

The World Price of Cocoa



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Market Signals

- All farmers everywhere respond to price signals
- Cocoa is a tree crop
- Does not require intense care
- Production inelastic when prices are weak

Determinants of price

Global

- Total supply and demand in a given crop year
- Stocks

Local

- Crop size and quality
- Market distortions – taxes / subsidies / import-export controls

FUTURES

- Paper or Exchange based prices
- Quoted during specific hours
- Clear contract definitions
- Forward calendar
- Benchmark role

CASH

- Physical or “actuals” market

Futures

- London LIFFE cocoa
- New York ICE/NYBOT futures prices
- ICCO daily price – average of first 3 months on both markets available in \$ and SDR

Cash

- CMAA published daily physical cocoa prices
- Ivory coast daily farmer prices
- Indonesia daily farmer prices

COMMON KEY VARIABLES

- Location
- Grade
- Quality
- Timing

Location

- Whether goods are FOB, CIF or ex warehouse and in what port or country
- Each logistics step adds value
- Each 'local' market has its own characteristics

Grade

Origin

Main or light crop

Crop year

Description

- Ghana Main,
- Ecuador ASSS,
- Irian Jaya Fermented
- Etc

Quality

- Flavour
- Bean count
- Defects
- Slate
- Waste material
- Homogeneity
- FFA
- FAQ – Fair Average Quality???

Timing

- Spot – nearest futures month
 - immediate or prompt delivery
- Forward –futures - 18 months
 - cash – 12 months

Convergence

- “Futures” become “cash”
- Relationship gets strained
- Ultimate convergence
- Seller has all the options as to what to deliver and where
- Buyer does get physical cocoa

Role of Futures Exchanges in Establishing Price-Facilitating Trade

- Futures play a vital role in enabling origins to sell when the price is high
- And end-users to buy when the price is low
- Highly transparent markets open to all
- Wide range of participants who provide liquidity

- Anonymous Buyers and Sellers freely exchange contracts which conform to a set of fixed rules
- Contracts represent a forward financial commitment to deliver cocoa
- Evolved from auction of physical commodity at a fixed venue
- Until recently “open outcry” method to establish prices
- Now electronic trading platform alone in London and electronic alongside open outcry in NY

- Using the futures markets enables contract parties to hedge the risk of a price movement
- Hedge means "Offset" or "Limit" or "Lock-in"
- When you hedge with futures you give up the opportunity to make more money tomorrow than today
- But you also protect against the market prices deteriorating

PROPERTIES OF COCOA FUTURES CONTRACTS

- Quantity – 10 met tons
- Grade and Quality – depends on contract
- Location designated warehouses in specific ports
- Time frame – exact delivery schedule

Anatomy of a typical trade

- Price in NY is \$1800. "High".
- Indonesian Origin supplier wants to sell
- Can a US based dealer take the cocoa onto his "book"?
- Will the dealer find a physical buyer?
- Can he make money from the transaction?
- What are the mechanics of the trade?

Day 1 Hedging beans

Assumption: Market at \$1800

- Buys physical Indo FOB at \$1600
- Buyer sells Dec NY futures at \$1800

Equals

- FOB differential of - \$ 200

Or after costs of \$250

- EX WHSE ECUSA differential of + \$ 50

2 weeks later

- Cocoa afloat – Buyer pays Origin Indo Supplier \$1600
- Buyer makes unfixed sale to end user Ex Whse ECUSA at NY + \$75
- This results in a **theoretical profit of \$25/mt**
(Purchase price NY + \$50
versus
Sale price NY + \$75)

One month later

- Assumption: Market \$1950
- Incurs loss on futures
 $\$1800 - \$1950 = \$150$
Has to pay margins equal to loss daily
- Accrues gain on value of unfixed physical sale
 $\$1950 + \$75 = \text{sale price} = \2025
 $\$1600 + \$250 = \text{cost of sale} = \1850
 $= \$175$
Only books gain when makes delivery
- \$25/mt profit intact

Two months later

- Assumption: Market \$1700
- End user fixes price at \$1775 (market price \$1700 + 75 differential)
- Buyer accrues gain on futures
 $\$1800 - \$1700 = \$100$
Receives Margin profit
- Incurs loss on physical sale
 $\$1775 - \$1850 = \$75$
Only absorbs loss when makes delivery
- \$25/mt profit still intact

Three months later

- Cocoa arrives and delivery takes place
- Estimated costs of \$250 spent and added to purchase price of \$1600
- Invoice to end-user at \$1775
- Loss on physical of \$75 incurred
- Futures profit of \$100 realized
- \$25 profit remains

- During period of trade futures benchmark went from \$1800 to \$1950 to \$1700
- Origin supplier sold at equivalent ECUSA price of \$1850
- US End user bought at \$1775
- Dealer made \$25/mt
- "Everybody" gets what they want"

Market / Sale of Last Resort

- If unable to make a sale to industry and had to deliver to NYBOT
- Purchase price @ NYBOT - \$200
Costs to deliver = \$270
- Total cost = NYBOT + \$70
- Tender Parity: LEVEL DEC
- Loss on delivery \$70/mt

- PRICE STALEMATE if only 'cocoa' interests involved
- BROAD PARTICIPATION from non-cocoa players essential
- MAKING MARKETS user-friendly boosts liquidity/transparency

Origin Criteria for Selling

- Cost of production ?
- Crop pressure to sell – nowhere to store cocoa; quality deteriorating; bills to pay; no ability to finance stock
- Am I making a profit? Am I better waiting? Quality deterioration versus chances of price appreciation

Dealer's criteria for buying

- Do I need it? Do I owe it?
- If not what is a fair price to pay?
- What is my break-even price?
- Differential all important

End User Criteria for Buying

- Prices are low enough to protect or enhance existing profit margins
- Risk of future volatility in price as result of supply and demand imbalance caused by climatic conditions; political upheaval; aging tree stock and stock changes
- What is my budget price?
- How much within/outside am I?
- Is the clock ticking?
- How is my performance judged?

Other Trade Motives

- Arbitrage specialists seek to capture moves between London against New York
- Switch traders – specialize in cash and carry
- Until recently biggest single source of activity in NYBOT market were the floor traders who contributed 40% of daily volume. Sought short-term profits by constantly buying and selling throughout the day.

Speculators' Motives

Capital gain by:

- Micro

Capturing a directional move either up or down based on expectations of changes in supply/demand caused by weather, politics, consumer patterns, stock changes

- Macro

Price change caused by the cost of extraneous elements – money / freight / energy / currency

Diversification

- As a component of a commodity portfolio

Hedge

- As part of an investment hedge against bond and stock performance

Futures Users

- Hedgers
- Industry
- Index Funds
- Technical or “black box” traders
- Discretionary traders

Historic Prices

- 1970s – BOOM
- 1980s - BUST
- 1990s – STABILITY
- 2000s – VOLATILITY

1970s

In the mid 1970s after poor crops in West Africa and in the midst of a global commodity boom NY cocoa prices reached \$4800

1980s

- Price declined early 80s
- Stabilized around \$1200
- Prices rebounded to \$2800/2250 when dry weather caused poor West Africa crops in 1984 and 1985.
- The extreme drought in Mali/Burkina led to a huge influx of immigrants into Ivory Coast, many of whom planted cocoa.
- Prices began prolonged 7 year slump

1990s

- Prices reached low point of \$785
- Ivory production continued to expand
 - 400k(80/81) 580k(85/86)
 - 804k(90/91) 1200k(95/96)
- Disease permanently decimated crops in Brazil and Malaysia
- Prices recovered and stabilized in zone \$1200-\$1500 for 1993-98 period
- El Nino fears in 1997 boosted prices to \$1800
- When crop fears unfounded prices collapsed

2000s

- Prices in 2000 reached \$700
- Political uncertainty in IC caused price recovery \$2300
- Record crops in 2003-04 in Ivory Coast(1500k) and Ghana (600k) took prices back to \$1300 despite ongoing instability in IC
- Prices have recovered on projections of a supply deficit of 250k this season and ongoing concern about crops

Percentage of World Price

- Most cocoa farmers get price related to world prices as measured by FUTURES
- Percentage of world price varies but upward trend

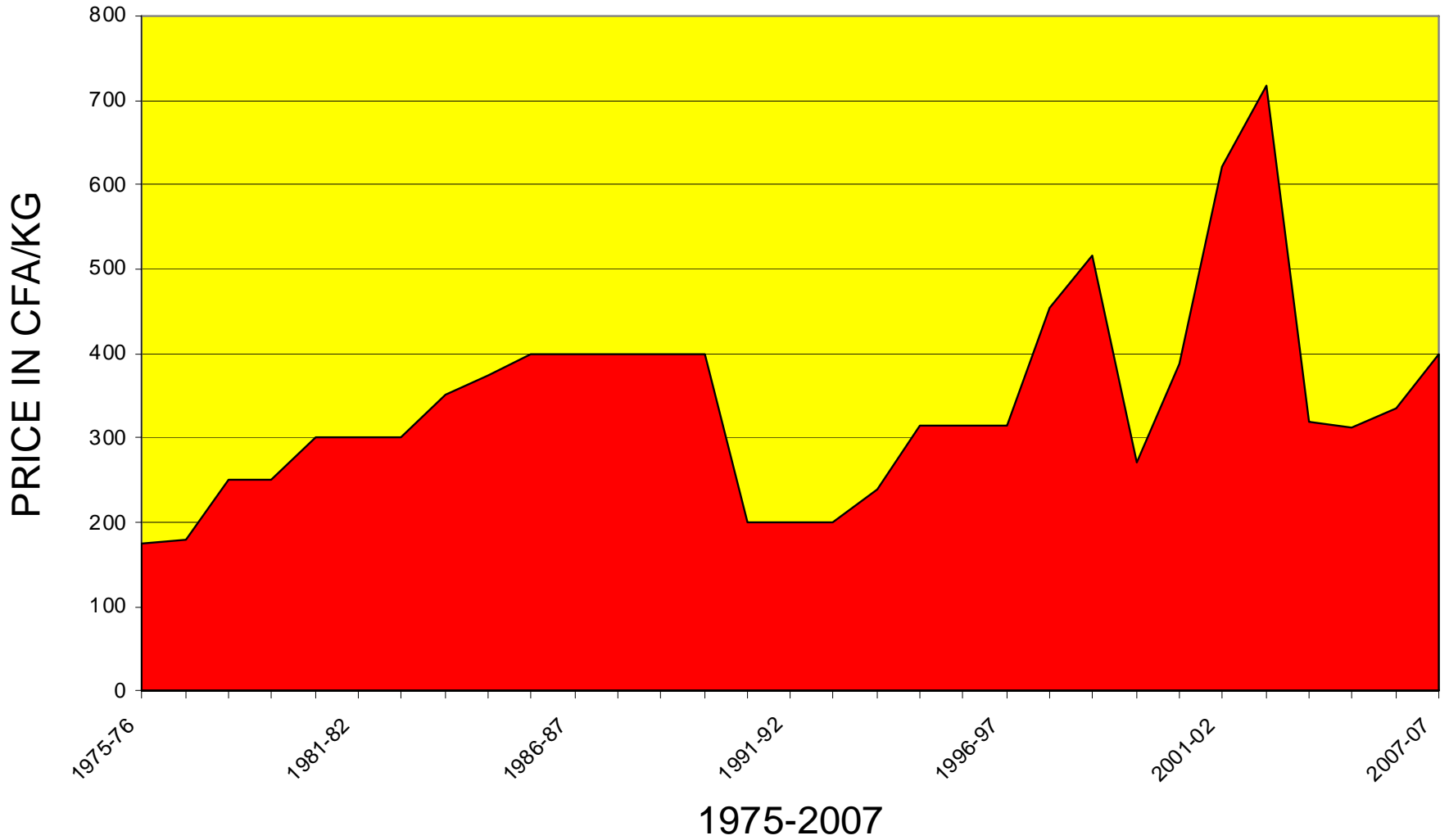
Farmer Prices

2 models

- Controlled farmer price – longer-term strategies -fixed price for season – allows planning by all – quality control integral - farmer incentive schemes
- Free prices – benefit from strong world prices but no cushion when prices are weak

- World Bank and others applied pressure to origins to “liberalize” trade and become free markets
- Primary Commodity Exporters often lack the capital and resources to switch to alternatives when prices are weak
- Exposed origins to wide swings in earnings – govt level and farmers

IVORY COAST FARMGATE PRICES



Comparison of Farmer Prices

06/07

Ghana

- Farmer price established by government
- Accomplish this by selling % of the crop forward
- Estimate world prices and currency \$

Ghana 2006-07 %CIF

■ Farmer Price	67%
■ Buyer's Margin	9
■ Hauliers' cost to port	3
■ Storage + loading	1
■ Grading/sealing/fumig	2
■ Crop Finance	2
■ Govt-Cocobod	9
■ Freight-insurance	7

Ivory Coast 06/07 %CIF

■ Farmer Price	50%
■ Buyer's Margin	4
■ Hauliers' cost to port	2
■ Storage + shipping	8
■ Grading/sealing/fumig	0
■ Crop Finance	0
■ Govt-Institutions	30
■ Freight-insurance	6

Nigeria 06/07 % CIF

■ Farmer Price	85%
■ Buyer's Margin	4
■ Hauliers' cost to port	1
■ Storage + shipping	2
■ Grading/sealing/fumig	0
■ Crop Finance	2
■ Govt-Institutions	1
■ Freight-insurance	5

Summary

- While geographic proximity to markets, taxation and the efficiency of the cocoa sector all play important roles, the price that most farmers get is essentially determined by underlying global supply and demand

- While speculative excitement and pressure can distort prices in the short-term over time the basic fundamentals of supply and demand re-assert themselves









- Market prices currently high
- High Global stocks
- Weather impact
- Return to peace in IC
- 2007/08 crop year ??
- High volatility

Questions