Futures Contracts

- Available on a wide range of underlyings
- Exchange traded
- Specifications need to be defined:
  - What can be delivered,
  - Where it can be delivered, &
  - When it can be delivered
- Settled daily

Margins

- A margin is cash or marketable securities deposited by an investor with his or her broker
- The balance in the margin account is adjusted to reflect daily settlement
- Margins minimize the possibility of a loss through a default on a contract

The term "margin“ is different in futures than in stocks. To buy shares on margin means to borrow money and pay interest.

In futures, **margin** is the amount of money that one need to have on deposit in account in order to hold a position.

Margin represent funds that brokerage firm can draw on to cover losses as a market moves against position. In futures trading, your account will be debited and/or credited daily as positions are marked-to-the-market.

The term "margin" can be confusing to futures trading newcomers because it means something different in futures than it does in stocks. In stocks, to buy shares on margin means that you're borrowing money and paying interest on those borrowed funds. In futures, margin simply refers to the amount of money that one needs to have in account in order to hold a position.

Margin required for a futures contract may be better described as a "performance bond" or "good faith" money. Margin requirements represent funds that brokerage firm can draw on to cover losses as a market moves against position. That's because, in futures trading, account will be debited and/or credited daily as positions are marked-to-the-market.

When one closes a position, the margin earmarked for that is freed up to take another position. Also, any final debit or credit based on position will be made.

Margin levels are set by futures exchanges. They are largely based on volatility (market conditions) and can be changed at any time.

These exchange-set margins are the minimum required to take a position, and many brokerage firms may require more margin than the exchange minimum. Generally, futures margins are much less than the minimum required for leveraged stock trades.

The performance bond (margin) requirements for most futures contracts range from 2% to 15% of the value of the contract. An exception is the margin requirement for single stock futures contracts, which is 20% of the contract value.

Two types of margins exist in futures:

Initial Margin: The amount of funds that must be deposited by a customer when initiating a market position

Maintenance Margin: The minimum balance that must be maintained in a trading account to keep positions

Think of maintenance margin as a subset of initial margin.

Maintenance margin is usually a smaller number than initial margin and doesn't come into play unless the account balance is shrinking due to losses.

If the value of the account balance falls below the maintenance margin level, one will receive a margin call to get the account back into compliance.

One can do this by sending more money (thus raising the balance back up to the initial margin requirement) or lightening up your position (thus lowering the initial margin requirement back down to the balance).

Other Key Points About Futures

- They are settled daily
- Closing out a futures position involves entering into an offsetting trade
- Most contracts are closed out before maturity

Bloomberg Crude Oil Futures Screen: CLH1 Comdty DES

CLH1 COMB Comdty | Page 1/2 Security Description

1) Contract Information | 2) Linked Instruments

CLH1 Comdty | WTI CRUDE FUTURE Mar21 | NYM-New York Mercantile Exchange

3) Notes

** Product specifications link below **
Crude Oil Futures
**Effective July 6, 2015 and pending all relevant CFTC regulatory review periods, CME will close

4) Contracts | CT » Jan-F Feb-G Mar-H Apr-J May-K Jun-M Jul-N Aug-Q Sep-U Oct-V Nov-X Dec-Z

Contract Specifications	
Contract Size	1,000 Barrels
Value of 1.0 pt	$ 1,000
Tick Size	0.01
Tick Value	$ 10
Price 52.27	USD/bbl.
Contract Value	$ 52,270
Last Time	01/22/21
Exch Symbol	CL
FIGI	BBG00BFJSQ90

Daily Price Limits	
Up Limit	N.A.
Down Limit	N.A.

Trading Hours

Exchange | Local

Electronic	18:00 - 17:00

6) Related Dates | EXS »

First Trade	Mon	11/23/2015
Last Trade	Mon	02/22/2021
First Notice	Wed	02/24/2021
First Delivery	Mon	03/01/2021
Last Delivery	Wed	03/31/2021

7) Holidays | CDR NM »

5) Price Chart | GP »

Intraday History Curve

Prc Chg 1D	-0.86/-1.619%
Lifetime High	67.56
Lifetime Low	27.66

Margin Requirements

	Speculator	Hedger
Initial	4,977	4,525
Secondary	4,525	4,525

Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
Japan 81 3 4565 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000

SN 691366 G654-2528-0 24-Jan-21 0:15:46 EST GMT-5:00

Margin Table of a Hypothetical Long Position in 1 Oil Futures Contract. Initial Margin 4,840$ Per Contract, Maintenance Margin 4,400$ Per Contract. Point Value 1000$ Per Contact (Contract for 1000 Barrels)

		Settle price	Daily Gain	Cumulative Gain	Margin Balance	Margin Call
Bought 1/6 at	50.30				4,840	
1/6/21	50.32	50.32	20	20	4,860	
1/7/21	50.18	50.18	-140	-120	4,720	
1/8/21	48.92	48.92	-1,260	-1,380	3,460	1,380
1/11/21	49.36	49.36	440	-940	5,280	
1/12/21	47.36	47.36	-2,000	-2,940	3,280	1,560
1/13/21	48.84	48.84	1,480	-1,460	6,320	
1/14/21	46.54	46.54	-2,300	-3,760	4,020	820
1/15/21	46.85	46.85	310	-3,450	5,150	
Sold 1/19 at	46.96		110	-3,340	5,260	

$$-3{,}340=5{,}260-4{,}840-1{,}380-1{,}560-820$$

Collateralization in OTC Markets

- It is becoming increasingly common for contracts to be collateralized in OTC markets
- They are then similar to futures contracts in that they are settled regularly (e.g. every day or every week)

Delivery

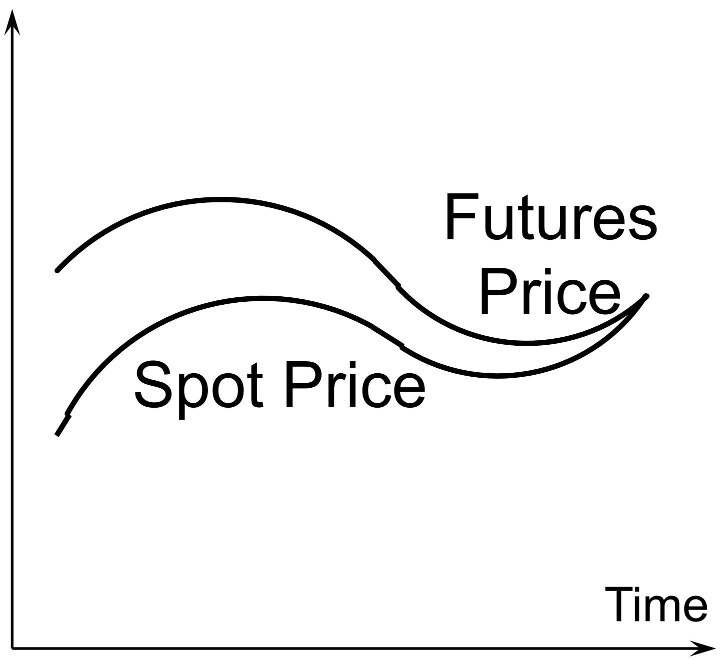
- If a futures contract is not closed out before maturity, it is usually settled by delivering the assets underlying the contract. When there are alternatives about what is delivered, where it is delivered, and when it is delivered, the party with the short position chooses.

- A few contracts (for example, those on stock indices and Eurodollars) are settled in cash

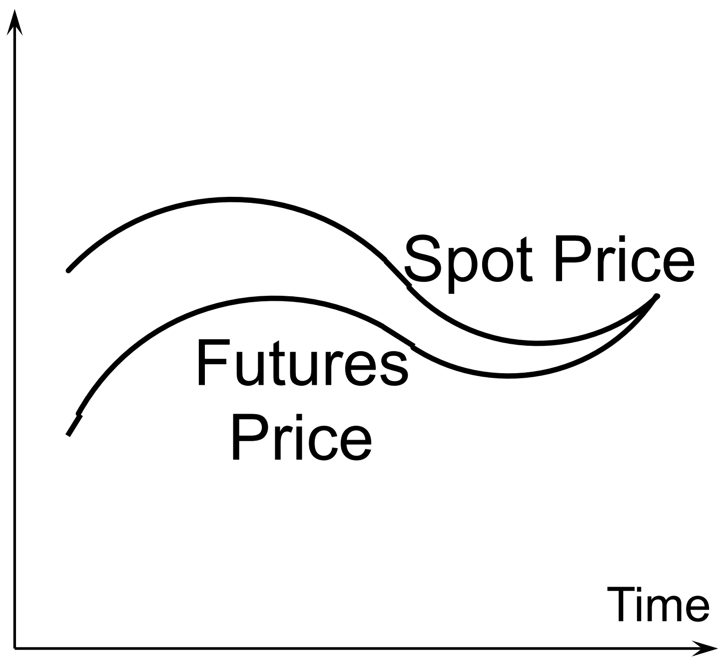
Some Terminology

- Open interest: the total number of contracts outstanding
  - equal to number of long positions or number of short positions
- Settlement price: the price just before the final bell each day
  - used for the daily settlement process
- Volume of trading: the number of trades in 1 day

Convergence of Futures to Spot



(a)



(b)

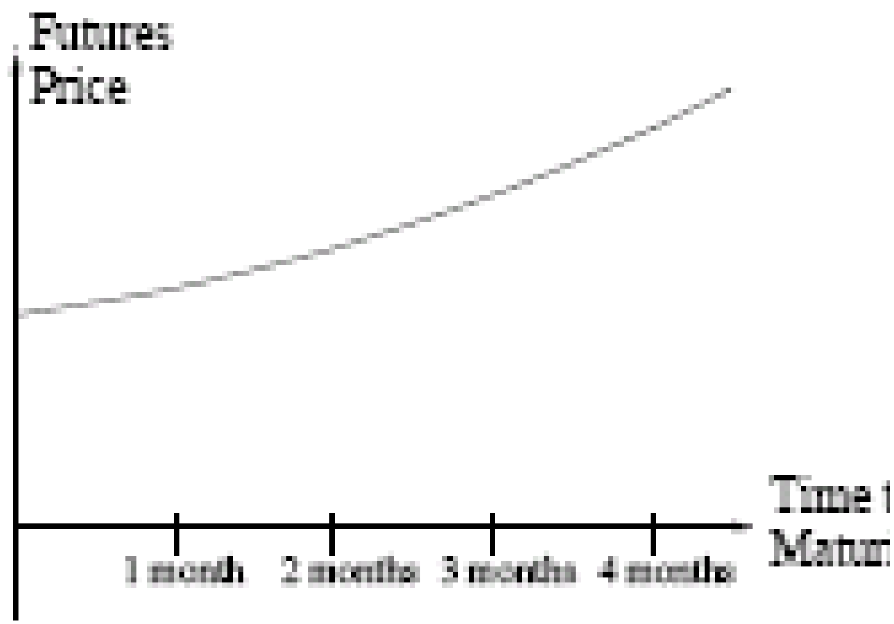


Figure 1.4: Contango

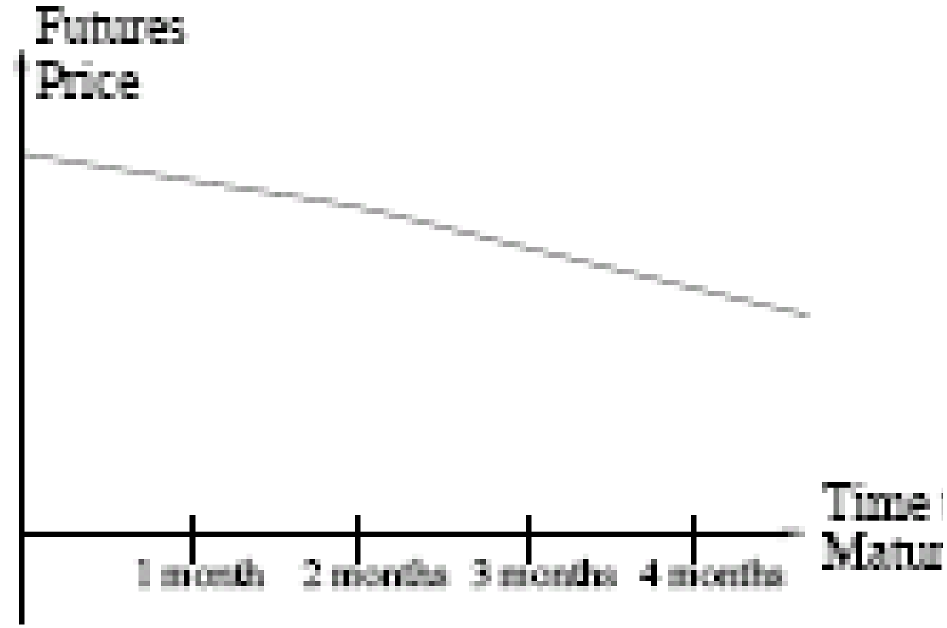
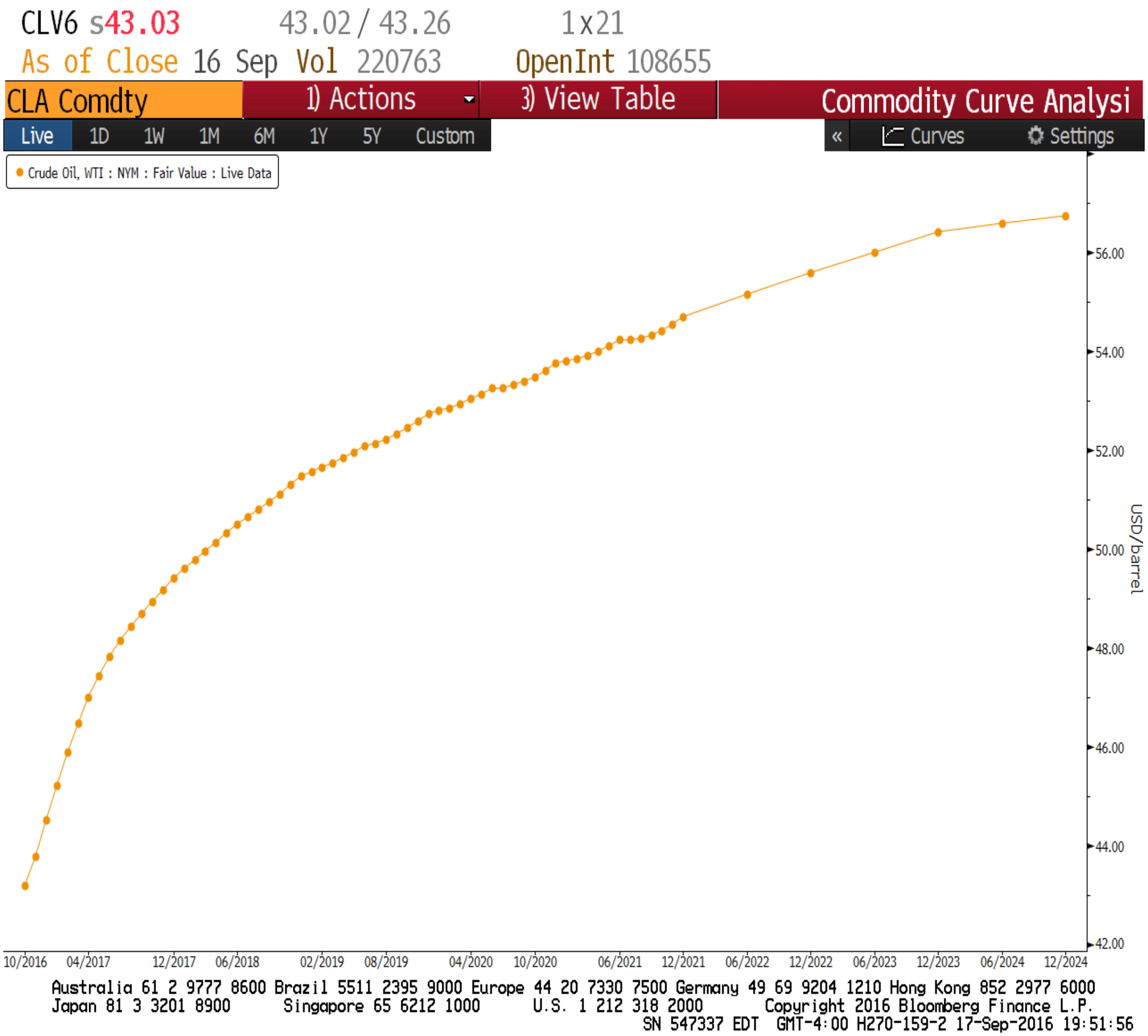


Figure 1.5: Normal Backwardatio

CLA Comdty CCRV

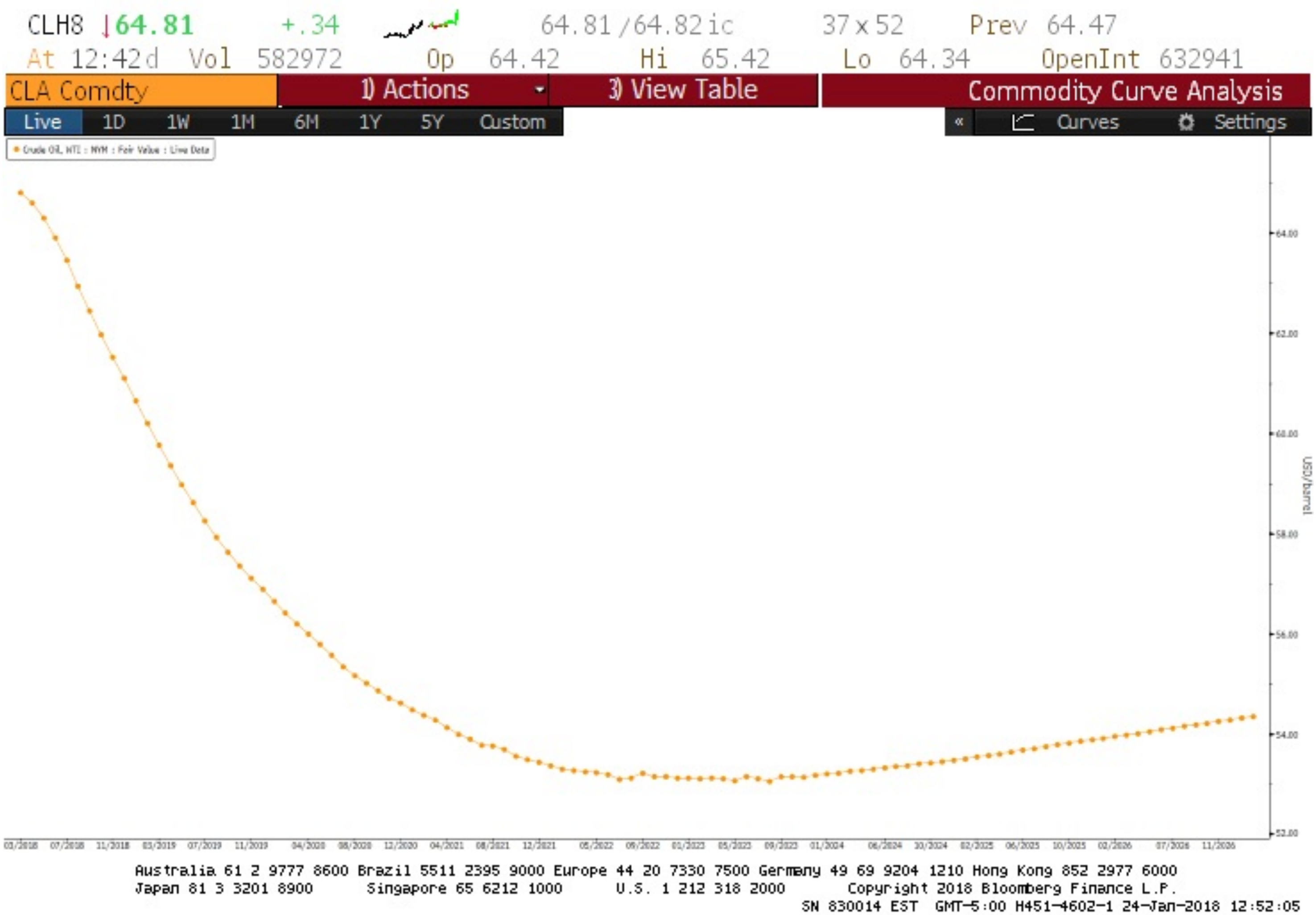


Crude oil WTI

Contango

On Sep 17, 2006

CLA Comdty CCRV

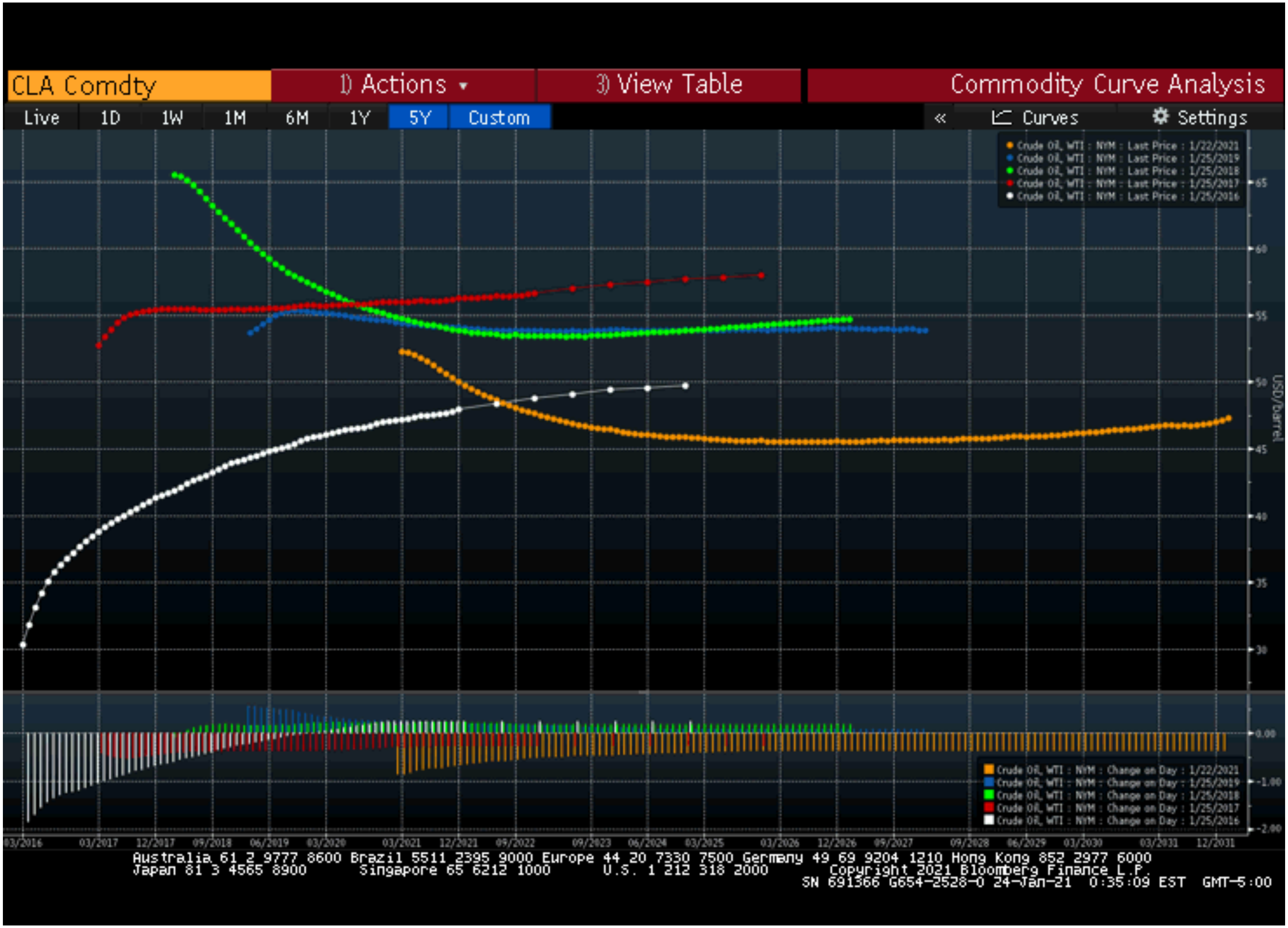


Crude oil
WTI

Backwardation

On
Jan 24, 2018

Crude oil futures curves on different days/years



Questions

- When a new trade is completed what are the possible effects on the open interest?

- Can the volume of trading in a day be greater than the open interest?

Regulation of Futures

- Regulation is designed to protect the public interest

- Regulators try to prevent questionable trading practices by either individuals on the floor of the exchange or outside groups

Accounting And Tax

- Ideally hedging profits (losses) should be recognized at the same time as the losses (profits) on the item being hedged
- Ideally profits and losses from speculation should be recognized on a mark-to-market basis
- Roughly speaking, this is what the accounting and tax treatment of futures in the U.S.and many other countries attempts to achieve

Forward Contracts vs Futures Contracts

FORWARDS	FUTURES
Private contract between 2 parties	Exchange traded
Non-standard contract	Standard contract
Usually 1 specified delivery date	Range of delivery dates
Settled at end of contract	Settled daily
Delivery or final cash settlement usually occurs	Contract usually closed out prior to maturity
Some credit risk	Virtually no credit risk

Foreign Exchange Quotes

- CME Futures exchange rates are quoted as the number of USD per unit of the foreign currency

- Forward exchange rates are quoted in the same way as spot exchange rates. This means that GBP, EUR, AUD, and NZD are quoted as USD per unit of foreign currency. Other currencies (e.g., CAD and JPY) are quoted as units of the foreign currency per USD.