



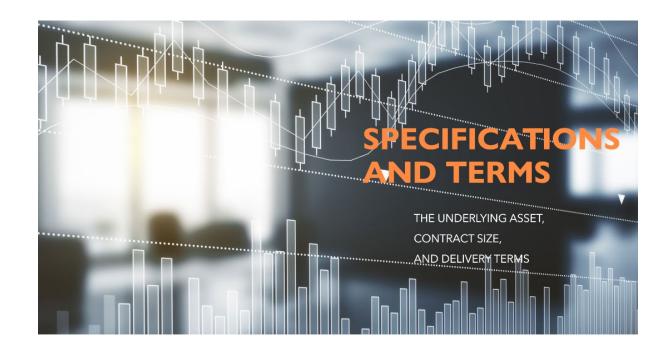
Chapter 7: Futures Markets

Key Concepts:

- Futures Specifications and Terms
- Role of Exchanges in Futures Trading
- Mechanics of Futures Trading and Settlement
- Contango, Backwardation, and Convergence to Spot
- Mark-to-Market and its Effect on Hedgers

Futures Specifications and Terms

- The Underlying Asset, including quality
- Contract Size
- **Delivery Location**
- **Delivery Time**



Futures Specifications and Terms (cont.)

- Price Quotes
- Price Limits
 - a) Limit Up
 - b) Limit Down
- Position Limits





Futures Specifications and Terms (cont.)



Example: Crude Oil (CME)

Contract Size: 1,000 Barrels

Price: cents per barrel, minimum price tick: \$0.01 per barrel = \$10 per contract

Maturity: Every month, 10 years

Termination of Trading: Trading terminates 3 business days before 25th calendar day of month prior to contract month. If 25th calendar day is not a business day, trading terminates 4 business days before 25th calendar day of month prior to contract month.

Final Settlement: On day of expiration, expiring month will settle based on the VWAP of the outright CME Globex trades executed between 14:00:00 and 14:30:00 ET.

Delivery: Delivery shall be made free-on-board ("F.O.B.") at any pipeline or storage facility in Cushing, Oklahoma, with pipeline access to Enterprise, Cushing storage, Enbridge, Cushing storage, or Plains, Cushing storage.

- (A) Delivery shall take place no earlier than first calendar day of delivery month and no later than last calendar day of delivery month.
- (B) It is the short's obligation to ensure that its crude oil receipts, including each specific foreign crude oil stream, if applicable, are available to begin flowing ratably in Cushing, Oklahoma, by first day of the delivery month, in accord with generally accepted pipeline scheduling practices.

Source: https://www.cmegroup.com/markets/energy/crude-oil/light-sweet-crude.contractSpecs.html

Role of Exchanges in Futures Trading

- Standardize contracts
- Exchange's CCP becomes counterparty to all members
- Variation margin daily settlement
- Ability to close out positions by offsetting positions
- Initial margin and default fund
- Members can clear trades of non-members





Market Participants

- Futures Commission Merchants Manage funds for customers
- Introducing Brokers Execute orders for customers
- Locals Floor traders, including scalpers, day traders, and position traders

Orders

- Market
- Limit
- Stop-Loss
- Stop-Limit
- Market-if-Touched
- Discretionary





Duration of Orders

- Day Order
- Good-till-Cancelled (GTC)
- Fill-or-Kill (FoK)

Physical Settlement

Most closed out before settlement.

Delivery period varies by contract.

- 1. Short issues notice of intent to deliver to CCP (including place and grade)
- 2. Exchange selects one or more longs to take delivery (Usually longest held or random)
- 3. Price paid is the settlement price adjusted for grade and sometimes delivery location

First notice day – First-day notice to deliver can be submitted **Last notice day –** Usually a few days after the last trading day





Cash Settlement – No physical exchange, just a final exchange of variation margin.

- Stock Indices
- Weather Indices
- Real Estate Indices
- Eurodollar Futures

S&P 500 Futures settle on third Friday of the month based on the day's **opening price**.

Open Interest (OI)

The total open positions on a contract at any given time. Tends to peak right before settlement.

	A buys 1	A buys 1	B buys 1	C buys 1
	from B	from C	from C	from A
Α	1	2	2	1
В	-1	-1	0	0
С	0	-1	-2	-1
OI	1	2	2	1



Open Interest (OI) Example, inspired by Bionic Turtle PQ 708.1

- 1. Trader Albert (A) enters a new long position buying 500 futures contracts from Trader Barbara (B), who is the corresponding seller entering a new short position
- 2. Trader Chris (C) enters a new long position buying 350 futures contracts from Trader Donald (D), who is the corresponding seller entering a new short position
- 3. Trader Albert (A) offsets all 500 of his existing long contracts by selling to Trader Erin (E), who is the corresponding buyer entering a new long position
- 4. Trader Chris (C) offsets 185 of her existing contracts by selling to Trader Fred (F), who is the corresponding buyer entering a new long position
- 5. Trader Erin (E) offsets 300 of her existing long contracts by selling to Trader Barbara (B), who is the corresponding buyer who offsets 300 of her existing short contracts
- 6. Trader Erin (E) forgets to offset the balance and is forced to take delivery on her long position of her remaining 200 contracts; Trader Barbara (B) delivers 200 contracts of her existing short contracts

Which of the following is the cumulative impact of these trades on the open interest; i.e., what is the cumulative net change to the open interest due to these six trades?

A			
В			
С			
D			
Е			
F			
OI			



		Long	Short	Opening			Buys	Sells	Closing		
		(Buy)	(Sell)	•	_	_	Delivers				Must
	Buy	Α	В	С	D	E	F	G	Н	0	be Zero
Tx. 1	Sell									0	0
NET	Long	0	0	0	0	0	0	0	0	0	OI
INEI	Short	0	0	0	0	0	0	0	0	0	Oi
	D									0	
Tx. 2	Buy Sell									0 0	0
ALET	Long	0	0	0	0	0	0	0	0	0	-
NET	Short	0	0	0	0	0	0	0	0	0	OI
Tx. 3	Buy									0	
	Sell	0	0	0	0	0	0	0	0	0	0
NET	Long Short	0 0	0 0	0 0	0 0	0	0 0	0 0	0 0	0 0	Ol
	311011	J	0	U	U	U	U	U	0	O	
T., 1	Buy									0	
Tx. 4	Sell									0	0
NET	Long	0	0	0	0	0	0	0	0	0	OI
IAFI	Short	0	0	0	0	0	0	0	0	0	O.
	Buy									0	
Tx. 5	Sell									0	0
NICT	Long	0	0	0	0	0	0	0	0	0	
NET	Short	0	0	0	0	0	0	0	0	0	OI
Tx. 6	Delivers Takes Delivery									0	0
	Long	0	0	0	0	0	0	0	0	0	0
NET	Short	0	0	0	0	0	0	0	0	0	OI
	5.1010	_	_	•		•	•	•		•	

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		Long	Short	Opening			Buys	Sells	Closing		
		(Buy)	(Sell)				Delivers	Takes Div	r		Must
		Α	В	С	D	E	F	G	Н		be Zero
Tx. 1	Buy	500								500	
IV. T	Sell									0	500
NET	Long	500	0	0	0	0	0	0	0	500	OI
IAFI	Short	0	0	0	0	0	0	0	0	0	O.
	_							•			
Tx. 2	Buy									0	•
	Sell	F00	0	0	0	0	0	0		0	0
NET	Long Short	500 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	500 0	Ol
	311011	U	U	U	U	U	U	U	U	U	
	Buy									0	
Tx. 3	Sell									0	0
	Long	500	0	0	0	0	0	0	0	500	_
NET	Short	0	0	0	0	0	0	0	0	0	OI
T	Buy									0	
Tx. 4	Sell									0	0
NIET	Long	500	0	0	0	0	0	0	0	500	OI
NET	Short	0	0	0	0	0	0	0	0	0	Oi
Tx. 5	Buy									0	
IA. J	Sell									0	0
NET	Long	500	0	0	0	0	0	0	0	500	OI
IAFI	Short	0	0	0	0	0	0	0	0	0	O.
										_	
Tx. 6	Delivers									0	•
	Takes Delivery	F00	0	0	0	0	0	0		0	0
NET	Long	500	0	0	0	0	0	0	0	500	OI
	Short	0	0	0	0	0	0	0	0	0	

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		(Buy)	(Sell)	•	D	E		Takes Dlv			Must
	Buy	A 500	В	С	U	E	F	G	н	500	be Zero
Tx. 1	Sell	300	500							500	0
NICT	Long	500	0	0	0	0	0	0	0	500	OI
NET	Short	0	500	0	0	0	0	0	0	500	UI
Tx. 2	Buy									0	0
	Sell Long	500	0	0	0	0	0	0	0	0 500	0
NET	Short	0	500	0	0	0	0	0	0	500	OI
	5.15.1				· ·				•	300	
T _V 2	Buy									0	
Tx. 3	Sell									0	0
NET	Long	500	0	0	0	0	0	0	0	500	OI
IALI	Short	0	500	0	0	0	0	0	0	500	O.
	D. n.									0	
Tx. 4	Buy Sell									0 0	0
AICT	Long	500	0	0	0	0	0	0	0	500	
NET	Short	0	500	0	0	0	0	0	0	500	OI
Tx. 5	Buy									0	
IA. J	Sell			_	_	_	_	_	,	0	0
NET	Long	500	0	0	0	0	0	0	0	500	OI
	Short	0	500	0	0	0	0	0	0	500	•
	Delivers									0	
Tx. 6	Takes Delivery									0	0
NICT	Long	500	0	0	0	0	0	0	0	500	OI
NET	Short	0	500	0	0	0	0	0	0	500	UI

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		Long	Short	Opening			Buys	Sells	Closing		
		(Buy)	(Sell)	•	_	-	Delivers				Must
	Buy	A 500	В	С	D	E	F	G	Н	500	be Zero
Tx. 1	Sell	300	500							500	0
NET	Long	500	0	0	0	0	0	0	0	500	OI
INEI	Short	0	500	0	0	0	0	0	0	500	Oi
	5			250						250	
Tx. 2	Buy Sell			350						350 0	350
ALET	Long	500	0	350	0	0	0	0	0	850	
NET	Short	0	500	0	0	0	0	0	0	500	OI
Tx. 3	Buy									0	
	Sell	500	•	250	•	0	0	0		0	0
NET	Long Short	500 0	0 500	350 0	0 0	0 0	0	0 0	0 0	850 500	OI
	311011	U	300	U	U	U	U	U	U	300	
T., 1	Buy									0	
Tx. 4	Sell									0	0
NET	Long	500	0	350	0	0	0	0	0	850	OI
IALI	Short	0	500	0	0	0	0	0	0	500	O.
	D. v.									0	
Tx. 5	Buy Sell									0	0
AICT	Long	500	0	350	0	0	0	0	0	850	
NET	Short	0	500	0	0	0	0	0	0	500	OI
Tx. 6	Delivers									0	0
	Takes Delivery	500	0	350	0	0	0	0	0	0 850	0
NET	Long Short	0	500	0	0	0	0	0	0	500	OI
	5010	•	500		•	Ū		•	Ū	500	

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		Long	Short	Opening			Buys	Sells	Closing		
		(Buy)	(Sell)	С	D	E		Takes Dlv G			Must
	Buy	A 500	В	C	U	E	F	G	Н	500	be Zero
Tx. 1	Sell	300	500							500	0
NET	Long	500	0	0	0	0	0	0	0	500	OI
INCI	Short	0	500	0	0	0	0	0	0	500	Oi
	_			0.50						252	
Tx. 2	Buy Sell			350	350					350 350	0
	Long	500	0	350	0	0	0	0	0	850	_
NET	Short	0	500	0	350	0	0	0	0	850	OI
Tx. 3	Buy									0	
IA. J	Sell						_	_		0	0
NET	Long	500	0	350	0	0	0 0	0	0	850	OI
	Short	0	500	0	350	0	U	0	0	850	•
	Buy									0	
Tx. 4	Sell									0	0
NET	Long	500	0	350	0	0	0	0	0	850	OI
INCI	Short	0	500	0	350	0	0	0	0	850	Oi
	D									0	
Tx. 5	Buy Sell									0 0	0
A 1 E T	Long	500	0	350	0	0	0	0	0	850	
NET	Short	0	500	0	350	0	0	0	0	850	OI
Tx. 6	Delivers									0	
17. 0	Takes Delivery	500		252			•		•	0	0
NET	Long	500	0	350	0	0	0	0	0	850 850	OI
	Short	0	500	0	350	0	0	0	0	ರಾಗ	

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		Long	Short	Opening			Buys	Sells	Closing			
		(Buy)	(Sell)				Delivers	Takes Dlv	r		Must	
		Α	В	С	D	E	F	G	Н		be Zero	
Tx. 1	Buy	500		_						500		
IV. T	Sell		500							500	0	
NET	Long	500	0	0	0	0	0	0	0	500	OI	
IALI	Short	0	500	0	0	0	0	0	0	500	O.	
Tx. 2	Buy			350						350		
17. –	Sell				350					350	0	
NET	Long	500	0	350	0	0	0	0	0	850	OI	
1461	Short	0	500	0	350	0	0	0	0	850	O .	
	_									_		
Tx. 3	Buy									0		
	Sell	500		252	•	•	•	•		500	-500	
NET	Long	0	0	350	0	0	0	0	0	350	OI	
	Short	0	500	0	350	0	0	0	0	850	•	
	D									0		
Tx. 4	Buy									0	0	
	Sell	0	0	250	0	0	0	0		0	_ 0	
NET	Long Short	0 0	0 500	350 0	350	0	0 0	0 0	0 0	350 850	Ol	
	311011	U	500	U	550	U	U	U	U	630		
	Buy									0		
Tx. 5	Sell									0	0	
	_	0	0	350	0	0	0	0	0	350		
NET	Short	0	500	0	350	0	0	0	0	850	OI	
	311011		300	· ·	330				· ·	030		
	Delivers									0		
Tx. 6	Takes Delivery									0	0	
NICT	Long	0	0	350	0	0	0	0	0	350		
NET	Short	0	500	0	350	0	0	0	0	850	OI	

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		Long	Short	Opening			Buys	Sells	Closing			
		(Buy)	(Sell)	•	D	E		Takes Dlv		l	Must	
	Buy	A 500	В	С	D	t	F	G	Н	500	be Zero	
Tx. 1	Sell	300	500							500	0	
NICT	Long	500	0	0	0	0	0	0	0	500	OI	
NET	Short	0	500	0	0	0	0	0	0	500	Oi	
Tx. 2	Buy			350	250					350	0	
	Sell Long	500	0	350	350 0	0	0	0	0	350 850	0	
NET	Short	0	500	0	350	0	0	0	0	850 850	OI	
	311011	J	300	U	330	J	Ū	J	Ū	030		
T., 2	Buy					500				500		
Tx. 3	Sell	500								500	0	
NET	Long	0	0	350	0	500	0	0	0	850	OI	
INLI	Short	0	500	0	350	0	0	0	0	850	O.	
	D									0		
Tx. 4	Buy Sell									0 0	0	
	Long	0	0	350	0	500	0	0	0	850		
NET	Short	0	500	0	350	0	0	0	0	850	OI	
Tx. 5	Buy									0		
IA. J	Sell									0	0	
NET	Long	0	0	350	0	500	0	0	0	850	OI	
	Short	0	500	0	350	0	0	0	0	850	•	
	Delivers									0		
Tx. 6	Takes Delivery									0	0	
NIET	Long	0	0	350	0	500	0	0	0	850	OI	
NET	Short	0	500	0	350	0	0	0	0	850	UI	

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		Long	Short	Opening			Buys	Sells	Closing		
		(Buy)	(Sell)					Takes Dlvr			Must
		Α	В	С	D	E	F	G	Н		be Zero
Tx. 1	Buy	500								500	•
	Sell	500	500	•	0	•	0	0		500	0
NET	Long Short	500 0	0 500	0	0	0	0	0	0	500 500	Ol
	311011	U	300	U	U	U	U	U	U	300	
	Buy			350				•		350	
Tx. 2	Sell				350					350	0
NICT	Long	500	0	350	0	0	0	0	0	850	\mathbf{O}
NET	Short	0	500	0	350	0	0	0	0	850	OI
							_				
Tx. 3	Buy					500				500	
IA. J	Sell	500								500	0
NET	Long	0	0	350	0	500	0	0	0	850	OI
	Short	0	500	0	350	0	0	0	0	850	•
	Buy									0	
Tx. 4	Sell			185						185	-185
NICT	Long	0	0	165	0	500	0	0	0	665	
NET	Short	0	500	0	350	0	0	0	0	850	OI
Tx. 5	Buy									0	
IX. 5	Sell									0	0
NET	Long	0	0	165	0	500	0	0	0	665	OI
IVLI	Short	0	500	0	350	0	0	0	0	850	O.
	Dalling									0	
Tx. 6	Delivers Takes Delivery									0 0	0
	Long	0	0	165	0	500	0	0	0	665	
NET	Short	0	500	0	350	0	0	0	0	850	OI
	2.7011	-					-	-	-		

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		Long	Short	Opening			Buys	Sells	Closing		
		(Buy)	(Sell)					Takes Dlvr			Must
		Α	В	С	D	E	F	G	Н		be Zero
Tx. 1	Buy	500	500							500	•
	Sell	F00	500	0	0	0	0	0		500	0
NET	Long Short	500 0	0 500	0	0	0	0 0	0	0	500 500	OI
	311011	U	300	U	U	U	U	U	U	300	
	Buy			350				•		350	
Tx. 2	Sell				350					350	0
NIET	Long	500	0	350	0	0	0	0	0	850	OI
NET	Short	0	500	0	350	0	0	0	0	850	Oi
Tx. 3	Buy					500				500	
	Sell	500			_		_			500	0
NET	Long	0	0	350	0	500	0	0	0	850	OI
	Short	0	500	0	350	0	0	0	0	850	•
	Buy						185			185	
Tx. 4	Sell			185			103			185	0
NICT	Long	0	0	165	0	500	185	0	0	850	
NET	Short	0	500	0	350	0	0	0	0	850	OI
Tx. 5	Buy									0	
IA. J	Sell									0	0
NET	Long	0	0	165	0	500	185	0	0	850	OI
1461	Short	0	500	0	350	0	0	0	0	850	•
	Delivers									0	
Tx. 6	Takes Delivery									0	0
AICT	Long	0	0	165	0	500	185	0	0	850	
NET	Short	0	500	0	350	0	0	0	0	850	OI

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5.Trader Erin (E) offsets 300 of her existing long contracts by selling to Trader Barbara (B), who is the corresponding buyer who offsets 300 of her existing short contracts



		Long	Short	Opening			Buys	Sells	Closing		
		(Buy) A	(Sell) B	С	D	E	Delivers F	Takes Dlv G	r H		Must be Zero
T., 1	Buy	500		•	_	_	•		••	500	20.0
Tx. 1	Sell		500							500	0
NET	Long	500	0	0	0	0	0	0	0	500	OI
IALI	Short	0	500	0	0	0	0	0	0	500	OI.
				250						250	
Tx. 2	Buy Sell			350	350					350 350	0
	Long	500	0	350	0	0	0	0	0	850	
NET	Short	0	500	0	350	0	0	0	0	850	OI
Tx. 3	Buy					500				500	
IX. 3	Sell	500								500	0
NET	Long	0	0	350	0	500	0	0	0	850	OI
IAFI	Short	0	500	0	350	0	0	0	0	850	0.
	Punz						185			185	
Tx. 4	Buy Sell			185			100			185	0
AICT	Long	0	0	165	0	500	185	0	0	850	
NET	Short	0	500	0	350	0	0	0	0	850	OI
Tx. 5	Buy									0	
IA. J	Sell	_	_			300		_	,	300	-300
NET	Long	0	0	165	0	200	185	0	0	550	OI
	Short	0	500	0	350	0	0	0	0	850	•
	Delivers									0	
Tx. 6	Takes Delivery									0	0
NIET	Long	0	0	165	0	200	185	0	0	550	OI
NET	Short	0	500	0	350	0	0	0	0	850	Oi

1.Trader Albert (A) enters a new long position buying 500 futures contracts from Trader Barbara (B), who is the corresponding seller entering a new short position

2.Trader Chris (C) enters a new long position buying 350 futures contracts from Trader Donald (D), who is the corresponding seller entering a new short position

3.Trader Albert (A) offsets all 500 of his existing long contracts by selling to Trader Erin (E), who is the corresponding buyer entering a new long position

4.Trader Chris (C) offsets 185 of her existing contracts by selling to Trader Fred (F), who is the corresponding buyer entering a new long position

5.Trader Erin (E) offsets 300 of her existing long contracts by selling to Trader Barbara (B), who is the corresponding buyer who offsets 300 of her existing short contracts



		Long	Short	Opening			Buys	Sells	Closing		
		(Buy)	(Sell)					Takes Dlvr			Must
		Α	В	С	D	E	F	G	Н		be Zero
Tx. 1	Buy	500	500							500	0
	Sell	F00	500	0	0	0	0	0		500	. 0
NET	Long Short	500 0	0 500	0	0	0	0	0	0	500 500	OI
	311011	U	300	U	U	U	U	U	U	300	
	Buy			350				•		350	
Tx. 2	Sell				350					350	0
NICT	Long	500	0	350	0	0	0	0	0	850	OI
NET	Short	0	500	0	350	0	0	0	0	850	Oi
							•				
Tx. 3	Buy					500				500	
	Sell	500			_		_	_		500	0
NET	Long	0	0	350	0	500	0	0	0	850	OI
	Short	0	500	0	350	0	0	0	0	850	<u> </u>
	Buy						185			185	
Tx. 4	Sell			185			103			185	0
NICT	Long	0	0	165	0	500	185	0	0	850	
NET	Short	0	500	0	350	0	0	0	0	850	OI
Tx. 5	Buy		300							300	
IA. J	Sell					300				300	. 0
NET	Long	0	0	165	0	200	185	0	0	550	OI
	Short	0	200	0	350	0	0	0	0	550	•
	Delivers									0	
Tx. 6	Takes Delivery									0	0
AICT	Long	0	0	165	0	200	185	0	0	550	
NET	Short	0	200	0	350	0	0	0	0	550	OI

1.Trader Albert (A) enters a new long position buying 500 futures contracts from Trader Barbara (B), who is the corresponding seller entering a new short position

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3.Trader Albert (A) offsets all 500 of his existing long contracts by selling to Trader Erin (E), who is the corresponding buyer entering a new long position

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5.Trader Erin (E) offsets 300 of her existing long contracts by selling to Trader Barbara (B), who is the corresponding buyer who offsets 300 of her existing short contracts



		Long	Short	Opening			Buys	Sells	Closing		
		(Buy)	(Sell)					Takes Dlvr			Must
		Α	В	С	D	E	F	G	Н		be Zero
Tx. 1	Buy	500								500	•
	Sell	F00	500	0	0	0	0	0		500	0
NET	Long Short	500 0	0 500	0	0	0	0 0	0	0	500 500	OI
	311011	U	300	U	U	U	U	U	U	300	
T 2	Buy			350				•		350	
Tx. 2	Sell				350					350	0
NIET	Long	500	0	350	0	0	0	0	0	850	OI
NET	Short	0	500	0	350	0	0	0	0	850	Oi
							•				
Tx. 3	Buy					500				500	
	Sell	500					_	_		500	0
NET	Long	0	0	350	0	500	0	0	0	850	OI
	Short	0	500	0	350	0	0	0	0	850	•
	Buy						185			185	
Tx. 4	Sell			185			103			185	0
NICT	Long	0	0	165	0	500	185	0	0	850	
NET	Short	0	500	0	350	0	0	0	0	850	OI
Tx. 5	Buy		300							300	
IA. J	Sell					300				300	0
NET	Long	0	0	165	0	200	185	0	0	550	OI
1461	Short	0	200	0	350	0	0	0	0	550	•
	Delivers									0	
Tx. 6	Takes Delivery					200				200	-200
AICT	Long	0	0	165	0	0	185	0	0	350	
NET	Short	0	200	0	350	0	0	0	0	550	OI

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		Long	Short	Opening			Buys	Sells	Closing		
		(Buy)	(Sell)					Takes Dlvr			Must
		Α	В	С	D	E	F	G	Н		be Zero
Tx. 1	Buy	500	500							500	0
	Sell	F00	500	0	0	0	0	0		500	. 0
NET	Long Short	500 0	0 500	0	0	0	0 0	0	0	500 500	OI
	311011	U	300	U	U	U	U	U	U	300	
	Buy			350				•		350	
Tx. 2	Sell				350					350	0
NICT	Long	500	0	350	0	0	0	0	0	850	OI
NET	Short	0	500	0	350	0	0	0	0	850	Oi
							•				
Tx. 3	Buy					500				500	
	Sell	500	_				_	_		500	0
NET	Long	0	0	350	0	500	0	0	0	850	OI
	Short	0	500	0	350	0	0	0	0	850	•
	Buy						185			185	
Tx. 4	Sell			185			103			185	0
NICT	Long	0	0	165	0	500	185	0	0	850	
NET	Short	0	500	0	350	0	0	0	0	850	OI
Tx. 5	Buy		300							300	
IA. J	Sell					300				300	. 0
NET	Long	0	0	165	0	200	185	0	0	550	OI
1461	Short	0	200	0	350	0	0	0	0	550	•
	Delivers		200							200	
Tx. 6	Takes Delivery		200			200				200	0
	Long	0	0	165	0	0	185	0	0	350	
NET	Short	0	0	0	350	0	0	0	0	350	OI

1.Trader Albert (A) enters a new long position buying 500 futures contracts from Trader Barbara (B), who is the corresponding seller entering a new short position

2.Trader Chris (C) enters a new long position buying 350 futures contracts from Trader Donald (D), who is the corresponding seller entering a new short position

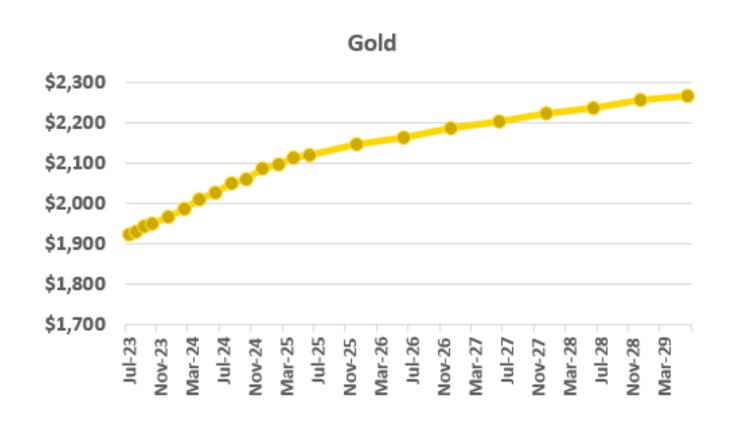
3.Trader Albert (A) offsets all 500 of his existing long contracts by selling to Trader Erin (E), who is the corresponding buyer entering a new long position

4.Trader Chris (C) offsets 185 of her existing contracts by selling to Trader Fred (F), who is the corresponding buyer entering a new long position

5.Trader Erin (E) offsets 300 of her existing long contracts by selling to Trader Barbara (B), who is the corresponding buyer who offsets 300 of her existing short contracts

Contango, Backwardation, and Convergence to Spot (XLS)

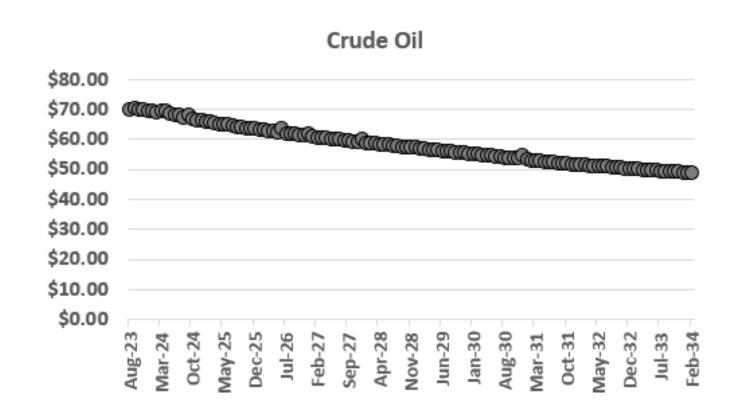
Contango – Futures prices higher than the spot prices







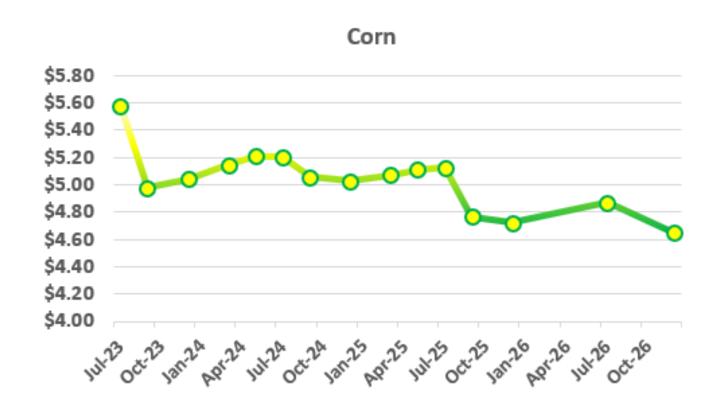
Backwardation – Futures prices lower than the spot prices



Contango, Backwardation, and Convergence to Spot (XLS) (cont.)



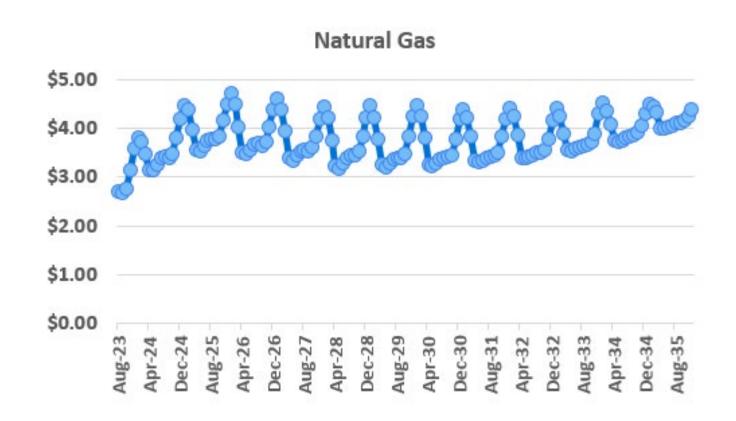
Mixed – Some futures prices higher, and some lower, depending on the maturity



Contango, Backwardation, and Convergence to Spot (XLS) (cont.)



Mixed – Some futures prices higher, and some lower, depending on the maturity



Contango, Backwardation, and Convergence to Spot (cont.)

Convergence to Spot

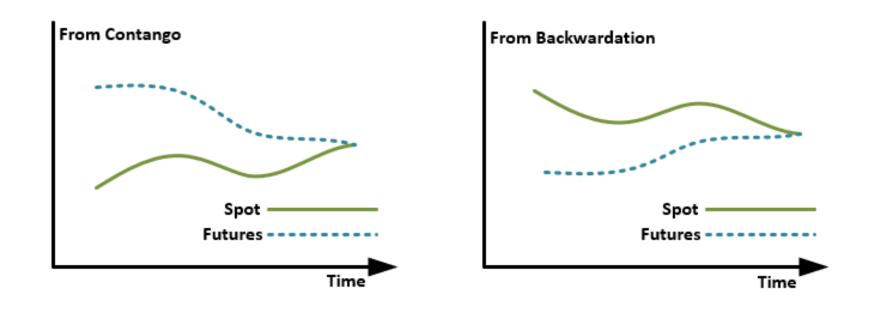


Image Source: Inspired by GARP, Financial Markets and Products, p.86. Our image via MS Visio

Mark-to-Market and Its Effect on Hedgers



Mark-to-Market – With daily MtM and daily settlement of variation margin, all profits and losses for futures are recorded daily, and by normal accounting rules in the period that they are settled.

- Futures used for qualified hedges can be granted an exception and defer any gains or losses until the end of the contract.
- To qualify, hedge must be fully documented, with the hedged item clearly identified. There must be an economic relationship between the futures and hedged item to be deemed effective. Effectiveness must be periodically tested.

Tax liabilities when hedging

- Daily settlement under normal rules can lead to tax obligations when hedging. Futures used for hedging can be exempt from taxes until the end of the contract. Note tax exemption rules are different from accounting exemption rules.
- For a future to qualify as a tax hedge, it must be entered into in the normal course of business to reduce risk exposures.

Without qualified exemptions for accounting and taxes, the daily settlement can create high earnings volatility and unwanted tax liabilities.



Chapter 7: Futures Markets

Key Concepts:

- Futures Specifications and Terms
- Role of Exchanges in Futures Trading
- Mechanics of Futures Trading and Settlement
- Contango, Backwardation, and Convergence to Spot
- Mark-to-Market and its Effect on Hedgers

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