

TRADE CAPTURE TOOL FOR CLEARED OTC COMMODITIES

04 December 2017

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AGENDA

- Euronext commodity segment
- The OTC commodities landscape
- What our clients want. Our answer
- Euronext's ambitions in this field
- Product economics and payoffs
- Risk framework
- Platform and flows



EVOLUTION OF EURONEXT

- In 1986 creation of



- In 2002 *Euronext* buys *LIFFE* and becomes



- In 2007 *NYSE* buys *Euronext/LIFFE* and becomes



- In 2013 *ICE* buys *NYSE Euronext* and becomes



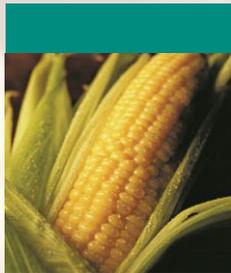
- In 2014 *ICE* spins off *Euronext* resulting in two separate exchanges:



THE EURONEXT COMMODITY MARKETS

Leveraging a strong franchise in Softs & Ags to expand into new sectors

Milling Wheat | Corn | Rapeseed | Rapeseed Meal | Rapeseed Oil |
Dairy | UAN 30 Fertiliser | Wood Pellets



EURONEXT COMMODITIES | KEY FACTS

Euronext now offers the global trading community a physically- deliverable UAN 30 contract

A dynamic franchise in comparison with our peers: fast growing and already established as an international benchmark.

Key contracts now included in major commodity indices – Rogers International Commodity Index® and S&P World Commodity Index™ – increased spread volume around roll. Diverse customer base led by commercial hedgers includes funds, proprietary traders and investment banks

WHEAT:121,292
lots traded on 21 Apr 2016
(>6 million tonnes)

RAPESEED: 27,729
lots traded on 13 Jul 2017
(>1.3 million tonnes)

CORN :10,034
lots traded 16 Oct 2017
(>0.5 million tonnes)

Introducing the Euronext Inventory Management (EIM) system launched this year



WHAT OUR CLIENTS WANT

The commodity trading community is looking for:

- ✓ **Advice** on financial instruments and markets
- ✓ **Support** to take hedging / investment decisions with a view to executing those hedging / investment strategies
- ✓ **Transparency** and **risk mitigation** for clearing and trading participants
- ✓ **Better access to prices and trading** for farmers and industrial firms
- ✓ **Better prices** and information for liquidity providers
- ✓ **Improved oversight** for regulators on OTC flows related to commodities instruments



WHAT IS OUR ANSWER TO CLIENT DEMAND

The creation of new centrally-cleared OTC derivatives attracting a wider number of end clients will be based on a richer service model targeting:

- ✓ Product will be commodity references which **are not traded on Euronext derivatives markets** and will not be offered through current Euronext trading platform
- ✓ These will be **cash settled only instruments**. No physical delivery will be offered compared to current Euronext commodity contracts
- ✓ The service will provide **similar trade capture functions** as offered by our current trade reporting financial derivatives service (i.e. **AtomX**)
- ✓ OTC commodity references included but not limited to are as follows : **Wheat, Corn, Barley, Sunflower, Rapeseed, Soja, Biofuels, Fertilizers, Wood Pellets**
- ✓ Price references are determined as per usual Daily Settlement Price process, i.e. through daily transactions on Euronext determined price at defined cut-off and will be retrieved in electronic format. Outlier references, could exceptionally be determined on a weekly basis
- ✓ Tradable instruments will be offered either as
 - **OTC standard commodity references** will be offered for trade capture:
 - **as an arithmetic average** of the relevant price assessment (or difference thereof)

EURONEXT/LCH AMBITION IN THIS FIELD

Harvest next
blockbuster futures

Trade cleared OTC
commodity derivatives

Create commingled
instruments sandbox

What is our rationale?

- ✓ Euronext's commodity franchise has grown steadily to become a core component of our derivatives business
- ✓ Our goal is to bring this franchise to the next level
- ✓ With this aim, our objective is to reinforce links to end clients, looking to provide **value-added services** and an **array of widely-used instruments in commodities**, as well as greater transparency
- ✓ To access additional commodity prices required to build a richer suite of derivatives
- ✓ The creation of **new centrally-cleared OTC** derivatives will **attract a wider range of end clients**



EXPANSION TO CLEARED OTC COMMODITIES – NEW MARKET

The added value of Centrally-Cleared OTC transactions

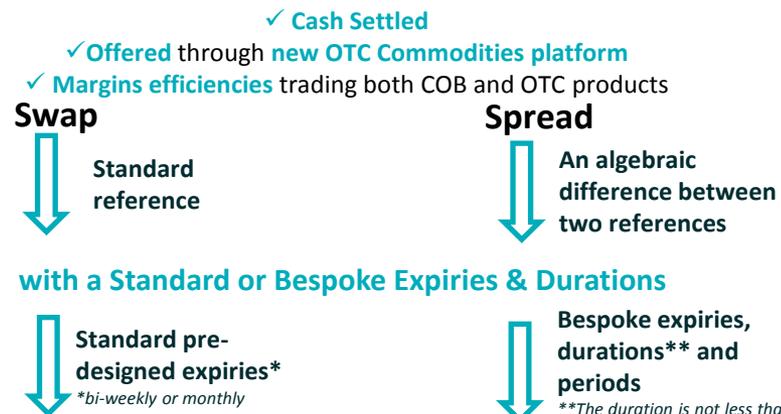
✓ Under the Basel III capital standards, banks **face increased capital requirements** when entering Over-The-Counter (OTC) transactions

✓ **LCH SA will act as the Central Counterparty for Cleared OTC Commodities** and will mitigate counterparty risks while bringing transparency for market participants

✓ **OTC contracts standardisation and LCH SA clearing**

- reducing costs and collateral requirements
- offering margin offsets and optimisation
- providing client asset segregation and legal certainty

Available for Trading as



Non exhaustive list of products

SWAPS		SPREADS	
Underlying	Price Source	Underlying	Price Source
AGRICULTURALS			
Black Sea Wheat Swap	PRA2	Black Sea Wheat vs EBM Euronext	PRA2 vs Euronext
Black Sea Corn Swap	PRA2	Black Sea Corn vs Exchange Corn	PRA2 vs Exchange
Malting Barley FOB Moselle "Spring"	PRA3	Malting Barley FOB Moselle vs EBM	PRA3 vs Euronext
BIOFUELS & OILS			
RED-RSO Swap	PRA1	ICE Low Sulphur Futures Gasoil vs RED-RSO	PRA1vs PRA1
FERTILISERS & CHEMICALS			
Urea (Granular) FCA French Atlantic Coast	PRA1	Urea (Granular) FCA French Atlantic Coast vs UAN Fertiliser	Pra1 vs Euronext
OTHERS			
		Argus CIF ARA Industrial Wood Pellets Spot vs RWP Euronext	PRA1 vs Euronext

NEW PORTFOLIO OF PRODUCTS

Not available on Euronext Central Order Book

1 About 50 OTC standard commodity references...

- ✓ Cash Settled
- ✓ Offered through our new OTC Commodities platform
- ✓ Margins efficiencies trading both COB and OTC products

2 Available for trading as Swaps and Spreads

Standard reference

An algebraic difference between two references

3 With a Standard or Customised expiries & periods

Standard pre-designed expiries*

Bespoke expiries, durations* and periods

Product Families

1. Agriculturals

2. Biofuel and Oils

3. Fertilisers and Chemicals

4. Others (energy, metals, etc.)

*Bi Weekly

*The duration is not less than 5 business days

PRICE SOURCES

At launch, Euronext intends to use two price source typologies:

✓ **Exchanges:**

Price is set by the exchange using their market price discovery mechanism applicable to the said instrument listed and traded on that exchange. The exchange publishes its prices to the market.

Selected Exchanges are: **Euronext**, ...

✓ **Price Reporting Agencies (PRA)**

Price is set by the PRA and aligned with recognized principles (such as IOSCO principles for oil PRAs) which dictate the PRA price contribution-collection methodology. The PRA publishes its prices to the market under legal and commercial restrictions.

Selected PRA are: **Argus** and **other** PRAs.

Daily Settlement prices (DSP) will be determined as per the usual process and will be retrieved in electronic format using underlying price references from the external prices sources for the EDSP.

Euronext will be the publisher of the daily settlement prices (including the final settlement “EDSP”).



ROLE OF A PRICE REPORTING AGENCY

- ✓ **PRAs** are publishers and information providers **who report prices transacted in physical and some derivative markets** and give an informed assessment of price levels at distinct points in time.
- ✓ Their core activity comprises the publication of market reports containing the **price assessments**, market commentary and news, and business intelligence reports that analyze market and industry trends. As commodity markets continue to evolve, **PRAs continue to play a central role by providing the needed pricing, analytics and transparency** to these markets and fulfill their roles as information providers. **PRAs fill an important role by collecting, collating, editing and disseminating information.** PRAs provide transparency in an ecosystem where the part of trading is conducted bilaterally and privately between counterparties.
- ✓ Price assessments are **used as references** in physical supply contracts and ultimately **determine the settlement value for the commodity** being bought or sold and the cash flows that ensue.
- ✓ **Financial derivative contracts traded on exchanges or in the over-the-counter (OTC) market also reference price assessments.** They are also used for mark-to-market purposes, as an indication of value for tax assessments and for analysis and planning purposes.
- ✓ **They are used by commodity markets participants** such as producers, end users, marketing and trading companies, banks, governments and regulators.



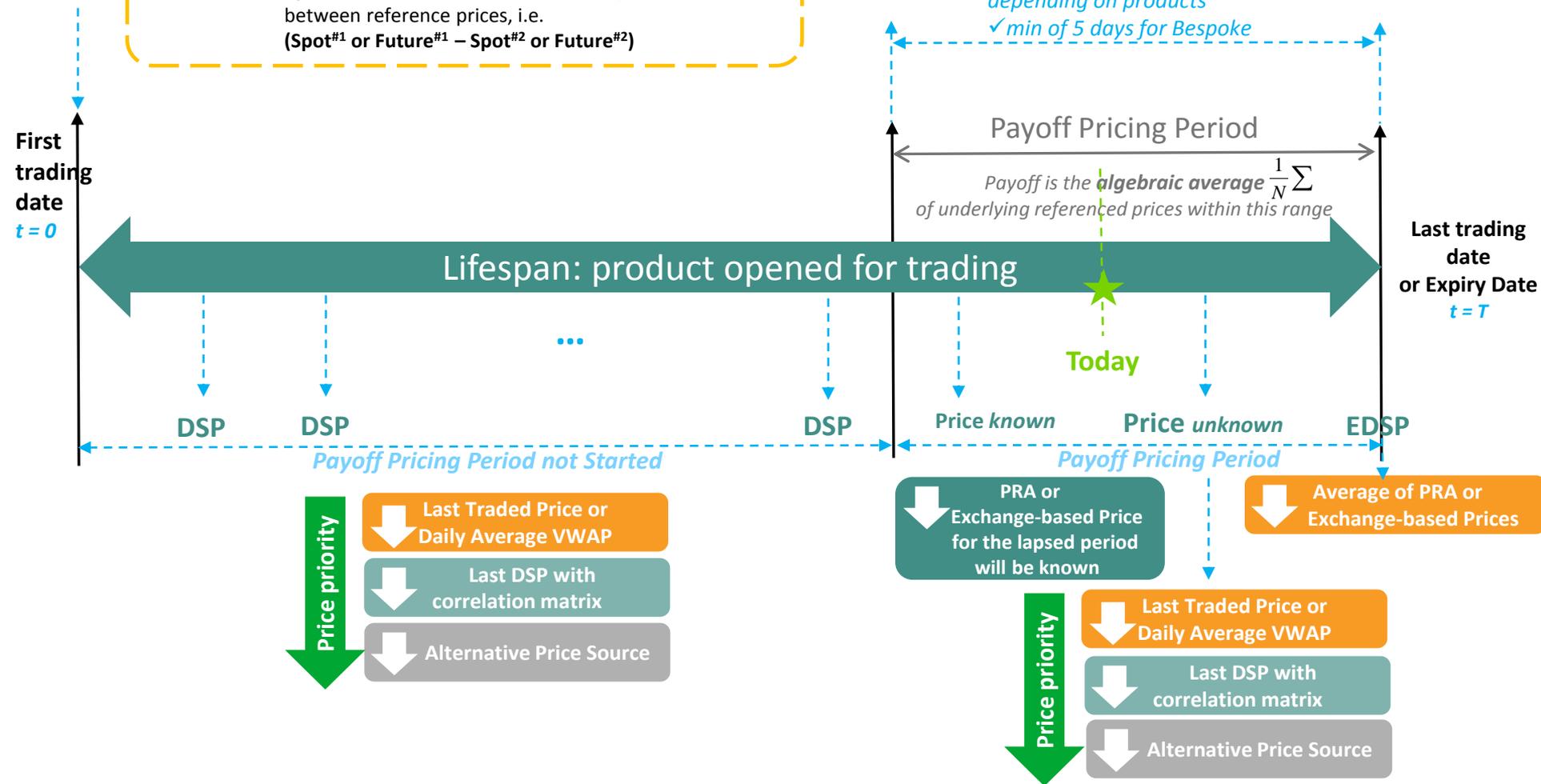
PRODUCT ECONOMICS: SWAPS AND SPREADS

Two types of Instruments:

1. **Swap Instrument** where **Price** is a **Spot** or a **Future**
2. **Spread Instrument** where **Price** is algebraic difference between reference prices, i.e. **(Spot^{#1} or Future^{#1} – Spot^{#2} or Future^{#2})**

Pricing Window Wideness N

- ✓ Half-month / Full-month for Standard depending on products
- ✓ min of 5 days for Bespoke



TWO TYPES OF INSTRUMENTS - PAYOFFS

Price at Maturity

Swap Instrument

Case1. Underlying Asset is a **Spot**

$$\text{Swap Payoff} = \text{TradePrice} - \sum_{t=1}^N \frac{\text{SpotPrice}_{T-(t-1)}}{N}$$

Case2. Underlying Asset is a **Future**

$$\text{Swap Payoff} = \text{TradePrice} - \sum_{t=1}^N \frac{\text{FuturePrice}_{T-(t-1)}}{N}$$

Price Sources

Spot Price from PRAs and Transaction Bid/Ask sources

Future Price from any Exchange (Euronext, CME, ICE...)

Spread Instrument

Underlying Asset is algebraic difference between 2 assets, i.e. (**Spot^{#1} or Future^{#1} – Spot^{#2} or Future^{#2}**)

Case 1. Future vs. Future

$$\text{Spread Payoff} = \text{TradePrice} - \sum_{t=1}^N \frac{[\text{FuturePrice}_{T-(t-1)}^{\#1} - \text{FuturePrice}_{T-(t-1)}^{\#2}]}{N}$$

Case2. Future vs. Spot

$$\text{Spread Payoff} = \text{TradePrice} - \sum_{t=1}^N \frac{[\text{FuturePrice}_{T-(t-1)} - \text{SpotPrice}_{T-(t-1)}]}{N}$$

Case3. Spot vs. Spot

$$\text{Spread Payoff} = \text{TradePrice} - \sum_{t=1}^N \frac{[\text{SpotPrice}_{T-(t-1)}^{\#1} - \text{SpotPrice}_{T-(t-1)}^{\#2}]}{N}$$

UNDERLYING PRICE IS A SYNTHETIC FUTURE

Type of Instrument	Type of Underlying Price	Type of Underlying Source	Product Examples
SWAPS <i>Forward product</i>	Future	Exchanges	<i>No product at launch</i>
	Spot	PRAs	Black Sea Wheat Malting Barley FOB Creil
SPREADS <i>algebraic difference between underlying prices</i>	Future vs Future	Exchanges	<i>No product at launch</i>
	Spot vs Future	PRAs vs Exchanges	Industrial Wood Pellet Spot vs RWP Black Sea Corn vs Exchange corn Milling Wheat CPT Rouen vs EBM basis Milling Wheat CPT Dunkirk vs EBM basis
	Spot vs Spot	PRAs	RME vs RED-RSO Fame-0 vs RED-RSO



For all products, i.e. for SWAPS and SPREADS:

- **The Settlement Price** - received by LCH SA from Euronext - is a plain vanilla FUTURE with a synthetic Index that provides a payoff of SWAP or SPREAD
- **The existing operational framework** on Futures applies for OTC Commodities

THE OTC TRADE CAPTURE PLATFORM

Trading Participants (Broker, Broker / Dealer, Liquidity Provider) will have direct access and be authorised to enter trades

The Clearing Member of the Trading Participant will give up the instructions to the clearing member of the counterpart

Participants on the platform will be able to report their OTC transactions through a **web-based application**

Light access, no requirement for new infrastructure

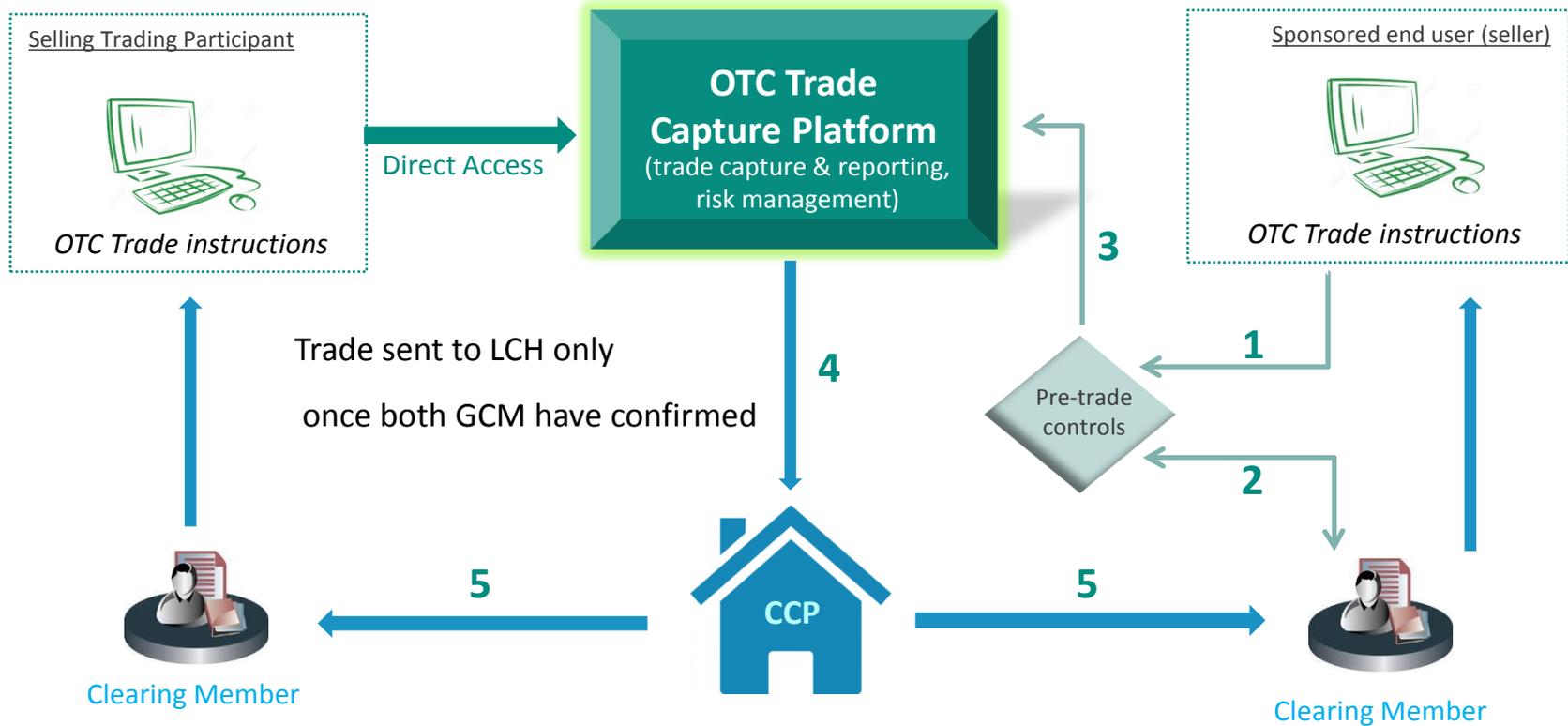
Only one participant will have the authority to enter the OTC trade
Only the seller will need to be entered

Sponsored End Users (Corporates, Cooperatives and Institutionals) may have direct access and be authorised to enter trades

The trade will remain in pending status until its clearing member (seller and/or buyer) approves it



GENERAL TRADE CAPTURE AND CLEARING FLOW



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