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Overview of Sour Crude Derivatives

Middle East crude oil derivatives

Activity levels in Middle East-Asian crude oil derivatives have been traditionally difficult to estimate due to the variety of instruments used across different exchanges.

The picture is now becoming clearer. Former over-the-counter swaps markets now trade as futures, while new regulatory requirements have encouraged clearing at the expense of bilateral deals.

There is also a greater concentration of activity levels onto a handful of exchanges.

All of these factors mean that it is now possible to provide more accurate estimates of the size of this important market and of potential developments.

Nonetheless, the Middle East-Asian crude oil derivative markets still remain significantly more fragmented than the equivalent markets in the Americas or Europe, where activity levels are dominated by WTI and Brent futures respectively.

Activity in the Middle East-Asian crude oil derivatives markets is still spread among three key contracts; namely, Oman futures listed on DME, Dubai futures (formerly swaps) as listed on CME Group and ICE, and the Oman/Dubai futures listed on the Tokyo Commodity Exchange (TOCOM).

As well as outright trading, there is also substantial trade in the Brent-Oman futures spread and in the Brent-Dubai Exchange of Futures for Swaps (EFS).

History of futures launches

Seven crude oil futures contracts have been launched since the millennium to try to capture hedging and speculative activity in the Middle East-Asian supply corridor, but of these only three are still trading.

DME Oman futures continue to see volumes grow, while the former Dubai swaps market was converted into a futures market by CME Group and ICE in late 2012 and remains very active. This market settles against Platts Dubai assessments.

The TOCOM Oman/Dubai contract also remains an important market, although volumes have declined somewhat in recent years.

Other attempts to launch Middle East sour contracts by ICE, NYMEX (now CME Group), India's MCX and Singapore Exchange (SGX) all failed.

The latest exchange to announce that it will enter this space is Shanghai's International Energy Exchange (INE), which plans to launch a cfr China contract based mainly on Middle East sour crude oil grades.

It is interesting to note that of all the contract launches only DME Oman

and the upcoming INE contract are physically settled.

This may explain the relatively high failure rate of Middle East-Asian crude oil contracts – cash-settled futures mechanisms did not offer any additional value above and beyond the existing Dubai swaps market.

Physical delivery is generally considered the 'gold standard' for futures contracts as it ensures a direct correlation between the futures and the cash physical market without the intermediation of a price-reporting agency.

But physical delivery contracts are notoriously difficult to launch for exchanges due to their greater complexity and it will be interesting to see how INE tackles the potential delivery of up to seven grades into bonded tanks in coastal China.

	NYMEX	TOCOM	SGX	ICE	MCX	DME
2000	25					
2001		286,697				
2002		640,704	1,282			
2003		569,154	2,590			
2004		718,498				
2005		623,147				
2006		616,794			21,168	
2007		468,296		95,364		200,892
2008		237,611		244		322,985
2009		196,345				551,466
2010		296,715				744,727
2011		405,068				883,359
2012		404,255				1,176,056
2013		366,863				1,600,918

*Total lots traded; all lot sizes converted to 1,000 bl; table does not include contracts originally launched as swaps

Exchange	Contract name	Year of launch	Key characteristics	Current status
NYMEX	Middle Eastern Sour Crude Oil Futures	2000	Cash settled in \$/bl to a basket of indices	No longer trades
TOCOM	Crude Oil Futures	2001	Cash settled in yen/kiloliter to Platts Oman/Dubai	Still trades
SGX	Middle East Crude Oil	2002	Cash settled in \$/bl to Platts Oman/Dubai	No longer trades
MCX	Middle East Sour Crude Oil	2006	Cash settled in Rs/bl to Platts Dubai	No longer trades
ICE	Middle East Sour Crude	2007	Cash settled in \$/bl to Platts Dubai	No longer trades
DME	DME Oman Crude Oil Futures	2007	Physical delivery of Oman crude	Record volumes and open interest
CME/ICE	Dubai futures	2012	Futurization of former Platts Dubai swaps	Still actively traded
INE	Crude Oil Futures Contract	2014	Physical delivery in China of seven grades	Preparing for launch



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Dubai futures

Dubai swaps have been traded for many years either bilaterally or via over-the-counter brokers.

The swaps were first listed for clearing on NYMEX (now CME) ClearPort in May 2002 and were subsequently also listed by ICE Clear Europe.

The volume of cleared swaps has grown since the early years as more and more participants have embraced clearing.

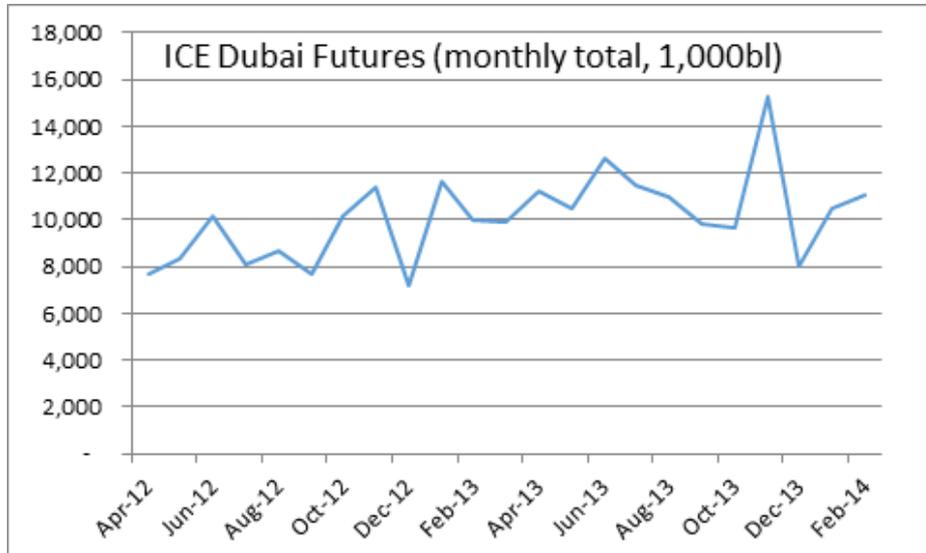
It is believed that the majority of Dubai swaps are now cleared, giving a more transparent indication of the size of the market.

The collapse of US investment banks Bear Sterns and Lehman Brothers in 2008 was a major catalyst in the growth in clearing, as was the subsequent legislation which led to the 'futurization' of the OTC markets.

The decision in late 2012 by CME Group and ICE to convert the Dubai swaps into futures contracts and to enable screen trading in these contracts alongside the traditional brokered block market marked a new stage in the development of Dubai-based derivatives.

To date, though, the 'futurization' of Dubai swaps has had relatively little impact on volumes, which have stayed consistently around 10,000-12,000 lots/day (equivalent to 10-12mn bl of crude oil).

Overall, Dubai futures volumes appear to be relatively stable, with the exception of when there are unusual levels of activity in the Platts assessment window.



In November 2013 when buying by one counterparty drove partials activity to record levels of 552 partials traded, Dubai futures set an all-time record of over 15,000 lots/day, whereas in the following month when only three partials traded in the Platts assessment process, Dubai futures volumes dropped back to around 8,000 lots/day.

The majority of activity in the Dubai futures takes place in the second and third month in line with the hedging needs of Asian consumers who are typically procuring crude oil two months ahead of loading, which they will then receive at their processing facilities three months from the trading date.

The majority of open interest is also held in these months.

The only exception to this general trend is, again, when there is an unusually high level of activity on the Platts partials, which sometimes leads to an inversion of the normal pattern of open interest as players

leave outside positions in the front-month swaps to settle against assessments.

The next development will be whether the ability to trade Dubai futures onscreen is embraced by the market, which has traditionally relied on the services of brokers to match bids and offers.

Different energy markets have responded to 'futurization' in different ways. Asian fuel oil markets have seen screen-based trade eat into the brokered market, but the majority of the Asian light-end and middle distillate markets have remained brokered.

Typical spread of Dubai futures activity (%)				
M	M1	M2	M3 - M6	M+7
0	21	42	29	7



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TOCOM crude oil

TOCOM's crude oil contract differs from the other core Middle East-Asia crude oil derivatives primarily because of its units: the contract is denominated in kiloliters rather than barrels and yen rather than US dollars.

The TOCOM contract is traded by a mix of Japanese and international investors.

There is a mix of commercial end-users and financial participation

in the contract. Financial players dominate, although some Japanese firms do hedge their oil price exposure on TOCOM.

TOCOM lists six forward months and the activity is weighted towards the later listed months.

The TOCOM contract settles to Platts Dubai/Oman prices converted into yen.

DME Oman crude oil

Until INE launches, DME Oman is the only physical crude oil contract in the east of Suez markets.

The contract's strong physical link is demonstrated by the large delivery volumes through the Exchange, typically 12-15mn bl/month.

DME Oman volumes have been growing at a fast pace since the Exchange was restructured in mid-2012 and volumes averaged around 9,300 lots/day (9.3mn bl) in the first four months of 2014 – a 57% increase year-on-year.

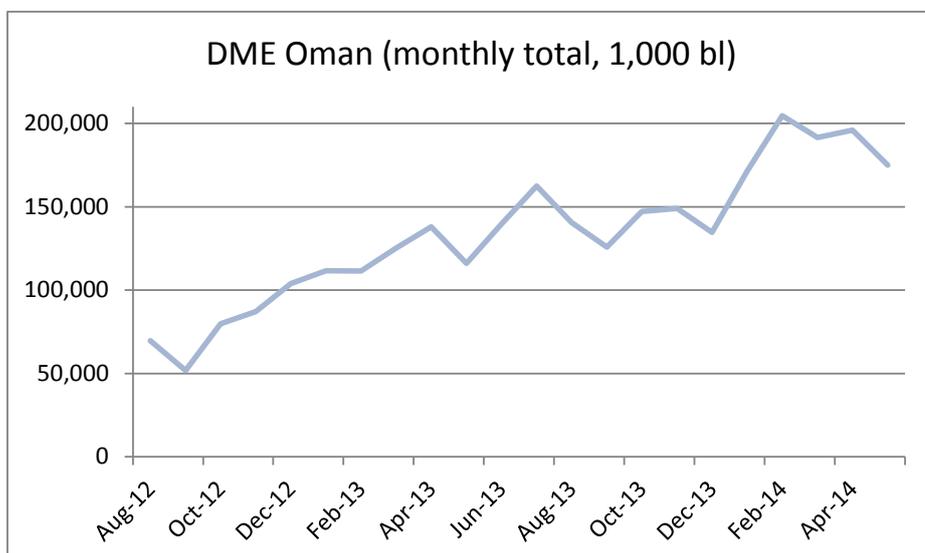
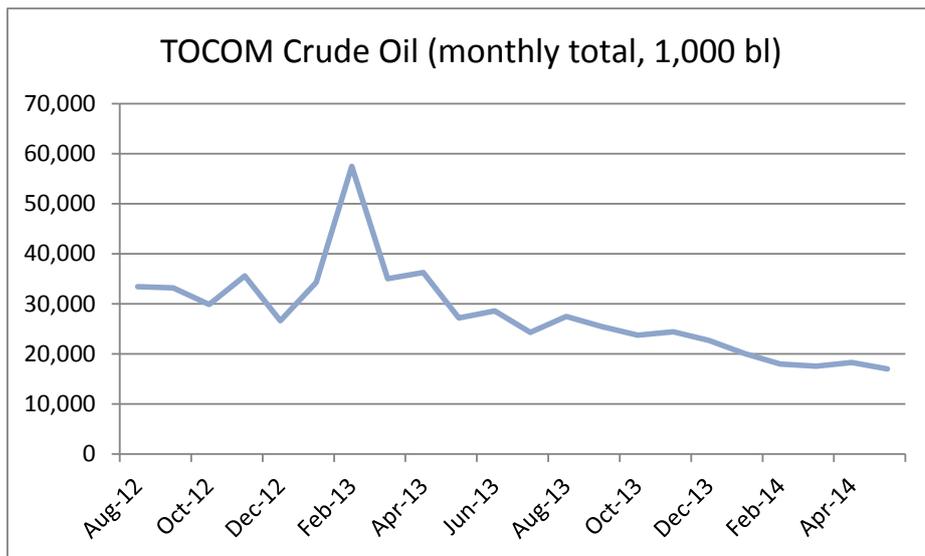
DME has benefited from the high levels of activity in its five-minute settlement window, which accounts for around half of the Exchange's overall volume and ensures that DME is the most liquid screen-traded energy market in Asian hours.

Options

The markets for Dubai and Oman options are relatively active but volumes are hard to track as many of the options are written by banks for customers and are not necessarily cleared.

It is rare to hear of a Dubai or Oman option being brokered as deals tend to be bilateral.

Clearing of Dubai and Oman options is quite sporadic, with some months no deals seen, while other months can see very large deal sizes cleared, even up to over 10,000 lots (10mn bl) in a single Dubai options transaction.



Overview of Sour Crude Derivatives

Total derivatives volumes

There is inevitably some doubt over the total volumes of Middle East-Asian crude oil derivatives, given that some business still remains bilateral and is not reported.

But taking data from the key exchanges – DME, CME Group, ICE and TOCOM – around 5.3bn bl of Middle East-Asian crude oil derivatives were cleared in 2013 and just over 2.0bn bl in the first four months of 2014, which suggests that total volumes could breach the 6.0bn bl mark on an annualized basis in 2014.

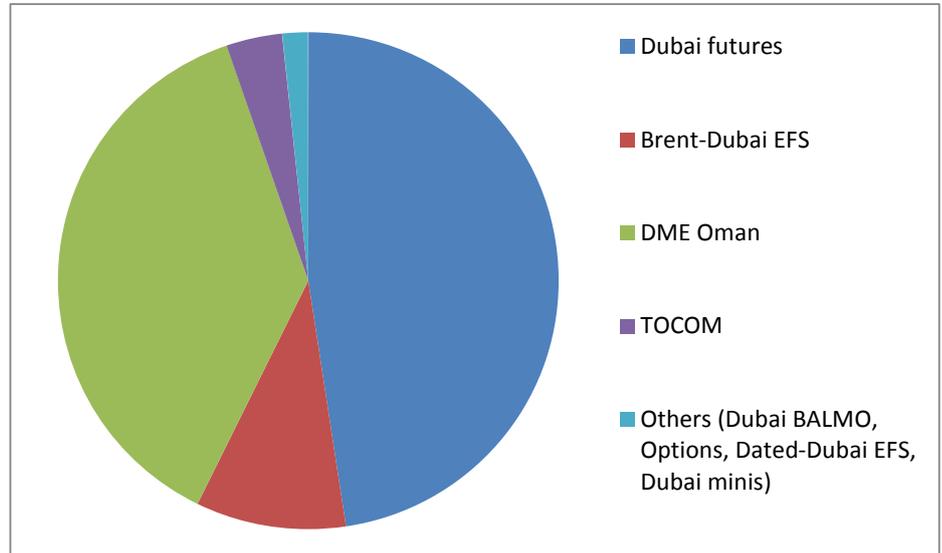
Volumes are split across seven main contracts: Oman futures, Dubai futures, TOCOM futures, Dubai & Oman options, Dubai balance-of-month (BALMO), Brent-Dubai EFS, Dated-Dubai EFS and mini Dubai futures.

This 20-25mn bl/day of Middle East-Asian crude oil exposure is certainly larger than it was in 2011-12 when volumes were closer to 15mn bl/day.

But this total is still dwarfed by the size of the WTI and Brent markets in the US and Europe.

Whereas WTI futures traded a total of 54bn bl in the first four months of 2014 across CME Group and ICE, and Brent traded just under 52bn bl across the same two exchanges, Middle East-Asian crude oil volumes were around 2bn bl over the same period through the exchanges.

This means that the Middle East-Asia market is equivalent to just under 4% of the Americas and European markets respectively.



The disparity would be even greater if the totals for WTI and Brent were to include all of the multiple instruments that relate to the WTI and Brent benchmark futures products, such as calendar products, options, balance-of-months, CFDs, EFPs etc.

The relative size of the three regions' futures markets is a strong indication of the potential growth that might be expected in the Middle East-Asian market, which has already become the most significant region in the world in terms of physical trade.

The US shale boom may have grabbed the headlines in recent times, but the Middle East will undoubtedly retain its position as the primary source of export barrels for the world, while the Middle East and Asia will continue as the key oil-demand growth regions for the foreseeable future.

And while these derivatives markets have a long way to go before catching their US and European counterparts in volume terms, the massive growth potential will propel the East of Suez markets into a new era of trading and transparency.

General Contact Details

Dubai Mercantile Exchange
P.O. Box 66500
Building 10
Gate Village
Dubai International Financial Centre (DIFC)
Dubai, United Arab Emirates

Tel: +971 4 365 5500
Fax: +971 4 365 5599

www.dubaimerc.com

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