

Characteristics of Liquid Commodity Futures Markets

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Chicago Board of Trade

- Futures and Options Exchange
- Central marketplace for the trading (buying and selling) of futures and options
- World's oldest exchange - since 1848
- Open outcry and electronic trading
- Interest Rates, Agricultural Commodities, Precious Metals, Indexes, Energy

Why do futures markets exist?

- 2 Fundamental purposes of futures markets
 1. To manage price risk
 2. To provide information
(Price Discovery)

The definition of a liquid futures contract

❖ Depends on:

- Time since launch
- On underlying market size
- Existence of alternative products

❖ Generally:

- High volume
- High open interest
- Price benchmark

Benefits of Futures Markets

- ❖ Price and trade transparency
- ❖ Liquidity
- ❖ Leverage
- ❖ Standardised contracts
- ❖ No counterparty risk
- ❖ Strong regulatory structure

Conditions required for success-THE BASICS

- ❖ Variable, unfettered cash prices (free markets)
- ❖ Large underlying cash market
- ❖ Actively traded cash market
- ❖ Volatility of underlying market
- ❖ Homogeneity or well defined grading system
- ❖ Limited buyer concentration - % control by largest firms
- ❖ NO vertical integration - numerous pricing points from producer to consumer
- ❖ Durability of product
- ❖ Liquidity cost relative to cross hedge should not be too high
- ❖ Standardisation of product - easily describable
- ❖ Easily accessible market information

Additional Conditions for Success

- ❖ Demand from marketplace
- ❖ Contract must be well designed
- ❖ Market makers
- ❖ Hedgers - industry support
- ❖ Speculators - banks, individuals
- ❖ Possible first mover advantage
- ❖ Liquidity is a consequence rather than cause of contract success

Size of Cash Market & Cash Market Activity

- ❖ Very important factors when considering futures contract
- ❖ Cash market size
- ❖ Cash market turnover (value)
- ❖ Cash market activity - bids/offers quoted daily, large number of market participants
- ❖ Diversity of market participants
- ❖ Average trade size relatively high
- ❖ Positively correlated to futures volume

Price Volatility in Underlying Market



Homogeneity

- ❖ Commodity with subjective quality not easy to grade and hence not suitable for physical futures trading
- ❖ Commodity should be describable
- ❖ Commodity should be interchangeable
- ❖ Grades must adequately explain differences in value
- ❖ If a commodity is not homogenous, basis risk will be high and standards of delivery will be hard to establish

Vertical Integration

- ❖ Number of pricing points
- ❖ Pricing points where form of commodity is not changed are considered
- ❖ Corn has multiple pricing points
- ❖ Live cattle has only one - feedlot to packer
- ❖ More pricing points = less vertical integration
- ❖ Vertical integration negatively correlated with volume and open interest

Buyer Concentration

- ❖ % of commodity handled by largest firms
- ❖ Negatively correlated with volume and open interest

Cash Settlement vs. Physical Delivery

- ❖ Are above conditions for successful contract met?
- ❖ Which is the best method of settlement for the considered commodity?
- ❖ A couple of examples...

Deliverable Contract: 100 oz Gold Futures

- ❑ Contract Size: 100 fine troy ounces
- ❑ Deliverable Grade: 100 troy ounces ($\pm 5\%$) of refined gold, assaying not less than .995 fineness, cast either in one bar or in three one-kilogram bars.
- ❑ Contract Months: 1st three consecutive months; 2 Feb, 2 April, 2 Aug, 2 Oct, 5 Jun, 5 Dec
- ❑ Price Quote: Dollar and cents/fine troy ounce
- ❑ Minimum Price Movement: \$0.10 (\$10/contract)
- ❑ Trading hours (Electronic): 6:16p.m. - 4:00a.m. Sun-Fri, Chicago time

Physical Delivery Factors

- ❖ Certification
- ❖ Inspection
- ❖ Location
- ❖ Storage
- ❖ Security
- ❖ Sufficient Supply

Delivery Process

- Throughout whole expiry month
- One bar or 3 one-kg bars - variations permitted up to 5% of 100oz
- Certified for fineness and weight
- Exchange approved refiner/assayer
- Vaults - exchange approved
- Transporter - exchange approved
- Seller bears cost of delivery

Delivery Mechanism

- Electronic vault receipt from approved vaults
- Regular vaults (New York)
- Seller submits delivery notice
- Clearing service provider allocates counterparty
- Payment

Why Gold Futures Work

- Large, liquid cash markets
- Homogenous
- Indestructible
- Fungible
- Large supplies
- Price volatility

CBOT 100 oz Gold Order Book

CBOT 100 oz Gold		ZGG6 Last: 508.8 Change: +2.5	
BUY ORDERS		SELL ORDERS	
QTY	PRICE	QTY	PRICE
10	508.7	9	508.9
11	508.6	45	509.0
12	508.5	32	509.1
37	508.4	35	509.2
37	508.3	32	509.3
53	508.2	20	509.4
1	508.1	6	509.5
11	508.0	2	509.6
2	507.9	28	509.7
16	507.7	1	509.8

Cash Futures Relationship: Possibility of Delivery

- ❖ Possibility of delivery maintains the link between cash and futures prices over time
- ❖ If futures prices too low relative to cash prices:
 - Buy futures and take delivery
 - Sell physical commodity in the market for a relatively higher price
- ❖ Result:
 - Drive up futures price
 - Lower the price of the commodity
 - Until there is no economic advantage

Cash Settled Contract: mini-sized Dowsm Futures

- Contract Size: \$5 times the Dow Jones Industrial Average Indexsm ("DJIAsm")
- Settlement: Cash settlement on the final settlement day. The final settlement price is \$5 times a Special Opening Quotation of the index
- Contract Months: Mar, Jun, Sep, Dec
- Price Quote: The DJIAsm Index, quoted in index points
- Minimum Price Movement: 1 index point (\$5/contract)
- Trading hours: 6:15p.m. - 4:00p.m. Sun-Fri, Chicago time

Cash Settled Contract Factors

- ❖ Cash settlement
- ❖ Index or fixing
- ❖ Independent
- ❖ Multiple sources
- ❖ Robust
- ❖ Reliable
- ❖ Recognised and trusted source
- ❖ Timely
- ❖ Publicly accessible
- ❖ Backup measures in place

Cost of Trading: Membership, Fees, Margin

- ❖ Accessibility of central marketplace for market participants
- ❖ Cost/benefit analysis
- ❖ Membership
- ❖ Trading fees
- ❖ Margin fees
- ❖ Brokerage

Thank You

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