# Market volatility commodities and resilience



2011



Commodity Markets and Excess Volatility: Sources and Strategies to Reduce Adverse Development Impacts





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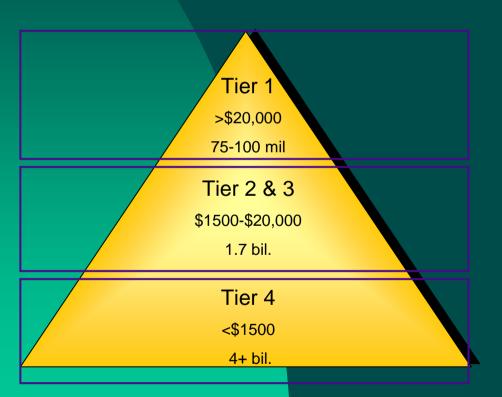
**Common Fund for Commodities** 

# Historical perception of the role of commodities in development of LDCs

- Core issues:
  - Historically commodity prices depressed with occasional spikes
  - ◆ Declining ToT for commodities
  - ◆ Rising volatility
- Impact on CDDCs:
  - ◆ Dutch disease (e.g. Sachs and Warner)
  - ◆ Political failures (Collier)
  - ◆ Volatility a distinct issue (Nissanke, v.d. Ploeg)

## The changing world I: New balance of economic power

The income pyramid and new markets

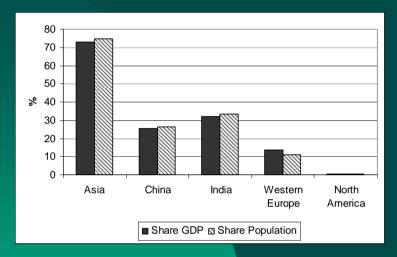


Area	Population 2015	Population 2050
China	1418	1789
India	1212	1822
Russia	143	182
Indonesia	260	409
USA	308	310
EU 15	380	385
Brazil	201	288

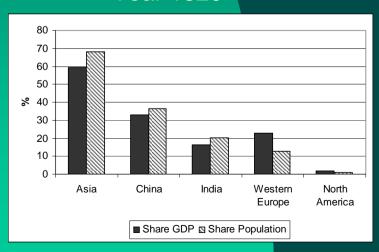
<sup>\*</sup> By D.P de Boer, Sustainable Development Centre - MSM

### Global GDP and population

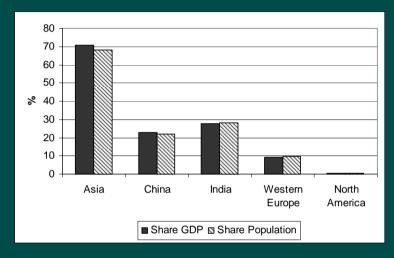
Year 0001



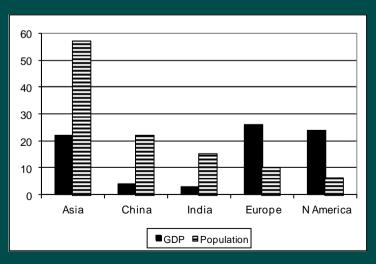
Year 1820



Year 1000



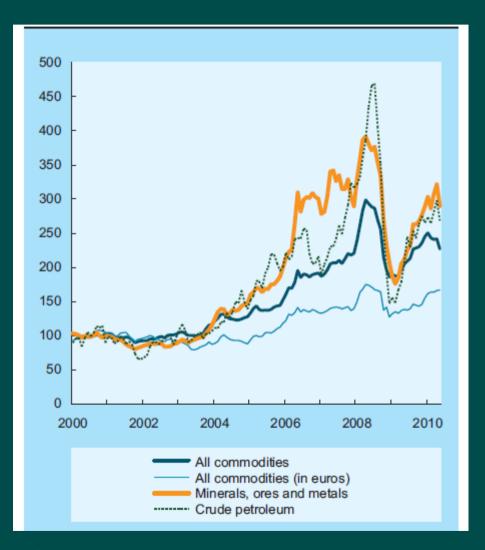
Year 1969



Source: Kaplinsky, Farooki, 2011

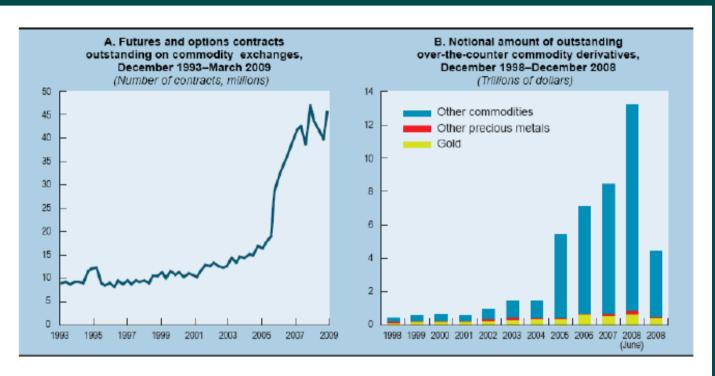
### Historical change

- Over recent 50 years
   commodity prices
   depressed, with occasional
   spikes
- Prebisch-Singer
   hypothesis: commodity
   prices decline relative to
   manufactures
- About to change?



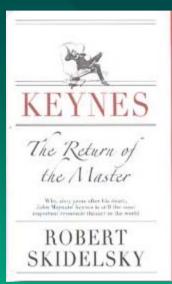
Source: Nissanke, 2010

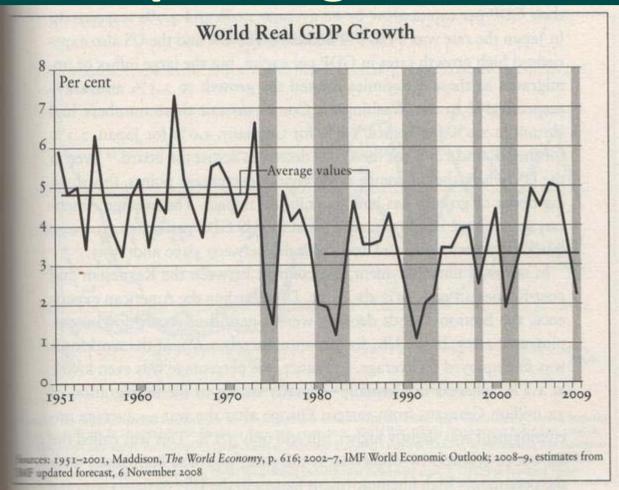
## The changing world II: Financialization

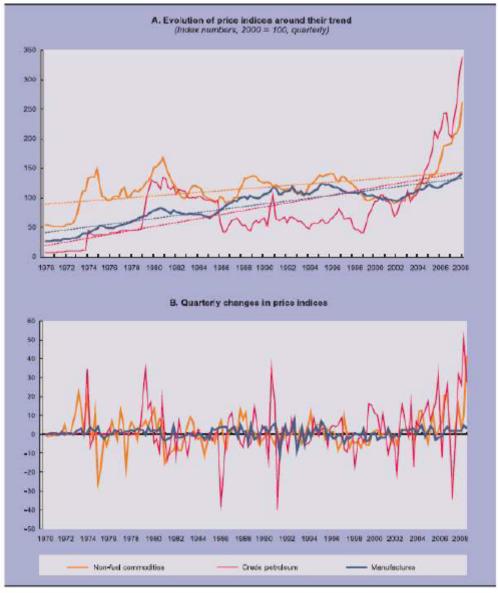


Source: UNCTAD Trade and Development Report (2009) Chart 2.1, originally from BIS, Quarterly Review, June 2009

## The changing world III: In search of new paradigm







Source: UNCTAD secretarist calculations, based on UNCTAD, Commodity Price Statistics online; and UNSD, Monthly Bulletin of Staffstics, various issues.

Source Chart 2.4, UNCTAD (2008b)

Note: The dotted lines represent the trend of the relevant price indices.

### **Entering an** era of expensive commodities, or volatile commodities, or both

### Something to worry about

Market volatility and its effects on development: income redistribution

## Volatility as development issue: in brief

- Commodity markets are inherently volatile. Market prices carry information essential for market efficiency
- Strong link with financial markets introduces financial volatility beyond fundamentals
- Economic cost of volatility is not shared evenly across
   VC. Weakest players pay the most to lay off the volatility risk
- Vulnerability to volatility: the cost of market volatility to LDCs is higher than other countries

A DEVELOPMENT PROBLEM

## Commodity dependence as symptom

Commodity dependence is not a curse, a symptom of lack of development opportunities,

Particularly a symptom of failure to industrialize

Countries showing commodity dependence need to focus on addressing the reasons for absence of opportunities and develop core competences and competitive advantage

## Defining commodity dependence

- May need a meaningful definition; simplistic view of commodity dependence as % share confuses the issue
- Commodity dependence an underlying factor of economic vulnerability
- Managing commodity induced vulnerability essential for graduation from LDC status
- Issue is both structural and institutional

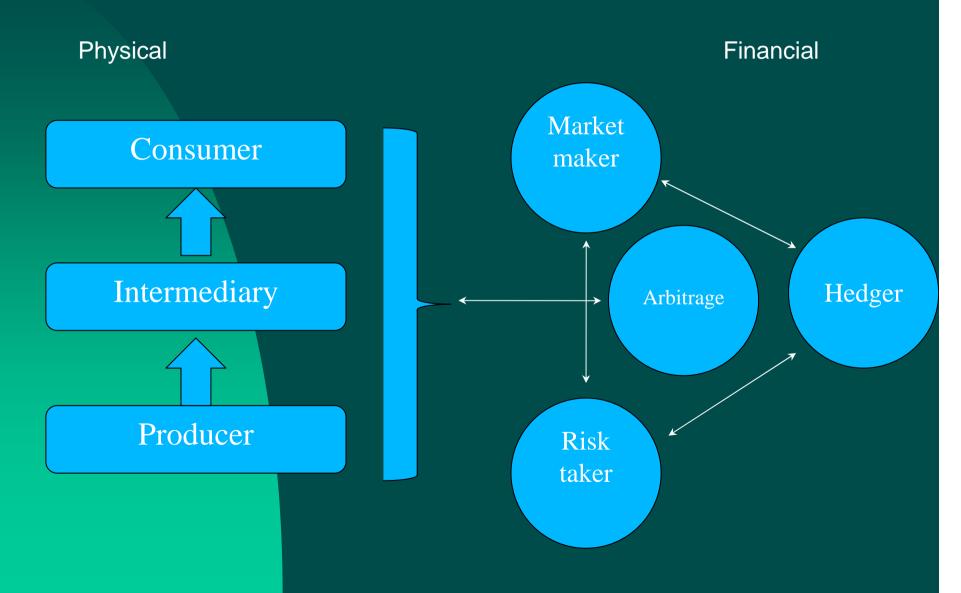
#### Commodity dependence trap

- Pockets of persistent commodity dependence evidence of a trap (Nissanke). Particularly affects LDCs
- Cause 1: macro and politics (Sachs and Warner, Colier)
  - ◆ Overcoming requires investment in production capacity and diversification
- Cause 2: international economic architecture
  - Globalized competitive environment not conducive to domestic savings
  - ◆ FDI volatile and procyclical
  - Large role for domestic policies and ODA in overcoming commodity trap
- Financial coping mechanisms probably overrated

#### Specific case: CFC Cocoa pilot

- Successful pilot implementation of market based hedging strategies for cocoa producers in Cote d'Ivoire
- Four contracts carried out, no defaults, positive outcomes
- Instructive (CFC, Zant 2010):
  - ◆ POPs cheaper, but problematic because default risk
  - ◆ Straight options expensive, total cost 14% farmgate
  - Options short duration
  - Only feasible for largest best managed coops
  - ◆ Alternative risk mitigation strategies effective

## General issues: Physical and Financial



#### Leveraging for take-off ...

- 1mln of coffee contracts used as collateral @100c
- 1 contract trades @ 101c
- Collateral re-valued, created extra \$10,000
- Overcollateralized, must re-balance portfolio, buy \$10,000 more coffee
- Prices climb again

In financial markets, price variations cause variations in market liquidity. Liquidity moves prices. Market trends become self-reinforcing.

## ... and crash. Propagation of a financial shock

- 1. An investor needs money sells commodities futures position. Futures price declines
- 2. Arbitrageur sees income opportunity: offers cut-price futures to the consumer
- 3. Producer drops the price to sell physical stock
- 4. Consumer sees downward trend in price: POSTPONES
   THE PURCHASES expecting lower price
- 5. Arbitrageur sees increasing uncertainty of demand: imposes LIQUIDITY DISCOUNT

Nuanced empirical evaluation finds some evidence of excess volatility transmisson

#### Liquidity perspective

- Liquidity is a major determinant of market price. Prices in ideal markets are driven by information. Prices in financial markets are driven by liquidity and expectations
- Liquidity premiums (cost of liquidity) is determined by arbitrageurs in response to liquidity demand
- Primary producers are liquidity consumers. Liquidity costs rise with volatility.
  - Commodity stocks less liquid than financial instruments, holders physical stock == commodity producers pay more to be liquid.

## Keep commodity markets for commodities?

- 1. Regulate commodities separately from finance
- 2. Restrict banks to banking functions
  - Implications, e.g. for over-the-counter trade, exchange-traded funds
- 3. Make the trade transparent
  - Regulator should publish transactions data
- 4. Restrict 'non-commercial' transactions
- 5. Stability and security
  - central clearing; position limits

Part of general paradigm change for regulators, jury still out

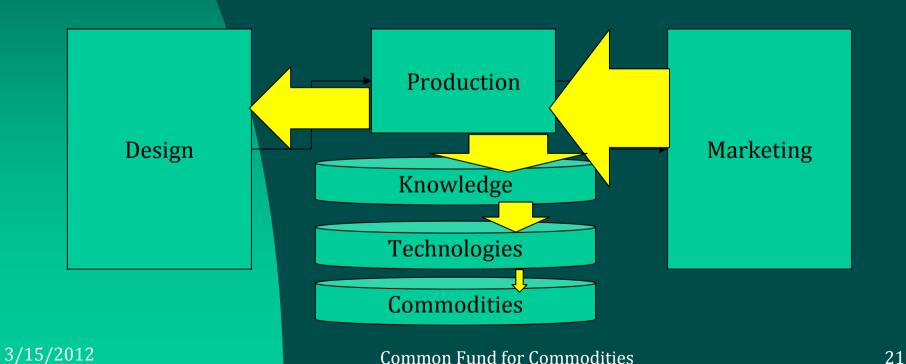
Source: T. Lines at CFC Conference in Brussels, 2010

## To sustainable structural transformation

Practical measures

### Market driven sustainability

The economic impact of a value chains driven project is generated by the market, rather than by donor financing itself. The magnitude of the impact goes beyond donor financing.



#### Focus on core competences



#### **ИНФОРМАЦИЯ**

В связи с обрушением ожидаемого валового дохода от зерномясомолочного производства по ЗАО «Дружба» администрация, совет директоров решили своими силами произвести изыскание и добычу нефти на паевых землях находящихся на поле

ДИРЕКТОР:

### Social and economic equity

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Training and Jobs

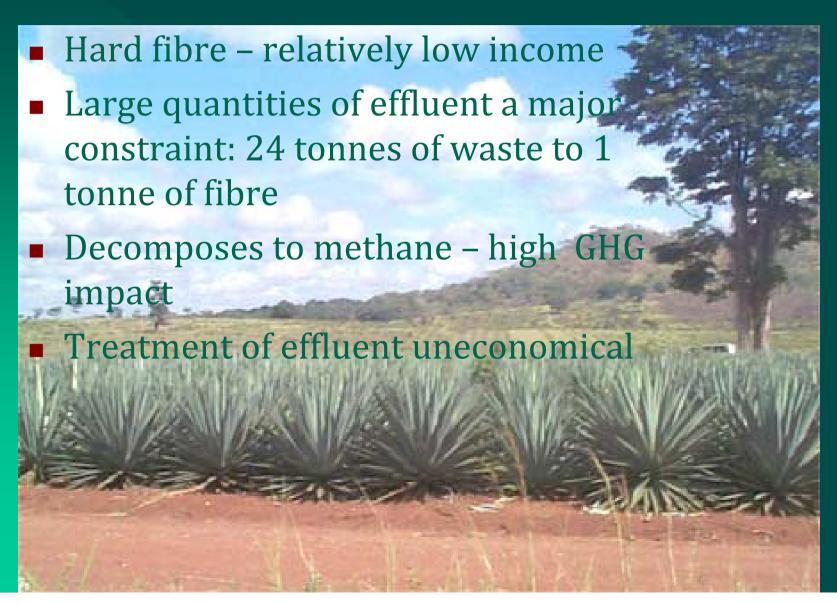
Communication and transparency

Community involvement

"Big oil should help small business"

LINKAGES to allow economic growth to trickle down

# CASE 1. Biogas co-generation from sisal waste



## Sisal biogas – economics of co-generation\*

- 1,200 ha ==130 m3 fresh sisal per day === 500 KW of electricity.
- Assuming 10% electricity use for own consumption sell 90%
- Revenue estimated 70-100% of extra revenue on sisal fibre sales.
- \*data of Tanzania Sisal Board



#### Sisal biogas: ingredients

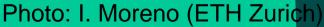
- Information to identify the opportunity;
- Technical knowledge and skills
- Access to capital
- Regulatory support opening up of electricity market
- Challenge document the experience and facilitate further investment where economically feasible

## CASE 2: cassava as industrial raw material

- Rootcrop with high yield in tropical conditions and high nutritional value
- Suffers from PPD perishable within 24 hours
- Traditional processing does not retain quality for industrial use
- Technology known for high quality primary processing
- Challenge: to facilitate emergence of industrial value chains using cassava









#### Mechanised processing of cassava

Village level == USD1,500

- Peel
- Grate
- Wash and press
- Primary drying

Secondary processing == USD30,000

- Transport to processing centre
- Flash drying
- Milling
- **Packaging**



### High Quality Cassava Flour



#### FORWARD linkages:

- Cost ~70% of wheat
- Substitutes:
- •10% in bread
- 50% in cookies
- 100% for in starch industry

#### BACKWARD linkages:

- much of processing equipment can be manufactured locally
- creates demand for high value skills in quality control and production management

## CASE 3: Industrialization of storage through warehouse receipts

- Reliable storage essential in marketing seasonal crops
- Expensive mostly private storage by trading companies. Farmers sell at low price
- Farmers face tradeoff onfarm storage and quality loss, or sell to trader at harvest and lose because low price
- Opportunity: income from seasonal price fluctuations
- Challenge: facilitate creation of regulated public warehousing as industry separate from trader companies

#### Warehouse Receipt Cycle

1. Grain producer brings grain to the certified warehouse

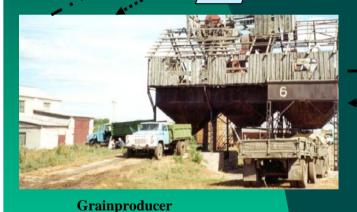
Grain PC

5. Warehouse unloads grain to the mill.

PC

Grain

TC



TC

3 3. Producer sells grain to the mill



**Grain Processor - mill** 

PC

Loan + interest

PC

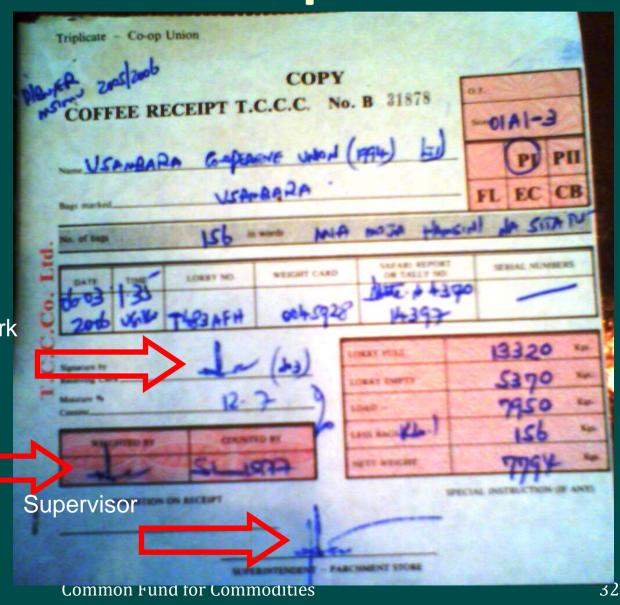
Loan

2. The Bank gives the loan to the Producer under the pledge of Grain.

Common rujocal bank minodities ©

4. The mill repays the loan to the Bank

### Warehouse receipt: practical example



Receiving clerk

Weighting and tally

## **Certifying a warehouse**



## Warehouse receipts: ingredients

Goal is to create pre-conditions for the use of warehouse receipts:

- setting the standards;
- organizing sector stakeholders;
- supporting warehouse certification;
- capacity building;
- regulatory support warehouse legislation.

Tanzania Warehouse Licensing Board registered 38 warehouses, TSh 350bn in loans issued against warehouse receipts

## For an intervention to work in commodity sector:

Commodity sector is experienced, large and powerful

- Identification of opportunities and targeting of intervention at the problem causes; leave the consequences to markets
- Access to capital;
- Access to technical knowledge;
- Regulatory support.

#### Obtaining capital to invest

- retained profits. Should be major source. However, risk perception and lack of information limit investment;
- ODA. This is in the hands of international agencies, but need clear understanding of value chains to create assets, rather than liabilities for recipients;
- FDI. This has mixed effects, and there's evidence that short-term FDI may be destabilizing for commodity economies, undermining sustained industrial development.

#### What matters first:

NOT the scale, but

3/

Precise targeting of interventions against constraints:

9.3339				
Production	Marketing	Capacity and capability	Financing	
small and scattered farm units	transportation	human and institutional	inappropriate funding mechanisms	
risk management	storage packaging and branding	organizational support and development	reluctance of commercial banks to finance agriculture	
quality	grades and standards	technical and managerial expertise	lack of favourable policy for agricultural financing	
consistency of supply		advocacy skills	lack of venture capital	
access to correct inputs				
support services				
planning and information services 15/2012	Commo	Fund for Commodities		

#### **CFC: What we do**

- Operational since the early 90's. We celebrated our 20<sup>th</sup> anniversary in 2009
- CFC approved some 300+ projects with total cost of USD 560mln, of which the Fund financed USD 290mln
- The CFC carries out:
  - ◆ Identification
  - Screening
  - ◆ Formulation
  - Appraisal, and
  - ◆ Identification of co-financiers



## Common Fund for Commodities



For further details please consult www.common-fund.org