Containerized Freight Index (Europe service) Futures

Trading Handbook

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上海期貨交易所
SHANGHAI FUTURES EXCHANGE
上海国际能源交易中心
SHANGHAI INTERNATIONAL ENERGY EXCHANGE

Containerized Freight Index(Europe service) Futures Trading Handbook 2023 Edition

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INTERNATIONAL CONTAINER SHIPPING MARKET

Development of the international container shipping market

International container shipping refers to a mode of transport whereby the carrier regularly delivers, through containers, the cargoes consigned by the shipper from one country to another between fixed ports of call, along fixed routes, and in accordance with the pre-established sailing schedules and rules. Container ships carry virtually all types of break-bulk cargo other than dry bulk goods, petroleum products, and special goods, and serve various economic sectors and industries, thus having a far-reaching impact on the national economy.

In April 1956, Malcolm McLean, an American truck businessman, converted a T-2 Ideal-X tanker dubbed Maxton to transport 58 large containers on the deck from Newark to Houston. The three-month trial generated tremendous economic benefits, demonstrating the superiority of container shipping. In October 1957, McLean's Sea-Land company converted six C-2 break-bulk cargo ships into cellular container ships. The first of this kind vessel was the 90,000 DWT Gateway City, which equipped with its own set of gantry cranes and carrying 226 35-foot containers, sailed on its maiden voyage from Newark for Houston, marking the start of container shipping.

The period between 1966 and 1983 was critical for container adoption across the world. International container shipping, especially maritime transport, grew rapidly in these years as its advantages were increasingly recognized due to rising global trade, a substantially larger share of container cargoes, and better port facilities. The container shipping industry matured and finally became a key pillar for global trade after 1984, amid changing global industry distribution, booming global trade, and improving legal frameworks.

In China, container shipping started off between 1973 and 1978, expanded after 1990, and experienced exponential growth after 2001, when the country was admitted to WTO. An essential part of China's container shipping market, Shanghai recorded a container throughput of more than 47.30 million TEU in 2022, topping the world list for 13 consecutive years.

Steps in export container shipping

Export container shipping generally contains nine steps: booking, acceptance of shipping order, dispatch/picking-up of empty containers, stuffing, haulage of loaded container to port, customs declaration and inspection, loading, departure, and exchange for a bill of lading (B/L).

(1)Booking The shipper is required to complete a *Container Booking Note* some time before the shipment in accordance with the terms of the sales contract or letter of credit to book capacity through a freight forwarder or with a liner directly.

In general, a liner opens its booking portal about one month before sailing, allowing shippers with long-term agreements to book capacity and confirm freight rate directly or through a freight forwarder; shippers without long-term agreements can also book capacity but cannot confirm the freight rate until several days before the sailing.

(2)Acceptance of shipping order. The liner or its agent decides whether to fulfill the shipping order based on its capacity, route, and other factors and the shipper's needs. If the order is accepted, the liner will prepare a booking list and send it to a Container Yard (CY) or Container Freight Station (CFS). The CY or CFS will accordingly arrange empty containers and perform transfer procedure. The liner will also send an equipment interchange receipt (EIR) to the shipper or its agent to close the booking process.

(3)Dispatch/picking-up of empty containers. In Full-Container Load (FCL) shipping, empty containers are usually picked up by the shipper or its agent at the CY with an EIR, although some shippers also use their own containers. In Less-Than-Container Load (LCL) shipping, empty containers are picked up by the CFS with an EIR. The shipment needs become reasonably certain once the shipper picks up the empty containers.

(4)Stuffing. Under FCL, the shipper is responsible for loading goods into containers at its warehouse or factory. Under LCL, the shipper or its agent will deliver the goods that will not take up the entire space of a container to the CFS for consolidation.

After consolidation, the consolidator will complete a Container Load Plan, which specifies the name, quantity, and stuffing of the goods in the container and serves as the only document recording the particulars of the goods.

(5)Haulage of loaded container to port. The shipper, its agent, or the CFS delivers the loaded containers to the CY before its closing. The CY will verify the Dock Receipt and Container Load Plan against the booking list and inspect the goods. Upon acceptance of the goods, the CY will sign the Dock Receipt and return the signed original to the shipper or its agent. Under LCL, the CFS will sign the Dock Receipt when the shipper or its agent delivers the goods to the CFS and return the signed original.

(6)Customs declaration and inspection. Before loading and shipment, the shipper or its agent needs to present the Dock Receipt, export license, and commodity inspection certificate to the customs and the inspection and quarantine authority. The dock receipt will be stamped with the clearance seal once the shipment is cleared.

(7)Loading. The container terminal prepares a stowage plan according to the cargo to be loaded and then moves the containers to the marshaling yard for loading once the ship is berthed. If the cargo exceeds the capacity of the ship on duty, the liner will shut out excess goods based on shippers' needs, which will be loaded onto subsequent ships.

(8)Departure. The ship is loaded with the cargo and will leave the port by the liner's sailing schedule to the destination port.

(9)Exchanging for a B/L. The liner will make a B/L for the loaded cargo after the container ship leaves the port for two to three days. A B/L can be a shipped-on-board one or a received-for-shipment one. The former is issued after the cargo is loaded; the latter is issued before the cargo is loaded, and therefore can only prove the transfer of cargo from the shipper to the carrier, but not the loading time. After being stamped with the word "loaded" and the loading time, a received-for-shipment B/L will become a shipped-on-board B/L.

Main liners providing Shanghai-Europe service

There are 10 liners operating the Shanghai-Europe route by August 2023, namely COSCO Shipping Lines, CMA CGM (France), Evergreen Marine (Taiwan, China), Hapag-Lloyd (Germany), Maersk (Denmark), Mediterranean Shipping Company (Switzerland), Ocean Network Express (Japan), Orient Overseas Container Line (Hong Kong, China), Yang Ming Marine (Taiwan, China), and HMM (Korea).

Major ports in the international container shipping market

The world's top ten container ports in 2022 were Shanghai, Singapore, Ningbo Zhoushan, Shenzhen, Qingdao, Guangzhou, Busan, Tianjin, Hong Kong (China), and Rotterdam, with Chinese ports taking seven of the top ten spots by throughput. The seven ports had a combined throughput of 198 million TEU, accounting for 72.9% of that of the top ten. Notably, the Shanghai Port, with a throughput of 47.30 million TEU, has been the largest container port in the world for 13 years in a row.

COMPOSITION AND INFLUENCING FACTORS OF THE INTERNATIONAL CONTAINER FREIGHT RATE

Freight rate is the price charged by a container liner for providing products and services and carrying each unit of cargo.

Composition of the international container freight rate

The freight rate has two major components-basic ocean freight and surcharges—and is commonly quoted and settled in U.S. dollars. Basic ocean freight is charged by liners for each pricing unit (such as 1 FEU or TEU) of cargo shipped under the CY/CY term. Surcharges are the additional fees charged by liners according to the specific terms of carriage, fuel prices, peak or off-peak seasons, industry practices, etc. Examples include bunker fuel surcharge, currency surcharge, peak season surcharge, war risk surcharge, congestion surcharge, canal surcharge, International Security Port Surcharge, and inland transshipment charges. In addition to the regular freight, international container shippers also need to bear a list of expenses quoted in their local currencies, such as terminal handling charges, documentation charges, telex release charges, customs declaration charges, container loading charges, and trucking charges.

Major factors influencing the international container freight rate

(1)Supply and demand. The supply and demand of the international container shipping market is the determinant of the freight rate. The freight rate falls when the supply rises, and vice versa; it rises when the demand rises, and vice versa.

(2)Operating cost. The level of costs has a remarkable impact on the freight rate. The main components of container shipping costs are fixed investment in vessels and containers, voyage operation cost, administrative expenses, and financial expenses.

(3)Global economy. The demand for international container shipping arises from global trade. Growth in global container capacity and growth in global trade are closely related. The international container freight rate is also strongly linked to the global economic environment.

(4)Exchange rate. Exchange rate fluctuations can have an impact on the cost control and profit calculation of liner companies, thus affecting their freight rate.

(5)Geopolitics. Political factors are mainly past or future policies or major events that had or will have an impact on the global trade. Political factors will often trigger a short-term swing in the freight rate and affect the long-term price trend.

(6)Other factors. Due to the diversity of goods and a long transport chain, the international container freight rate is impacted by many other factors, such as changes in upstream or downstream industries, weather, port strikes, anti-monopoly amendments, price negotiations for long-term supply agreements, alliance restructuring, and competition.

Major pricing models in the international container shipping market

Major pricing models in the international container shipping market include contract pricing and spot market pricing. Contract pricing is an approach whereby a liner signs a long-term transport service agreement with a cargo owner, specifying freight rate calculations, shipping size, and term. This approach can ensure stable cargo source for the liner and proper transport arrangements for the cargo owner. Spot market pricing is an approach whereby a liner sets the freight rate for each voyage in light of market conditions including supply and demand and competition strategies, and makes adjustment according to cargo owners. As the Shanghai Containerized Freight Index (SCFI) issued by Shanghai Shipping Exchange (SSE) is increasingly recognized, transport agreements settled based on SCFI grow in number.

COMPILATION AND PUBLICATION OF CONTAINERIZED FREIGHT INDEX (EUROPE SERVICE)

SSE's Shanghai (Export) Containerized Freight Index based on Settled Rates ("SCFIS ") (Europe service) is the underlying index of the containerized freight index (Europe service) futures (EC) contract.

Data sources and definition of Containerized Freight Index (Europe service)

The freight rates required for the compilation of containerized freight index (Europe service) are collected from the panelists of the Europe-US Service Subcommittee under the SSE China (Export) Containerized Freight Index (CCFI) Compilation Committee. As of August 2023, the Subcommittee has 15 panelists, of which 14 (including 10 liner companies and 4 freight forwarders) report the settled freight rates of the Europe service to SSE. The list of the panelists is available on SSE's official website.

SSE has a clear specification on the freight rate information collected from the panelists of the Index Compilation Committee. The specification covers the port of departure, port of destination, cargo type, container type and size, payment method, shipping terms, freight composition, and currency. Specifically, the port of departure is the Port of Shanghai; the port of destination is the base port of the route—Hamburg, Rotterdam, Antwerp, Felixstowe, and Le Havre. The containers are dry cargo containers, including 20-foot General Purpose containers (20GP), 40-foot General Purpose containers (40GP), and 40-foot High Cube containers (40HQ). The cargoes are general cargoes. The payment method is the prepayment of freight. The shipping term is Container Yard to Container Yard (CY/CY). The freight comprises the per-container ocean freight and related surcharges, which include fuel-related surcharge (e.g., BAF/FAF/LSS), currency surcharge (e.g., CAF), peak season surcharge (e.g., PSS), war surcharge (e.g., WRS), port congestion surcharge (e.g., PCS), canal surcharge (e.g., SCS/SCF), and other per-container USD ocean freight surcharges.

The spot market for shipping liners is defined as a three-month or less contract market, or a FAK (Freight All Kinds Rates)-based market, or an open market. The spot market for freight forwarders is defined as a market for retail contracts between them and clients, and the transaction price in which is not influenced by such factors as the type of cargo owner or the particulars of container volume.

Compilation rules of Containerized Freight Index (Europe service)

The rules governing the compilation of containerized freight index (Europe service) mainly include the *Rules for Compilation of SCFI based on Settled Rates (Provisional)*, *Measures of Shanghai Shipping Exchange for Amendments to Index Rules*, *Measures of Shanghai Shipping Exchange for Termination of Indices*, and *Measures of Shanghai Shipping Exchange for the Correction of Index Errors*.

These rules are available on SSE's official website.

Compilation process of Containerized Freight Index (Europe service)

Step 1: Data collection

According to the SSE specification, sample companies will, during 0:00-13:00 each Monday Beijing time, transmit information from the executed bills of lading (B/L) for voyages with actual departure time (ATD) between 0:00 last Monday and 24:00 last Sunday through the application program interface (API) automation system. Each B/L contains such information as B/L number (unique), destination port, container volume by container type and corresponding freight rate (freight rate divided by container volume equals the freight rate of the B/L).

Step 2: Data pre-treatment

(1)Verifying the B/L information. SSE uses the manifest data from Shanghai port to verify the information on each reported B/L such as the name of the ship, voyage, and ATD, and check whether the shipping schedule complies with the criteria for inclusion. Non-compliant data are excluded from index calculation.

(2)Checking for duplicated B/L records of liner and freight forwarder. If the forwarder's freight rate is lower than the liner's, the former will not be used.

(3)Removing outliers. SSE first screens out outliers of the freight rates for 20' containers and 40' containers by applying the Grubbs or Pauta tests, then for each container type screens out the highest 10% and lowest 10% of the remaining freight rates from all sample companies.

(4)Limiting over-representation. SSE caps the container volume share of any single sample company by container type at 50%. An over-represented sample company's container volume will be reduced to 50% by multiplying the volume of each B/L with the same coefficient.

Step 3: Index Calculation

After the above steps:

(1)Calculating the average freight rate by container type. The total freight rates of all remaining B/L divided by the total container volume equals the average freight rate.

(2)Calculating the benchmarking price index by container type. The average freight rate divided by the average freight rate on the base date, and then multiplied by 1,000 equals benchmarking price index by container type for the current period.

(3)Calculating containerized freight index (Europe service). The weighted average of the benchmarking price index by container type is the containerized freight index (Europe service).

For the details of the compilation of containerized freight index (Europe service) please refer to the *Rules for Compilation of SCFI based on Settled Rates (Provisional)* published on SSE's official website.

Publication time and frequency of Containerized Freight Index (Europe service)

The containerized freight index (Europe service) is published on SSE's official website at 15:05 each Monday (Beijing time). If a Monday is not a working day, SSE may publish the index either on that day or the following working day. In the last week of each year, SSE will announce the next year's publication date of the index on its website. In case the State Council adjusts any holiday arrangement at short notice, SSE may change the publication date accordingly. SSE should decide on whether to make the change in one working day after the State Council's notice and, if deciding to change, should announce the decision within 24 hours.

Base date and index point of Containerized Freight Index (Europe service)

The base date of containerized freight index (Europe service) is June 1, 2020, and the base date index point is 1,000.

Compilation of Containerized Freight Index (Europe service) under an emergency

SSE has specified the emergency compilation method for containerized freight index in the *Rules for Compilation of SCFI based on Settled Rates (Provisional)*. SSE will use this method to compile containerized freight index and publish the index in the case of any of the following emergencies: (1) more than one-third of the sample liners provide no freight rate by route for the current period, or the number of sample companies that provide settlement rates for a certain container type is less than five (more than or equal to one) but still meets the minimum requirement; (2) the number of sample companies in the current period meets the minimum requirement for a certain route, but no freight data is provided for a certain container type for this route; (3) a major technical failure suddenly occurs; (4) the number of sample companies in the current period fails to meet the minimum requirement for a certain route. The emergency containerized freight index compiled by SSE will have the same effect as the regularly published containerized freight index.

Suspension of publication of Containerized Freight Index (Europe service)

If there is a lack of sources of data in the spot market for calculating containerized freight index due to force majeure (including but not limited to earthquake, war, and strike), SSE has the right to suspend the publication of containerized freight index and make a timely announcement.

The publication of the index has never been suspended since its publication on November 2, 2020.

Termination of publication of Containerized Freight Index (Europe service)

SSE has formulated the *Measures of Shanghai Shipping Exchange for Termination of Indices*, which stipulates that termination will be considered only when any of the following circumstances occurs: (1) there lacks data sources for index calculation, or the quality of available data sources is not high enough to support stable and accurate index calculation; (2) the index cannot reflect market reality due to any significant changes in market structure and other reasons; (3) there lacks sufficient samples; (4) any regular index review suggests the termination of the index; or (5) any applicable laws or regulations require the termination of the index or any other reasons.

As long as it is feasible, SSE should announce the termination of the index on its official website at least three months in advance and state the background and schedule for the termination. After the announcement, SSE should continue the daily maintenance, calculation, and publication of the index until the termination date.

Correction of Containerized Freight Index (Europe service)

SSE has formulated the *Measures of Shanghai Shipping Exchange for the Correction of Index Errors*, providing for the correction of containerized freight index errors, including errors of external data sources, errors in index compilation, and failures of software, hardware, and other infrastructures. In case a significant error is found in a published index, SSE will decide on whether to recalculate and republish the index after prudent assessment and consultation with the Index Expert Committee. In general, SSE will not deal with any error that occurred more than six months ago.

Data validation and verification for Containerized Freight Index (Europe service)

To ensure the stable operation of the containerized freight index (Europe service) data collection system and the accuracy, authenticity, integrity, uniqueness, and consistency of the data collected by such system, SSE has established a quarterly data verification regime. Under this regime, SSE: (1) verifies each quarter whether the data transmitted by each sample company to the containerized freight index data collection system fall within the specification for freight rates; (2) verifies each quarter the observance of freight rate specification by all sample companies and the operations of the interconnected IT systems; and (3) verifies the production system of each sample company through site inspection or videos.

For the verification of B/L information, SSE uses the manifest data from Shanghai port to verify the information on each reported B/L such as the name of the ship, voyage, and ATD, and check whether the shipping schedule complies with the criteria for inclusion.

Methodologies for the quarterly screening and adjustment of freight rate information from Containerized Freight Index (Europe service) sample companies

SSE has developed the Methodologies for the *Quarterly Screening and Adjustment of Freight Rate Information* from containerized freight index Sample Companies as the basis for the screening and adjustment. Each quarter, SSE evaluates and screens the freight rate information collected from a sample company based on whether the sample company is a panelist of the Europe-US Service Subcommittee, the weakly average number of transaction records in the previous quarter, the total number of periods without a transaction record in the previous quarter, whether there is any missed report without justification in the previous quarter, and whether the index system is subject to quarterly validation.

The EC contract is traded on the basis of “service index, international platform, RMB denomination, and cash settlement.”

Participation Models

Domestic Trading Participants

Domestic investors can trade EC contracts through domestic Futures Firm Members (“FF Members”); those eligible to apply for INE membership can apply to become non-futures firm members (“Non-FF Members”) to directly trade EC contracts.

Overseas Trading Participants

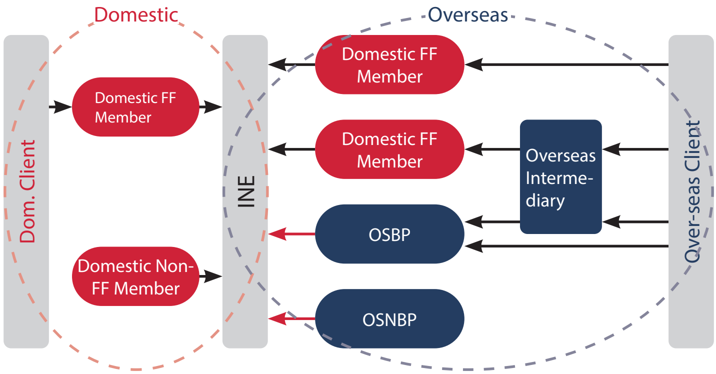
Overseas investors can trade EC contracts in the following four ways:

I: Directly through domestic futures firms

II: Through Overseas Intermediaries that have carrying-brokerage relationship with domestic futures firms or overseas special brokerage participants (“OSBPs”)

III: Through OSBPs

IV: As overseas special non-brokerage participants (“OSNBPs”)



Note: Black arrows indicate trading, clearing, and delivery. Red arrows indicate direct access to trading at INE, but overseas special participants (OSPs) must participate in clearing and delivery through domestic FF Members.

Market Access for Domestic Members and Clients

Membership Admission Process

Prepare application materials

↓

INE receives and reviews the application

↓

Obtain membership certificate

↓

Open a dedicated fund account at INE

↓

Obtain trading seat and trading access

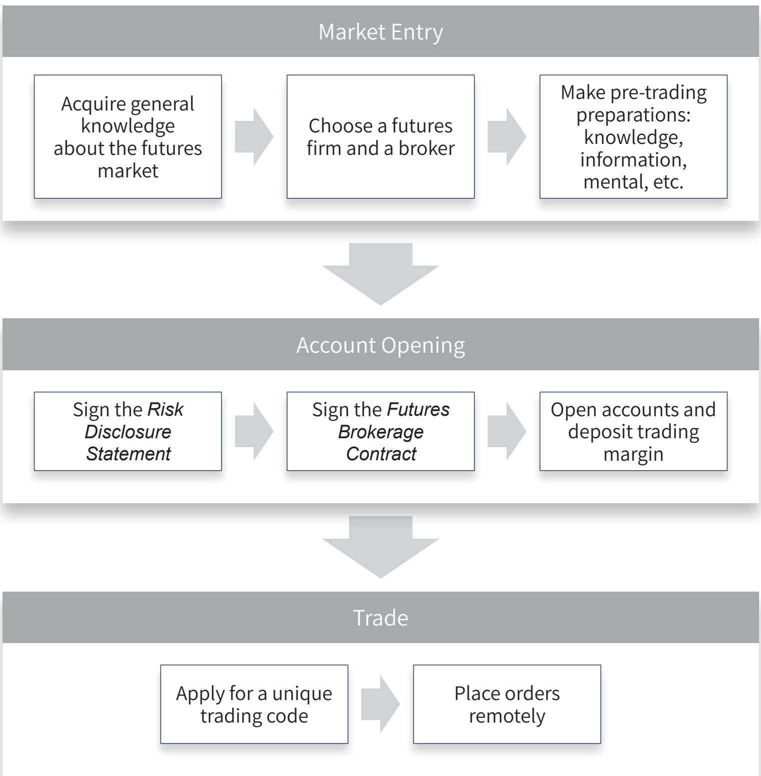
↓

Apply to China Futures Market Monitoring Center (CFMMC) for registration and account opening

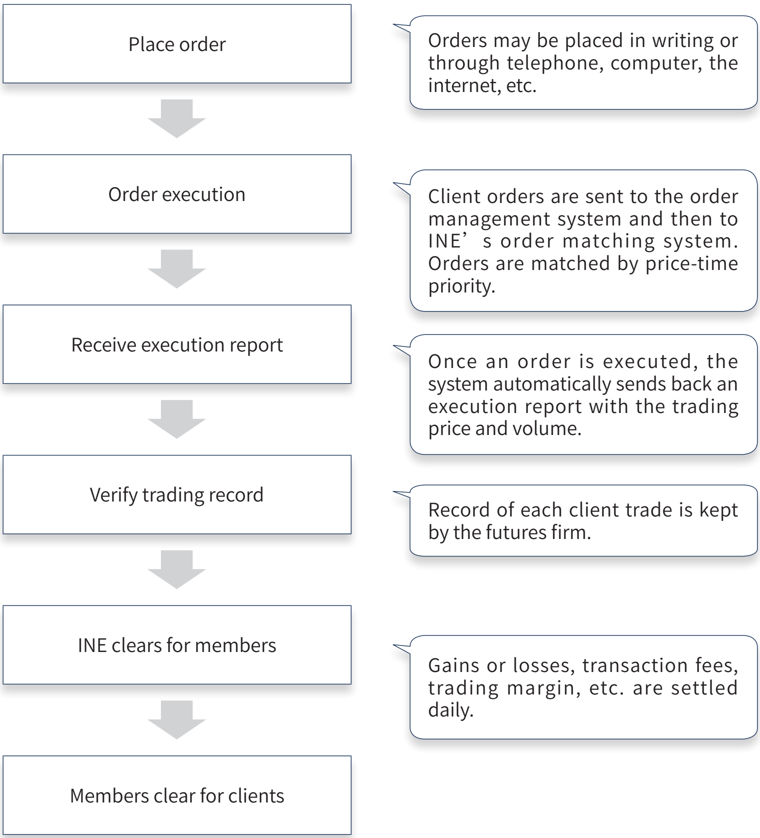
↓

End of admission process

Domestic Clients Market Access Process



Trading and Clearing Process



Delivery Process

INE settles trades for members

↓

Members settle trades for clients

On the last trading day, INE clears and transfers the gains and losses of the trading parties at the final settlement price and closes out the open positions.

Market Access for Overseas Investors and Brokers

Qualification Application/Filing Process for OSPs and Overseas Intermediaries

1. Qualification Application Process for OSNBPs

Prepare application materials

↓

Select a futures firm as clearing member

↓

Enter into a clearing agreement

↓

INE receives and reviews the application

↓

Obtain the OSP certificate

↓

Open a futures settlement account

↓

Obtain trading seat and trading access

↓

Apply to CFMMC for registration and account opening

↓

End of application process

2. Qualification Application Process for OSBPs

Prepare application materials

↓

Select a futures firm as clearing member

↓

Enter into a clearing agreement

↓

INE receives and reviews the application

↓

Obtain the OSP certificate

↓

Open a futures settlement account

↓

Obtain trading seat and trading access

↓

Apply to CFMMC for registration and account opening

↓

End of application process

3. Filing Process for Overseas Intermediaries

Prepare filing materials

↓

Select a futures firm or OSBP as the filer

↓

Enter into a carrying-brokerage agreement

↓

Filer submits filing materials

↓

INE receives and reviews the materials

↓

INE issues filing approval notice

↓

Filer registers and opens account at CFMMC on behalf of the Overseas Intermediary

↓

End of filing process

Account Opening Process for Overseas Clients

1. Directly through domestic futures firms

Prepare relevant materials and open account with a domestic futures firm

↓

Domestic futures firm reviews and retains client materials and submits account opening application

↓

CFMMC checks the completeness of account opening materials

↓

INE checks the consistency of account information, opens the account, and assigns a trading code

↓

Obtain the trading code

↓

End of account opening process

2. Through Overseas Intermediaries that have carrying-brokerage relationship with domestic futures firms or OSBPs

Prepare account opening materials

↓

Overseas Intermediary reviews and retains client materials and submits account opening application

↓

CFMMC checks the completeness of account opening materials

↓

Domestic futures firm or OSBP opens the account

↓

CFMMC forwards account opening materials to INE

↓

INE checks the consistency of account information, opens the account, and assigns a trading code

↓

Obtain the trading code

↓

End of account opening process

3. Through OSBPs

Prepare account opening materials and open account with an OSBP

↓

OSBP reviews and retains client materials and submits account opening application

↓

CFMMC checks the completeness of account opening materials

↓

INE checks the consistency of account information, opens the account, and assigns a trading code

↓

Obtain the trading code

↓

End of account opening process

4. As OSNBPs

Prepare account opening materials and open account at INE

↓

INE checks the consistency of account information, opens the account, and assigns a trading code

↓

Obtain the trading code

↓

End of account opening process

Trading and Clearing Process for Overseas Clients

1.Directly through domestic futures firms

Overseas client places an order

↓

Domestic futures firm submits the order

↓

Order acknowledgment

↓

Order execution

↓

Receive execution report

↓

Verify the trading record

↓

INE clears for the domestic futures firm

↓

Domestic futures firm clears for the overseas client

2.Through Overseas Intermediaries that have carrying-brokerage relationship with domestic futures firms or OSBPs

Overseas client places an order

↓

Overseas Intermediary submits the order to domestic futures firm

↓

Domestic futures firm submits the order to INE

↓

Order acknowledgment

↓

Order execution

↓

Receive execution report

↓

Verify the trading record

↓

INE clears for the carrying domestic futures firm

↓

Domestic futures firm clears for the Overseas Intermediary

3. Through OSBPs

Overseas client places an order

↓

OSBP submits the order

↓

Order acknowledgment

↓

Order execution

↓

Receive execution report

↓

Verify the trading record

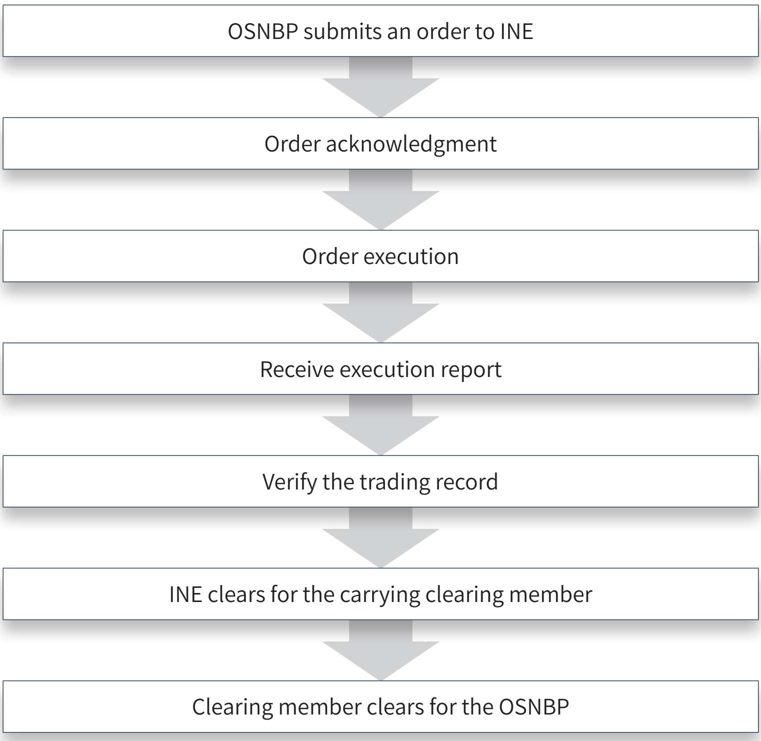
↓

INE clears for the carrying clearing member

↓

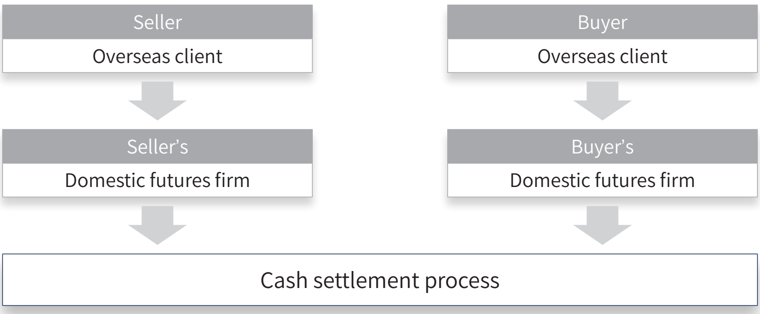
Clearing member clears for the OSBP

4.As OSNBPs

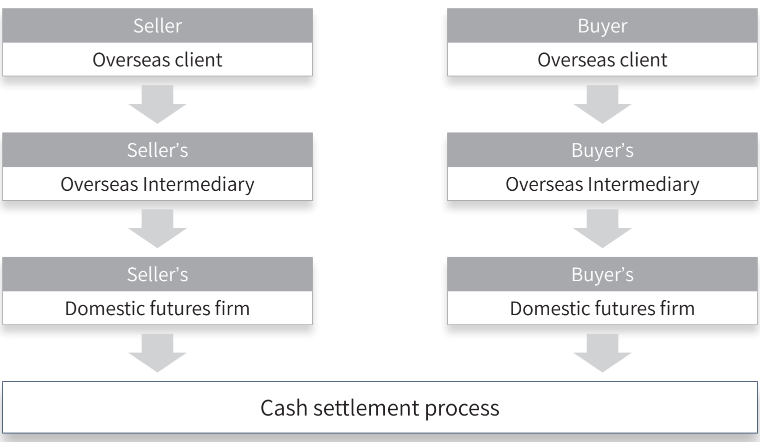

OSNBP submits an order to INE
Order acknowledgment
Order execution
Receive execution report
Verify the trading record
INE clears for the carrying clearing member
Clearing member clears for the OSNBP

Delivery Process for Overseas Clients

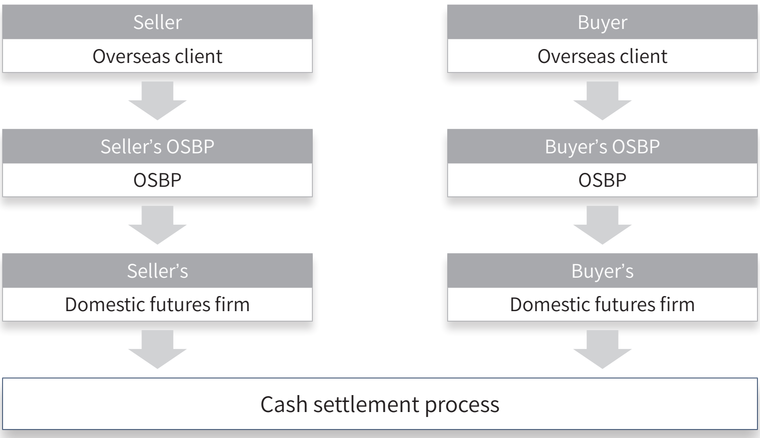
1.Directly through domestic futures firms



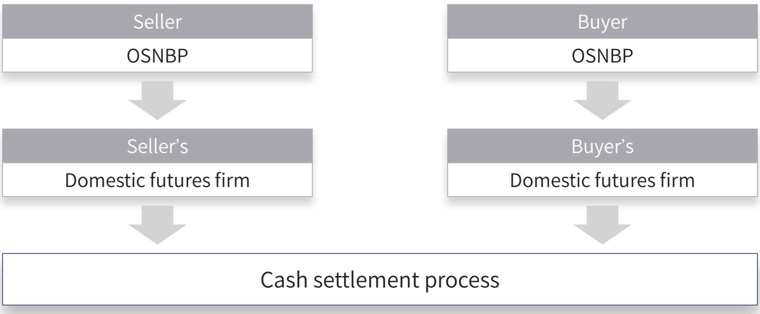
2.Through Overseas Intermediaries that have carrying-brokerage relationship with domestic futures firms or OSBPs



3.Through OSBPs



4.As OSNBPs



Major Futures Trading Rules

Trading margin

- Trading margin refers to the funds deposited by a Member into the dedicated settlement accounts of INE to ensure the fulfillment of contracts and to be used as margin for the positions held by the Member. The minimum trading margin for an EC contract is 12% of the contract value.
- INE sets different rates of trading margin for a futures contract based on its age from listing to last trading day.

Trading margins for an EC contract at different trading periods	
Period of Trading	Minimum Trading Margin as Percentage of the Contract Value
As of listing	12%
As of the seventh trading day before the last trading day	20%
As of the second trading day before the last trading day	30%

- At the primary stage after listing, if an investor holds long and short positions, margin is required for both positions instead of the larger-side position only.
- INE can, in view of market risks, adjust the rates of trading margin through announcements.
- If the trading margin for a futures contract is to be adjusted, INE will, at daily clearing on the trading day before the day on which the new trading margin rate takes effect, settle all open positions in the futures contract based on the new rate. Any Member with insufficient margin is required to meet the new margin requirement before market opens on the next trading day.

Price limits

- Price limit refers to the maximum range the price of a contract may move up or down during a trading day from the settlement price from the previous day. Orders with prices beyond such limit are invalid and will not be executed.
- For an EC contract, the daily price limit is ±10% of the previous settlement price; that on the last trading day is ±20% of the previous settlement price.

Risk management measures for major price fluctuations

If the cumulative price movement (denoted as N) of an EC contract reaches 18% or more over 3 consecutive trading days (denoted as D1-D3), or 24% or more over 4 consecutive trading days (denoted as D1-D4), or 30% or more over 5 consecutive trading days (denoted as D1-D5), INE may, in view of the market conditions, take one or more of the following measures and report to the CSRC in advance:

(1)requiring additional trading margins from some or all of the Members and/or OSPs on either or both of the long and short positions at the same or different rates of trading margin;

(2)limiting the withdrawals of funds by some or all of the Members;

(3)suspending the opening of new positions by some or all of the Members and/or OSPs;

(4)adjusting the price limit, but not to be more than ±20%;

(5)requiring the liquidation of positions by a prescribed deadline;

(6)exercising forced position liquidation; and/or

(7)taking other measures INE deems necessary.

N is calculated according to the following formula:

$$N = \frac{P_t - P_0}{P_0} \times 100\%$$

Where t = 3, 4, 5 and

P_0 is the settlement price on the trading day preceding D_1

P_t is the settlement price on trading day Dt for t = 3, 4, 5

P_3 is the settlement price on D_3

P_4 is the settlement price on D_4

P_5 is the settlement price on D_5

Position limit

- Position limit is stipulated by INE, which refers to the maximum position a Member, an OSP, an Overseas Intermediary or a client is permitted to hold.
- A percentage-based (relative) position limit applies to FF Members, OSBPs and Overseas Intermediaries, and a fixed-amount (absolute) position limit applies to Non-FF Members, OSNBPs and clients.

The relative and absolute position limits for an EC contract over its lifecycle are as follows

	From the Day of Listing to the Delivery Month		From the Day of Listing to the Eighth Trading Day Before the Last Trading Day		From the Seventh Trading Day Before the Last Trading Day to the Third Trading Day Before the Last Trading Day		From the Second Trading Day Before the Last Trading Day to the Last Trading Day	
	Open interest of an EC contract (lots)	Relative limit (%)	Absolute limit (lots)		Absolute limit (lots)		Absolute limit (lots)	
		FF Member, OSBP, Overseas Intermediary	Non-FF Member, OSNBP	Client	Non-FF Member, OSNBP	Client	Non-FF Member, OSNBP	Client
EC Contract	⩾ 30,000	25	1200	1200	360	360	120	120

Note: The open interest and the position limits in the table are counted by either long or short positions.

Large trader position reporting

A Member, OSP, or client whose general positions in a futures contract reach the general position limit set by INE, or an Overseas Intermediary whose general positions in a futures contract reach or exceed 60% of its general position limit, should voluntarily file a large trader position report with INE by 3:00 p.m. of the following trading day.

INE may, at its sole discretion, require specific Members, OSPs, Overseas Intermediaries, or clients to submit large trader position reports or other supporting materials, and may examine these documents from time to time.

Forced position liquidation

INE will forcibly liquidate positions, if:

(1)the clearing deposit balance of a Member recorded on any of the internal ledgers at INE, whether they are for its own clients or its authorized clearing entities, falls below 0, and the member fails to meet the margin requirement within the specified time limit;

(2)the open positions of a Non-FF Member, an OSNBP or a client exceed the applicable position limit;

(3)a violation of INE's rules occurs that warrants a forced position liquidation;

(4)any emergency happens that warrants a forced position liquidation; or

(5)any other conditions exist that make the forced position liquidation necessary.

limit-locked market

If a same direction limit-locked market exists on the last 5 trading days (and D1 falls on one of these 5 trading days), trading is permitted until the final settlement. The risks of any other same direction limit-locked market will be managed in accordance with INE's existing risk control rules on limit-locked market.

Risk warning

INE implements a risk warning regime. INE may take one or a combination of the following measures to warn against and resolve risks: (1) requesting an explanation from market participants with respect to a specific situation; (2) conducting an interview to give a verbal alert; (3) issuing a risk warning letter; (4) giving a reprimand; (5) issuing a risk warning announcement; and/or (6) taking other measures deemed necessary by INE.

Response to when the underlying index is not published for three consecutive weeks or is terminated

If the underlying index of EC is not published for three consecutive weeks or is terminated, INE may, pursuant to the *INE Risk Management Rules*, take emergency measures to mitigate risks and announce that an abnormal situation has occurred.

In this case, the Board of Directors of INE may take the following emergency measures: adjusting the market opening and closing time, suspending trading, terminating trading, adjusting the price limit, raising the margin requirement, requiring the liquidation of positions by a prescribed deadline, carrying out forced liquidation, suspending funds withdrawals, carrying out forced position reduction, and restricting trading, among others.

Responses to the occurence of significant uncontrollable factors in the spot market or underlying index

During the trading of the containerized freight index (Europe Service) futures, in case that war, social instability, natural disasters, significant uncontrollable risks of underlying index or other factors are having or are going to have a significant impact on the trading of containerized freight index (Europe Service) futures, the CEO of the Exchange may take emergency measures such as adjusting the opening and closing time of the market, suspending or terminating trading. Upon settlement on the relevant day when the trading is terminated, the

Exchange may liquidate positions of all or part of the containerized freight index (Europe Service) futures contract months based on the settlement price of the immediately preceding trading day.

Response to corrections of the underlying index

According to the Measures of *Shanghai Shipping Exchange for the Correction of Index Errors*, under certain circumstances the SSE may correct an index value after it has been officially published. To maintain an orderly futures market, the *INE Delivery Rules* provides that, after 3:30 p.m. Beijing time on the last trading day of an EC contract, the final settlement price for the contract as determined by INE rules is not subject to further adjustment.

Regulation of high-frequency trading of EC contracts

INE will charge order submission fees for Clients whose message amount (the number of trading orders such as order placement and order cancellation) and order to trade ratio (OTR) reach a certain threshold on EC contracts. Below are the order fee rates for the EC futures contract:

Order-to-Trade Ratio (OTR) / Message Amount (MA)	OTR≤2	OTR>2
1≤MA≤4,000	0	0
4,001≤MA≤8,000	0.01 yuan/count	0.02 yuan/count
8,001≤MA≤40,000	0.05 yuan/count	0.1 yuan/count
40,001≤MA	1 yuan/count	2 yuan/count

Notes: message amount = total number of trading orders such as order placement, order cancellation, and RFQ; OTR= (message amount / number of executed orders) – 1. If the actual number of executed orders is 0, it would be treated as 1 for calculating OTR. The message amount mentioned above includes order placement and cancellation resulting from fill-or-kill (FOK) orders and fill-and-kill (FAK) orders.

Clearing Rules

1. Day-to-day clearing

- INE implements daily mark-to-market.
- If, after the completion of daily clearing, a Member's clearing deposit balance on any internal ledger with INE is lower than the prescribed minimum requirement, such clearing result is deemed as INE's margin call to the Member, and the gap between the two amounts is the amount of additional funds required by the margin call.
- Following the margin call, INE may instruct the relevant Designated Depository Bank to transfer the required amount from the Member's dedicated fund account to INE's dedicated settlement account. If a deficiency still exists, the Member must make up the shortfall prior to market open on the next trading day, or the following rules apply:

  (1)If the Member's clearing deposit balance on any internal ledger with INE is at or above zero, the corresponding Member or OSP of such internal ledger will not be permitted to open any new position;

  (2)If the Member's clearing deposit balance on any internal ledger with INE is less than zero, INE will carry out forced liquidation or take other measures according to the INE Risk Management Rules.
- After the completion of daily clearing, a Member's clearing deposit balance in RMB on any internal ledger may not be lower than the minimum clearing deposit, otherwise, INE may debit a corresponding amount of RMB funds from the Member's dedicated fund account. If a deficiency still exists, the Member must make up the shortfall prior to market open on the next trading day. If the Member fails to do so, INE may impose forced foreign exchange conversion by unilaterally converting the Member's foreign currency funds in its dedicated fund account or in INE's dedicated settlement account into RMB.

2. Collaterals pledged as margin

- Non-FF Members, OSNBPs, and clients may, subject to INE's approval, use standard warrants, Chinese government bonds, foreign currency funds, and other assets as margin.

- Margin collaterals include:

  (1)standard warrants;

  (2)book-entry government bonds issued by the Ministry of Finance of the People's Republic of China in the Chinese Mainland;

  (3)foreign currencies (acceptable types of currency, haircut, and scope of application are prescribed by INE separately); and

  (4)other assets approved by INE.

- A Client, an OSP, or an Overseas Intermediary shall post marketable securities as margin through its carrying FF Member. The FF Member shall apply to the Exchange for completing the process at such time as separately announced by the Exchange.

- The value of the margin collateral is calculated as follows:

  (1)For standard warrants used as margin collateral, the settlement price of the day for the front-month futures contract of the product will be used as the benchmark price for calculating the market value of the standard warrants. Prior to the market close of the day, the market value will be provisionally calculated based on the benchmark price of the previous trading day. Standard warrants are subject to a minimum 20% haircut when posted as margin.

  (2)The benchmark price for other margin collaterals will be determined by INE.

  The maximum margin paid with marketable securities ("Multiplier-Based Cap") by a Member shall not exceed four (4) times ("Cash Multiplier") its current cash balance as shown in any of its internal ledger with the Exchange. The Exchange takes the actual available value of a Member's margin collaterals as the lower of the value after haircut and the Multiplier-Based Cap. Once a Member completes the deposit of marketable securities used as margin collaterals, the Exchange will credit the actual available value of the securities to the Member's clearing deposit.

  At daily clearing, the actual available value of the marketable securities used as margin will be automatically adjusted by the Exchange based on the above principles.

Delivery Rules

EC contracts employ cash settlement.

The delivery unit of an EC contract is 1 lot. Delivery should be made in the integral multiples of the delivery unit.

The final settlement price is the benchmark price for the final settlement of an EC contract, and is calculated as the arithmetic mean value of the three containerized freight index (Europe service) values published by the SSE on the last trading day of the contract and on the first and second index publication days before the last trading day. In terms of formula:

$$P_T = \frac{P_1+P_2+P_3}{3}$$

P_T: The final settlement price of a containerized freight index (Europe Service) futures contract

P_1: The index point value published by the Shanghai Shipping Exchange on the second index publication day before the last trading day of the contract

P_2: The index point value published by the Shanghai Shipping Exchange on the first index publication day before the last trading day of the contract

P_3: The index point value published by the Shanghai Shipping Exchange on the last trading day of the contract

After 3:30 p.m. Beijing time on the last trading day of an EC contract, the final settlement price for the contract as determined by INE rules is not subject to further adjustment.

If the SSE does not publish P1 and P2 before 3:05 p.m. Beijing time on the Wednesday of the week when they should be published, or does not publish P3 before 3:30 p.m. Beijing time on the day when it should be published, INE may determine P1, P2, and P3 based on market conditions and announce them to the market on a timely manner.

The buyer and seller of an EC contract should pay their respective delivery fees to INE during cash settlement. The fee rates are determined and published by INE. INE may, in light of market conditions, adjust the fee rates.

HEDGING WITH EC CONTRACT

Hedging Rules

Hedging is a risk avoidance strategy where a trader buys (sells) futures contracts whose underlying asset is of identical type and similar quantity to the commodities to be sold (bought) in the spot market, so that losses suffered in one market will be mostly offset by the gains made in the other market regardless of the price fluctuations in the spot market.

In relation to the hedging positions in an EC contract, the regular months are the period from the listing day to the eighth trading day before the last trading day; the nearby delivery month is the period from the seventh trading day before the last trading day to the last trading day.

INE manages hedging positions in EC contracts through a review and approval system. Clients should apply for a hedging quota through their account-opening institutions, which will complete the application process with INE after reviewing the application materials. Non-FF Members and OSNBPs should directly apply to INE for the hedging quota.

1.Materials required from clients applying for the hedging quota for regular months

A Non-FF Member, an OSNBP, or a client needs to submit the following materials in accordance with the contract to apply for the hedging quota for regular months:

(1)an Application (Approval) Form of Hedging Quota for Regular Months, containing the applicant’s basic information, the contracts concerned, the requested hedging quota for regular months, and other information;

(2)a copy of the business license, a certificate of incorporation, or other documents that can certify the applicant's scope of business;

(3)business results for the physical commodities in the previous year or the latest audited annual financial report;

(4)the business plan for physical commodities for the current year or the following year, and any purchase and sale contracts or other valid documentations relevant to the hedging application;

(5)the hedging strategy, including analyses of the source of risks and hedging objectives;

(6)hedging management rules, if the applicant is a Non-FF Member or an OSNBP; and

(7)other materials requested by INE.

A Non-FF Member, an OSNBP or a client may apply for hedging quota for regular months for more than one contract at the same time.

2.Materials required from clients applying for the hedging quota for nearby delivery months

A Non-FF Member, an OSNBP or a client needs to submit the following materials in accordance with the contract to apply for the hedging quota for nearby delivery months:

(1)an Application (Approval) Form of Hedging Quota for Nearby Delivery Months, containing the applicant's basic information, the contracts concerned, the requested hedging quota for nearby delivery months, and other information;

(2)a copy of business license, a certificate of incorporation, or other documents that can certify the applicant's scope of business;

(3)relevant materials which can certify that the applicant has genuine hedging needs, including the production plan for the current year or the previous year, and warrants for the physical commodities, processing orders, purchase and sale contracts, purchase and sale tax invoices, or other valid certificates of the ownership of physical commodities consistent with the quota being requested;

(4)hedging management rules, if the applicant is a Non-FF Member or an OSNBP; and

(5)other materials requested by INE.

If the above materials have been submitted to INE previously and there has been no change thereafter, there is no need to re-submit such materials.

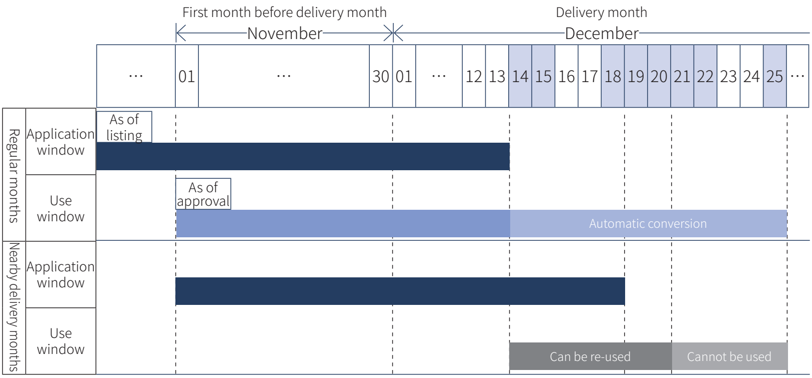
3.Application and use windows for hedging quota

For an EC contract, the application for hedging quota for regular months should be submitted between the listing day and the eighth trading day before the last trading day. No late application will be accepted.

The application for hedging quota for nearby delivery months should be submitted between the first trading day of the month before the delivery month and the fifth trading day before the last trading day. No late application will be accepted.

The hedging quota for nearby delivery months may be used in a revolving manner starting from the seventh trading day before the last trading day until the third trading day before the last trading day.

Take EC2312 as an example:



Note 1: December 25, 2023 (Monday) is the last trading day. December 22, 21, 20, 19, 18, 15 and 14 are the first, second, third, fourth, fifth, sixth and seventh trading days before the last trading day, respectively; December 24, 23, 17 and 16 are weekends.

Note 2: For those who fail to apply for the hedging quota for nearby delivery months as the deadline approaches, INE will treat the lower of the hedging quota for regular months and the general position limit of the listed product in nearby delivery months as the hedging quota for nearby delivery months.

Note 3: The expression “can be re-used” means new position can be opened under the hedging quota after the existing position is closed; and the expression “cannot be used” means no new position can be opened.

Examples of hedging with EC contracts

By the type of hedging positions, a hedge is classified into short hedge and long hedge. Short hedge is mainly used by liners, i.e., capacity suppliers, to lock in freight revenues and offset future price declines. Long hedge is mainly used by shippers, i.e., capacity consumers, to lock in freight costs and offset future price increases. Freight forwarders (or non-vessel-operating common carriers (NVOCC)), as intermediaries, may take either the short or long hedge. The specific strategies are as follows.

A.Short hedge by liners

As capacity suppliers, liners are carriers that charge freight for supplying container capacity. A liner can hedge against the potential loss from falling freight rate by taking a short position in the EC contract, in order to maintain a reasonable profit margin. Short hedge means first selling futures of a similar quantity to that to be sold in the spot market, and then, at time of the actual sale of capacities, taking a reverse position in the futures product to close out.

Here is an example: Suppose in March 2023, the containerized freight index (Europe service) is 917 points, and the spot freight rate is about USD 850/TEU. A liner plans to sell 5,000 TEU of capacity in the spot market in August. As container capacity is oversupplied in the current off-season market, the liner is worried that freight rates might continue to fall. In order to lock in expected profits and avoid possible freight rates decreases, the liner decides to take a short hedge in EC contracts on INE. This hedge and the resulting profits and losses are illustrated below:

The capacity to be sold by the liner: 5,000 TEU × USD 850/TEU × 6.8 (RMB/USD) = RMB 28,900,000

Quantity of EC contracts to be sold in March: RMB 28,900,000 ÷ 9,00 (index pts of EC contract (AUG)) ÷ 50 (contract multiplier) = 642 lots (excluding transaction fees and other transaction costs)

Date	Spot Market	Futures Market
March	USD 850/TEU	642 lots of EC contract (AUG) sold at 900 pts
August	USD 600/TEU	642 lots of EC contract (AUG) bought at 620 pts to close out
Hedging result	-USD 1,250,000	+RMB 8,990,000 (or USD 1,320,000)
Net profit or loss	+USD 70,000 (more than offsetting the loss from the price drop)	

While the falling freight rate in the spot market incurs a loss to the liner, a profit in the futures market has more than offset that loss.

B.Long hedge by shippers

As capacity consumers, shippers will face major uncertainties to keeping import and export costs under control in the case of a rise in freight rates. To manage the transport costs and hedge against a sharp rise in freight rate, a shipper may take a long hedge position in the EC contract, which will reduce its exposure to price fluctuations, i.e., it should first buy futures of a similar quantity to that to be bought in the spot market, and then, at time of the actual purchase of capacities, sell the futures to close out its position.

Here is an example: Suppose in March 2023, the containerized freight index (Europe service) is 917 points, and the spot freight rate is about USD 850/ TEU. A domestic shipper signs a CIF trade agreement for exporting 500 TEU of Christmas merchandise from Shanghai in October. The shipper is worried that possible freight rate rises will push up its export cost. To avoid this price risk, the shipper decides to take a long hedge position in EC contracts on INE. This hedge and the resulting profits and losses are illustrated below:

The capacity to be bought by the shipper: 500 TEU × USD 850/TEU × 6.8 (RMB/ USD) = RMB 2,890,000

Quantity of EC contracts to be bought in March: RMB 2,890,000 ÷ 920 (index pts of EC contract (OCT)) ÷ 50 (contract multiplier) = 62 lots

Date	Spot Market	Futures Market
March	USD 850/TEU	62 lots of EC contact (OCT) bought at 920 pts
October	USD 1,035/TEU	62 lots of EC Contact (OCT) sold at 1,120 pts to close out
Hedging result	-USD 92,500	+RMB 620,000 (USD 91,176)
Net profit or loss	-USD 1,324 (nearly offsetting the loss from the price rise)	

While the adverse price movement in the spot market incurs an additional cost to the shipper, a profit in the futures market has nearly offset that loss.

C.Hedge by freight forwarders (NVOCC)

Freight forwarders, as an intermediary between carriers (liners) and shippers (cargo owners), provide services to both. They forge close ties with carriers (liners, etc.) and book capacity directly from them to meet their selling needs. At the same time, they sell that capacity to shippers (cargo owners) to meet their pre-booking needs.

In real-world scenarios, forwarders have needs for both long and short hedge. If a forwarder signs a long-term freight agreement with a liner, under which it buys a large capacity at a fixed price to be resold to shippers, it stands to profit if the freight rate rises in the future, and lose money if it falls. This creates the need for short hedge in the futures market. Conversely, if the forwarder signs a long-term freight agreement with a shipper, under which it presells a large capacity to the shipper at a fixed price to be bought in turn from a liner, it stands to profit if the freight rate falls in the future, and lose money if it rises. This creates the need for long hedge in the futures market.

In practice, once a forwarder has signed long-term freight agreements with a carrier and a shipper, it will have risk exposures as long as the two agreements differ in the capacity contracted or the freight period. Based on its net position exposure in the different months, the forwarder can then decide whether to take a long or short hedge position in EC contract according to the approaches illustrated above.

STANDARD CONTRACT

Contract specifications

Underlying	Shanghai (export) Containerized Freight Index based on Settled Rates (Europe service)
Contract Multiplier	50 Yuan per index point
Price Quotation	Index point
Minimum Price Fluctuation	0.1 index points
Listed Contracts	February, April, June, August, October, and December
Trading Hours	9:00–11:30 a.m., 1:30–3:00 p.m., and other trading hours prescribed by Shanghai International Energy Exchange (INE)
Daily Price Limit	Within ±10% of the settlement price of the preceding trading day
Minimum Trading Margin	12% of contract value
Last Trading Day	The last futures-trading Monday of the delivery month (INE reserves the right to adjust the last trading day based on national holidays and weekends)
Delivery Period	Same as the last trading day
Settlement Type	Cash settlement
Product Symbol	EC
Listing Exchange	Shanghai International Energy Exchange

Note: The product symbol EC is short for Europe and Containerized Freight.

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