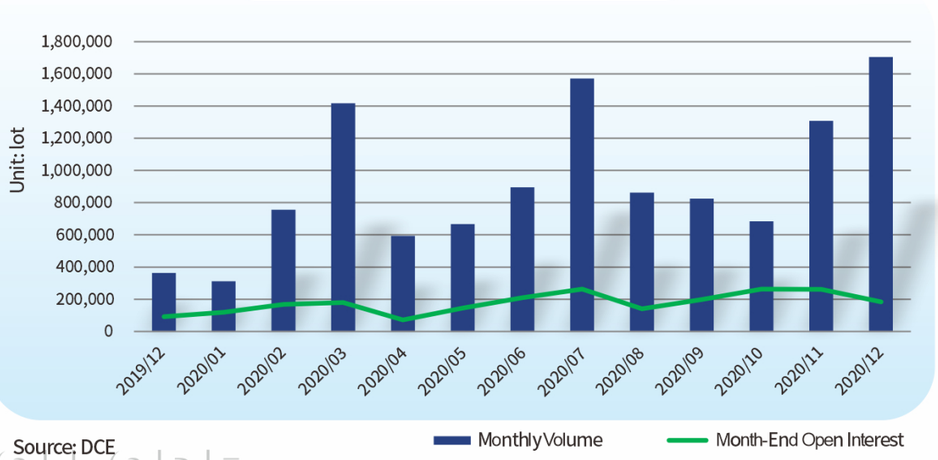
TRADING VOLUME AND OPEN INTEREST

DCE Iron Ore Futures Daily Volume and OI



Source: DCE

DCE Iron Ore Options Volume and OI



Source: DCE

IRON ORE FUTURES AND OPTIONS

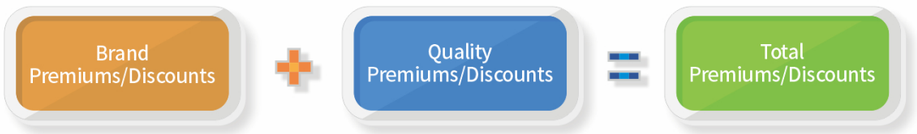
IRON ORE DELIVERY QUALITY STANDARD

(F/DCE I004-2021)

In order to further satisfy the market needs and serve the real economy, DCE has improved its iron ore delivery quality standard in May 2021, the amended contracts and rules entered into force from the launch of i2205 contract.

In the new quality standard (F/DCE I004-2021), only deliverable brands (currently 17 brands) would be allowed to be delivered in the physical delivery. The total premiums/discounts of each deliverable brand would be the sum of brand premiums/discounts and quality premiums/discounts. The quality premiums/discounts represent the quality difference including content of key elements such as iron (Fe), aluminum oxide (Al_2O_3), silicon dioxide (SiO_2), Sulfur (S), phosphorus (P), while brand premiums/discounts represent the liquidity of ores in the physical market such as import volume and port inventory level.

DCE would update premiums/discounts on a semi-annual basis and deliverable brands would be adjusted according to market conditions.



Quality Premiums and Discounts

Quality requirements of standard products (par grade)

Item	Quality Standards
Iron (Fe)	=61.0%
Silicon Dioxide (SiO_2)	=4.5%
Aluminum Oxide (Al_2O_3)	=2.5%
Phosphorus (P)	⩽0.10%
Sulfur (S)	⩽0.03%

Quality difference and premiums/discounts of substitute products

Item	Permissible Range	Premium/Discount (CNY/MT)	
Iron (Fe)	⩾56.0%	[60.0%,63.5%]	Compared with 61%, discount of X per decrease of 0.1%; premium of X per increase of 0.1%
		[56.0%,60.0%)	Compared with 60%, discount of X+1.5 per decrease of 0.1%, and accumulated with the discount of [60.0%, 63.5%]
		>63.5%	Compared with 63.5%, premium of X+1.0 per increase of 0.1%, and accumulated with the premium of [60.0%, 63.5%]
Silicon dioxide (SiO_2)	⩽8.5%	<4.5%	Compared with 4.5%, premium of 0.5 per decrease of 0.1%
		(4.5%,6.5%]	Compared with 4.5%, discount of 1.0 per increase of 0.1%
		(6.5%,8.5%]	Compared with 6.5%, discount of 1.5 per increase of 0.1%, and accumulated with the discount of (4.5%, 6.5%]
Aluminum oxide (Al_2O_3)	⩽3.5%	<1.0%	Accounted as per 1.0%
		[1.0%,2.5%)	Compared with 2.5%, premium of 2.0 per decrease of 0.1%
		(2.5%,3.5%]	Compared with 2.5%, discount of 3.0 per increase of 0.1%
Phosphorus (P)	⩽0.15%	(0.10%,0.12%]	Compared with 0.10%, discount of 10.0 per increase of 0.01%
		(0.12%,0.15%]	Compared with 0.12%, discount of 15.0 per increase of 0.01%, and accumulated with the discount of (0.10%,0.12%]
Sulfur (S)	⩽0.20%	(0.03%,0.10%]	Compared with 0.03%, discount of 1.0 per increase of 0.01%
		(0.10%,0.20%]	Compared with 0.10%, discount of 5.0 per increase of 0.01%, and accumulated with the discount of (0.03%, 0.10%]

In particular, the sum of silicon dioxide (SiO_2) and aluminum oxide (Al_2O_3) shall not exceed 10%. The determination method, publication time and implementation time for the X value in the quality premium/discount of Iron (Fe) item are as follows:

Publication Time	Determination Method for X Value	Implementation Time
Last trading day in each March	Taking the daily settlement price of the contract in the latest delivery month from the 11th trading day in September of the previous year to the 10th trading day in March of the current year to calculate the arithmetic mean value. If such value<600 CNY/MT, then X=1.0 CNY/MT; If 600 CNY/MT⩽such value⩽1,200 CNY/MT, then X=1.5 CNY/MT; If such value>1,200 CNY/MT, then X=2.0 CNY/MT.	From the first trading day in October of the current year to the last trading day in March of the next year
Last trading day in September each year	Taking the daily settlement price of the contract in the latest delivery month from the 11th trading day in March of the current year to the 10th trading day in September of the current year to calculate the arithmetic mean value. If such value<600 CNY/MT, then X=1.0 CNY/MT; If 600 CNY/MT⩽such value⩽1,200 CNY/MT, then X=1.5 CNY/MT; If such value>1,200 CNY/MT, then X=2.0 CNY/MT.	From the first trading day in April of the next year to the last trading day in September of the next year

Deliverable Brands and Relevant Brand Premiums and Discounts

Brand Name	Short Name	Manufacturer	Brand Premiums & Discounts (CNY/MT)
HBIS Mining Concentrates	HBIS Concentrates	HBIS Mining Co., Ltd.	0
Ansteel Mining Concentrates	Ansteel Concentrates	Ansteel Mining Co., Ltd.	0
Benxi Steel Mining Concentrate	BX Steel Concentrates	Benxi Steel Mining Co., Ltd.	0
Karara Standard Magnetite Concentrate	KARARACONCENTRATE	KARARA MINING LTD	0
PILBARA BLEND FINES	PB FINES	Rio Tinto Commercial Pte. Ltd., Robe River Ore Sales Pty. Ltd. and Hope Downs Marketing Company Pty. Ltd.	15
NEWMAN HIGH GRADE FINE ORE	NEWMAN FINES	BHP Billiton Marketing AG (Singapore Branch)	0
MAC FINE ORE	MAC FINES	BHP Billiton Marketing AG(Singapore Branch)	0
JIMBLEBAR BLEND FINE ORE	JIMBLEBAR FINES	BHP Billiton Marketing AG(Singapore Branch)	0
ROY-F	ROY HILL FINES	Roy Hill Iron Ore Pty Ltd.	0
Brazilian Blend Fines	BRBF	VALE INTERNATIONAL S.A. Valley Metal (Shanghai) Co., Ltd.	15
YANDI FINE ORE	YANDI FINES	BHP Billiton Marketing AG(Singapore Branch)	0
FORTESCUE BLEND FINES	FMG BLEND FINES	CHICHESTER METALS PTY LTD	0
SUPER SPECIAL FINE	SUPER SPECIAL FINE	CHICHESTER METALS PTY LTD	0
IRON ORE FINES-IOC6	IOC6	CSN MINERACAO S.A.	0
KUMBA STANDARD FINE ORE	KUMBA	Kumba Singapore (Pte) Ltd	0
Carajas Iron Ore	Carajas FINES	VALE INTERNATIONAL S.A.	15
AGGLOMERATE IRON ORE CONCENTRATE	AGGLOMERATE CONCENTRATE	METINVEST INTERNATIONAL S.A.	0

*Applicable to Iron Ore Futures Contract 2205 and subsequent contracts.

PHYSICAL DELIVERY

DCE provided various modes of physical delivery for the physically-delivered iron ore futures including EFP (exchange of futures for physical), one-off delivery, bill of lading delivery and rolling delivery. For overseas investors, DCE offers iron ore bonded delivery at the Dalian port and Qingdao port for all of the four delivery modes available.

As at June 1st 2021, there are 10 iron ore delivery warehouses as well as 24 iron ore delivery factory warehouses within China. The location of those delivery points has been chosen specifically in order to be consistent with iron ore physical market.

DCE OTC PLATFORM SWAP & BASIS TRADING

Apart from exchange-traded futures and options, DCE has also launched swaps and basis trading based on DCE futures prices on its OTC platform in order to better cater to hedging needs of industrial participants.

In comparison with futures and options, OTC derivatives such as swaps can be highly customized to industrial participants' risk management. Participants could trade swaps based on outright futures contracts, price spreads, published indexes by DCE. Since its launch in 2019, DCE OTC swaps have served numerous participants from ferrous, petrochemical and agricultural industries, the overall nominal value of contracts has surpassed 1.8 billion RMB.

Basis trading is a form of cash trade based on "DCE futures price + basis" mechanism, by using DCE futures price as the pricing reference in cash trade, industrial participants could benefit from large liquidity, transparent price discovery process of DCE futures market. As at April 2021, industrial participants have closed over 400 deals and the nominal value has reached over 2 billion RMB.

IRON ORE
FUTURES AND OPTIONS