

Commodities Price Volatility in the 2000s

Unpacking financialisation

Samuel K. GAYI

Special Unit on Commodities

UNCTAD



Outline

- Context – Price trends, 1960-2011
- New twists
- Financialization
 - What is it?
 - Some concerns
 - Evidence – UNCTAD vs others
- Refocus on fundamentals
- Concluding remarks

Context

Overview of Price trends

1960-2011

Fig. 1: Non oil commodity price index in constant terms, 1960-2011 (2000 = 100)

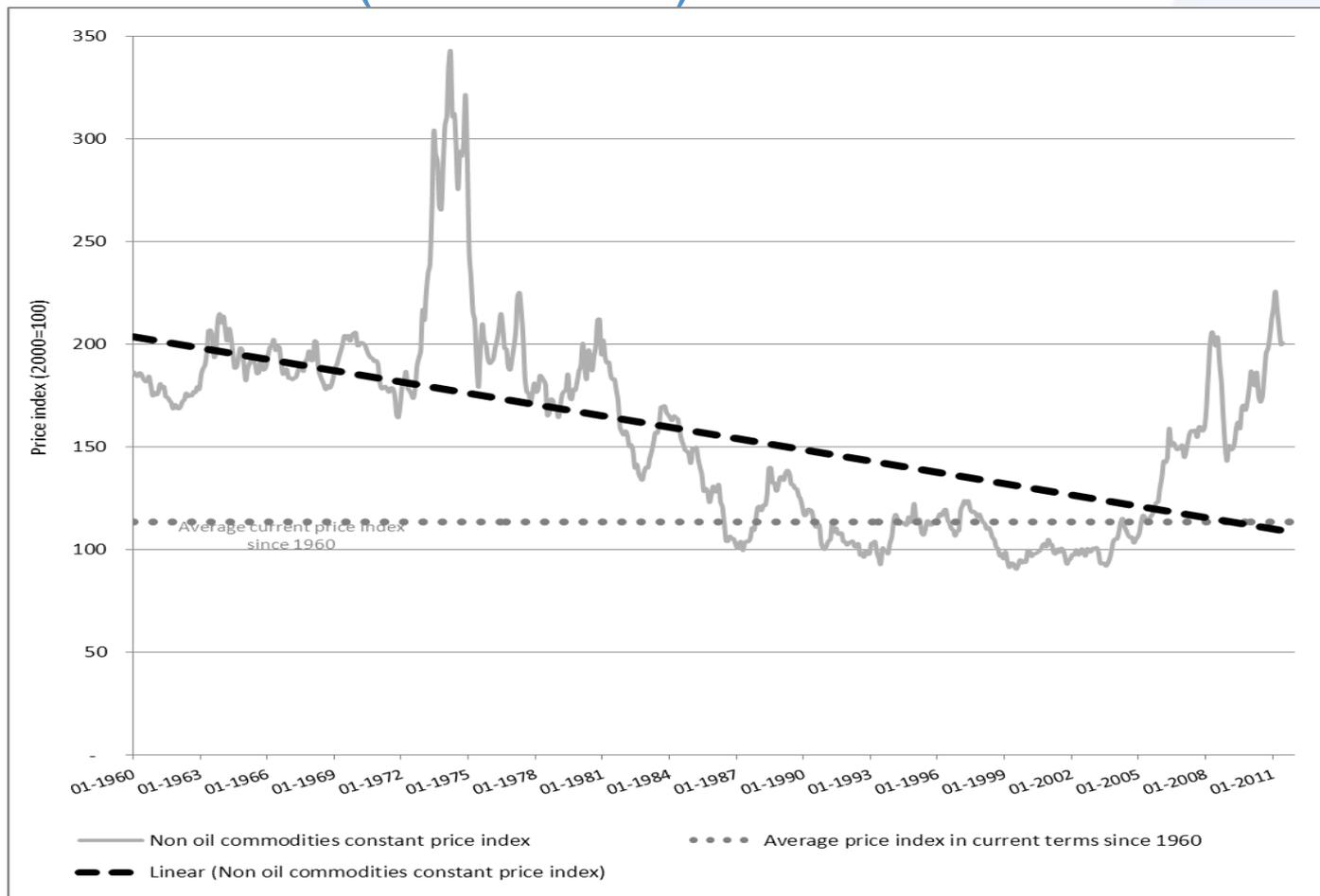
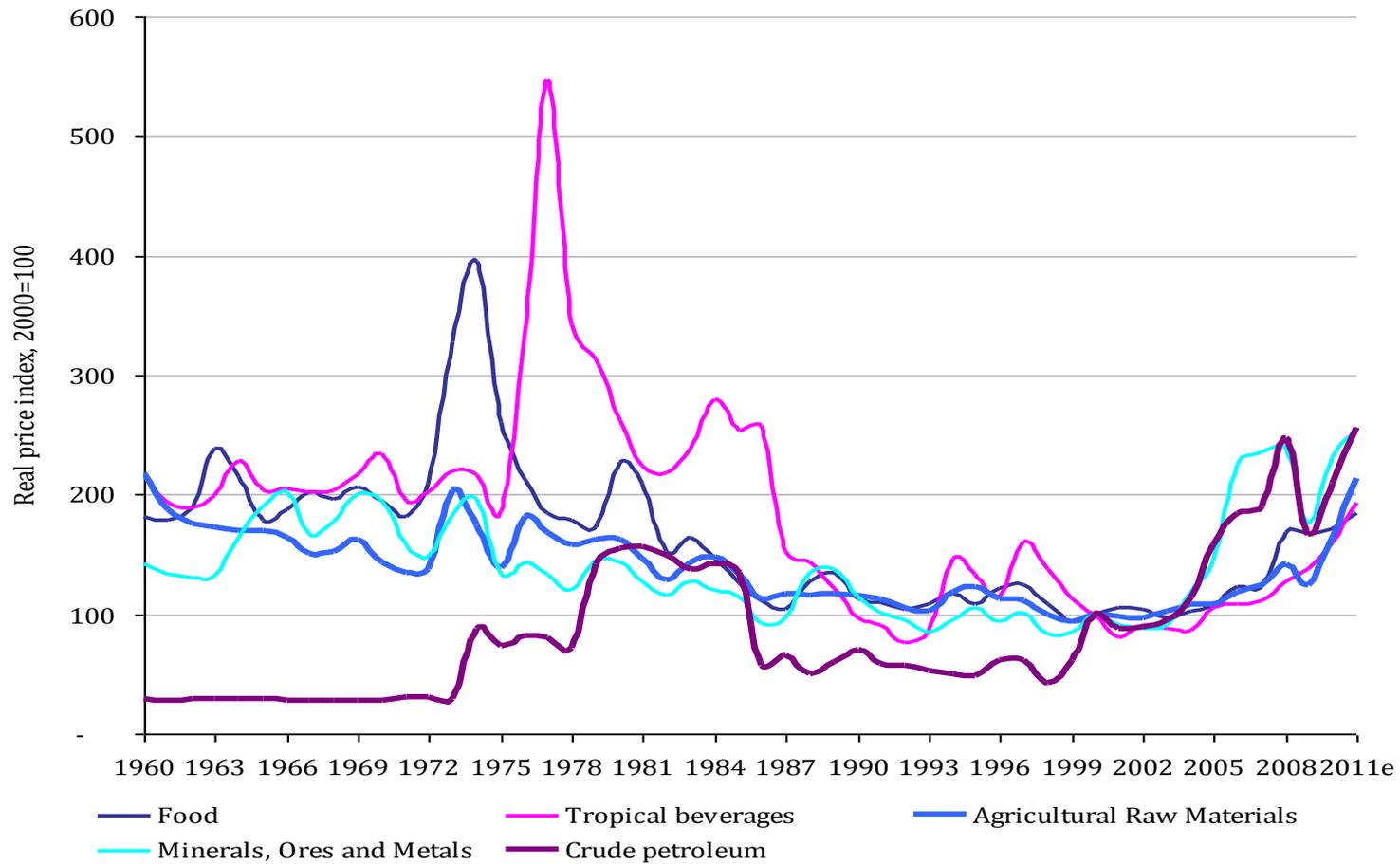


Fig. 2: Historical commodity real price indices, 1960-2011



Overview of price trends, 1960-2011

- Since 1960: real prices of non-fuel commodities relatively stable (highest peak in 1974 - oil shock);
- 1980-2000: commodity prices volatile, but generally declined with temporary peaks in 1988 and 1997.
- 1997—1999: Asian crisis contributed to slump in US \$ prices for primary commodities of 20% (compared to 5% for manufactures) (Page & Hewitt, 2001);
- By mid-2008, commodities had enjoyed 5-year price boom - longest & broadest rally of the post-World War II period, i.e., after almost 30 years of generally low but moderately fluctuating prices.
- Relatively well established that there is a long-term downward decline in the relative prices of primary commodities vis-à-vis manufactures (Maizels, 1992).

Overview of price trends (ii)

- Since 1960, two major commodity price booms (1973-1980, & 2003- 2011);
- Current (recent?) commodity price boom is different from 1970s boom. **Note:**1970s commodity price spikes were short-lived (Radetzki 2006; Kaplinsky and Farooki, 2009);
- Historical data: significantly higher real prices for beverages and food commodities were recorded in the 1970s, relative to 2003 to 2011;
- However, rise in commodity prices 2003-11, especially from 2006 to 2008, is particularly pronounced in the case of metals, crude oil and food (Fig. 2);
- Evidence of adverse weather & ss shocks for certain food commodities, 1973/74 crop year (FAO, 2008); coffee & cocoa, 1977/78 (ICCO, 2010; Maurice & Davis, 2011).

Overview of trends (iii)

- Commodity price cycles are often asymmetric; boom periods in general being shorter than bust cycles; **Note:** magnitude of price slumps exceeds that of price rebounds during subsequent booms (Cashin et al., 2002, UNCTAD, 2003).
- Relative commodity prices are non-stationary - debate is around whether the trend is deterministic or reflects structural breaks (Cashin, Liang & McDermott, 1999).
- Mid-2008 to 2009: global financial crisis -> most commodity prices plummeted as global growth slowed down & consumer demand weakened in most major economies.
- However, since then all commodity subgroups have rebounded strongly; average prices for metals, agric raw materials & beverages in 2011 had even surpassed 2008 averages.
- Appears to challenge conventional arguments about asymmetric nature of commodity price cycles; may be due to increasing importance of “**new twists**” to commodity problematique which play a critical role in changing long-term demand patterns for commodities.

New “twists” to the perennial commodity problematique

- Strong growth in DC markets, esp BRICs, for mineral, metals & energy commodities;
- Growth in DC mkts for high value agricultural commodities thru new & dynamic wholesale & retail outlets e.g. supermarkets mainly driven by urbanization, growing purchasing power of consumers & changing food preferences/consumption patterns;
- Growth of biofuels & increased competition over cropland resources;
- Sanitary and Phytosanitary (SPS) and Technical Barriers to Trade (TBT) measures;
- Climate change, environmental pressures;
- *Increasing role of TNCs in commodity value chains*
- *Financialization of commodities markets;*

Financialization: what is it?

« Definitions »

- **Note** two main component concepts: “financialization” and “commodities price volatility”;
- Measuring price volatility is well-established; details vary among different metrics, but all define volatility as the degree with which prices differ from **historical averages**;
- “Financialization: a combination of two related components:
 - (i) Flow of financial capital (distinct from commercial capital, into commodities futures markets) – the “upstream” component?
 - (ii) the effect of these financial capital flows on various aspects of commodities futures markets (price discovery, risk management & the notional link between futures prices and the supply & demand fundamentals of underlying commodity – “downstream” component?
- Analysis of the financialization of commodities markets tends to examine topics from within one or both of the upstream and downstream components
- From a transformative perspective, financialization says, more or less, that, because of the upstream and downstream effects, *commodities markets are increasingly beholden to the expectations of financial actors and less so to those of commercial actors.*

Financialization: simplified view

- “Financialization of commodities”: a process according to which a number of non conventional actors “financial investors”, e.g., investment banks, hedge- funds or pension funds, have been investing in commodity-linked instruments;
- *Note: Financial investors have been long active in commodity markets, but their investment in commodities for purposes of portfolio diversification gained considerable attention following the bursting of the equity market bubble in 2000.*
- Strong and sustained increase in primary commodities prices (2002 and mid- 2008) was accompanied by the growing presence of financial investors on commodities futures exchange;
- This “financialization” of commodity markets has caused concerns that most of the recent commodity price developments - and especially the steep increase in 2007- 2008 and subsequent strong reversal – was driven largely by *financial investors’ use of commodities as an asset class*;

Financialization: some concerns

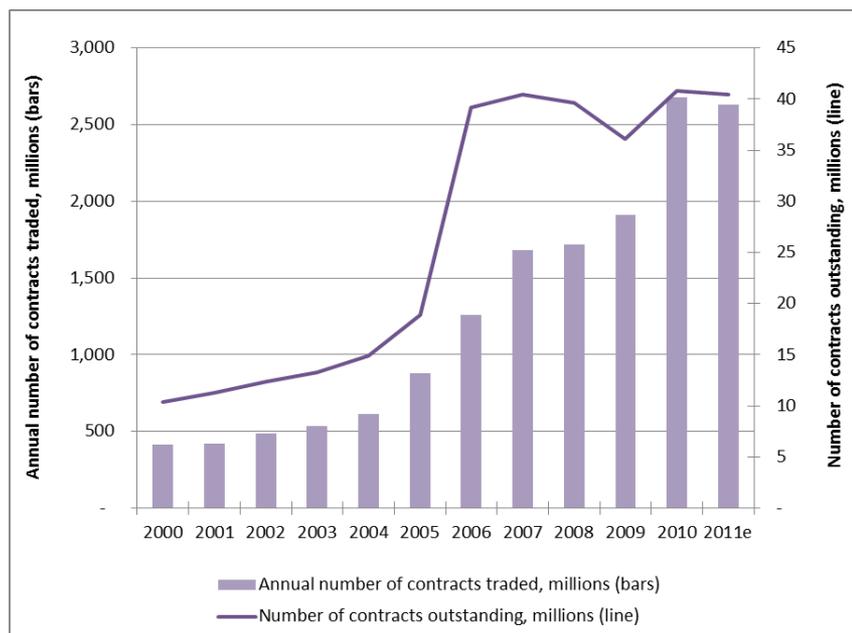
- Financial investors have a “speculative behavior” towards commodity markets, and do not have any interest in the physical delivery of primary commodities.
- In DCs there are few reporting requirements aimed at regulating commodity futures; Also increasing deregulation in such markets in developed countries;
- Imperfect competition, high levels of concentration in segments of the value chain & associated market power - > large price distortions:
 - Most top financial investors in commodity markets (e.g Vitol Group, Glencore International, Trafigura, Noble Group and Gunvor International) are headquartered in Switzerland, where regulation on ownership information disclosure is lax;
 - Trading in futures contracts involves high costs for purchasing contracts; only the largest trading companies (mostly TNCs) are able to enter futures markets. They have the financial capacity to fund large losses associated with sudden adverse changes in price, operate in sophisticated trading platforms, have better information thanks to MIS & are able to provide collateral - > *accumulated considerable market power*. DCs’ export companies effectively excluded from such profit- making, with

Some concerns, contd.

- Production and trade of minerals and metals is dominated by big TNCs – e.g., the 3 largest iron ore companies (Vale, Rio Tinto and BHP Biliton) together control about one-third of world production and 57% of world seaborne trade.
- Recently, a new breed of “speculators” have flooded the commodity markets. As a result of deregulation and the collapse of confidence in other financial markets *institutional investors like Pension Funds have entered the market with huge amounts of capital*. These in turn have fuelled new growth in speculation, alongside institutions like hedge funds and investment banks, that had historically been speculators in commodity derivative markets.
- Financial investors cause greater uncertainty about the reliability of signals emanating from the commodity exchanges with respect to making storage decisions and managing the price risk of market positions;
- Financial investors tend to dilute the participation of commercial users (the physical market still is relatively unaffected), including those from developing countries, because commodity price risk hedging has become more complex and expensive;
- *Note: however, that the speculative money that has flown into the market place has provided liquidity and made for a deeper market with regards to, not only investment vehicles, but also for the users and producers of commodity.*

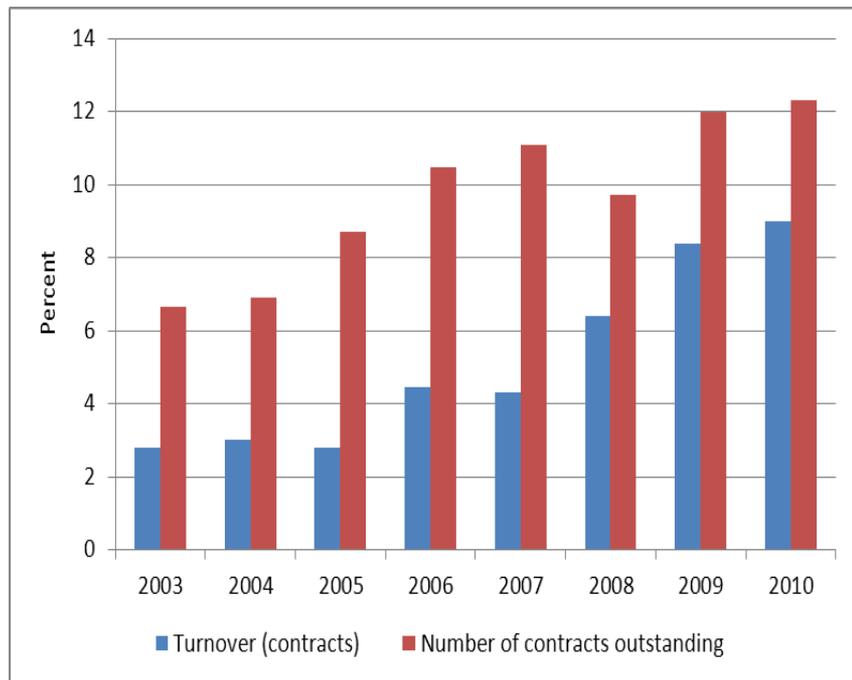
Financialization:
what's the evidence?

Fig. 3: Evolution of commodity trading on world exchanges



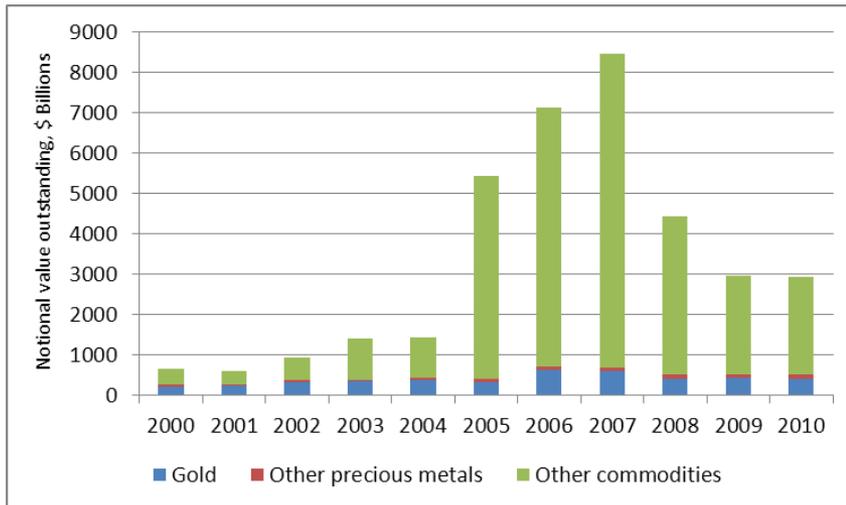
- The annual number of commodity futures contracts traded in exchanges globally has risen exponentially from 418 million in 2001 to 2.5 trillion in 2010;

Fig.4: Commodities as a share of global derivatives exchange trading (%)



Global derivatives markets are still dominated by foreign exchange derivatives trading, but the share of commodities as a proportion of the world total has increased significantly from 3 per cent in 2003 to 9 per cent in 2010

Fig. 5: OTC derivatives trading of commodities



The notional amount of derivatives traded over-the-counter (OTC) significantly increased until 2007, but has since declined as a result of increased uncertainty and risk aversion with respect to counterparty risk since the collapse of Lehman Brothers in September 2008, therefore trading activities have gradually shifted towards futures/ options exchanges.

Explosion in turnover of futures markets

- Proportions of turnover differ by commodity, e.g. Reserve Bank, Australia (Dwyer et al. 2011) reports that, in 2009-2010, the ratio of the value of exchange-traded derivatives contracts for a specific commodity group, relative to the value of its underlying physical production, was:
 - o 76:1 for copper
 - o 10:1 for oil
 - o 62:1 for gold
 - o 55:1 for sugar
 - o much lower for rice - 0.15:1
- *Note: financial capital flows only contributed to these ratios – they are **not** wholly responsible for them!!*
- Commercial actors on commodities markets still effect the majority of the trades
- Nonetheless, “upstream” financialization – i.e., the flood of non-commercial capital into commodities futures markets since 2003 – *is a fact.*
- *Little consensus about the effects of these financial flows on: commodities prices, value chain actors, or functioning of markets;*

The evidence – UNCTAD research

- UNCTAD research suggests that financialization has had a damaging impact on the price discovery and risk management activities that commercial actors conduct on futures markets – this in turn affects their investment decisions;
- Effect traced through the vector of disrupted price signals; That is, financial investors make their trading decisions based on a portfolio of assets that includes commodities, the majority of which are stocks, bonds, currencies, etc;
- Expectations for their commodity investments are therefore related to the returns they can generate as part of the portfolio, and are not linked at all to the commercial value chain that underpins the commodity futures market;
- Portfolio investors' transactions in commodities markets thus transmit price cycles from other asset classes, in part from financial assets (Mayer 2010). Decisions may only partially consider fundamentals of SS & DD considerations of the commodity whose derivative they are trading, if at all (UNCTAD 2011b).

The evidence: UNCTAD (ii)

- Recent flood of financial capital into commodities markets means that these non-fundamental price signals have become more important in the last decade or so
- As a result, financial price signals are steadily replacing commercial ones: e.g. (Mayer 2009; Mayer 2010)
 - “Long” financial investors had a causal impact on agricultural commodities prices;
 - Speculators had a causal impact on the price of non-agricultural commodities.
- Whether prices rise or fall, these muddied price signals cause prices to overshoot their historical average range This causes uncertainty among commercial actors, including raising the risk of a commodity price bubble;
- Commercial hedging becomes more complex, treacherous & expensive; as such tends to exclude DC participants, from conducting commercial risk management on futures markets (UNCTAD 2009);

The evidence - Others

- Gilbert (2010): index-based investment in oil and non-ferrous commodities accounted for inflated prices by up to 15% in 2008, but finds *limited* evidence that the current price boom is a bubble;
- Irwin & Sanders, 2011: no causal link between commodities index trading and futures prices and cast doubt on whether index funds drove a commodities price bubble;
- Sanders et al (2010) studied index fund activity in agricultural commodities markets and found no material changes in measures of speculative activity by index funds leading up to 2008 crisis; They maintain that speculative values remain within the average historical ranges;
- Buyuksahin and Robe (2011), International Energy Agency (IEA) found that index funds – the largest pool of financial capital in commodities markets, which UNCTAD believe have driven agricultural commodities prices – had little effect on price formation in energy markets; rather hedge fund transactions had the most important impact on energy prices;

The evidence – Others (ii)

- Of all these contradictory findings, one commonality emerges: the increasing synchronization of futures prices across a variety of commodities (Tang & Xiong 2010; Dwyer et al. 2011; Buyuksahin & Robe 2011; UNCTAD 2009);
- *But again*, even in agreement, there are disagreements:
 - UNCTAD concludes that the synchronization of commodities prices bears negative consequences for commercial actors;
 - But Buyuksahin and Robe (2011), IEA, conclude that the increased co-movement between commodities prices has not been proven to be either beneficial or harmful to the market and its actors;
 - Reserve Bank of Australia concludes that synchronization of price cycles across asset classes is not uncommon – it tends to happen when the overall economy is subjected to large shocks, such as during the Great Depression (Dwyer et al. 2011);

Refocus on fundamentals

- The downstream effects of the massive financial capital flows into commodities markets is still contested;
- Some of the trends observed, particularly high volatility, pre-exist the financialization phenomenon, and appear not to be adequately explained by it;
- Thus, we should continue to watch with interest the unfolding debate about the effects of financialization, but to revisit other, more fundamental factors, which are probably more important in understanding and reacting to the current commodities price boom;
- **Critical Question:** Are the ongoing high prices and volatility in commodities markets consistent with well-established influences, i.e. direct supply and demand influences, or recurrent indirect influences such as foreign exchange rates, increased participation of financial investors in commodities markets?
- Studies about the 2008 food crisis generally attribute the price spikes and supply shortages that year to some combination of:
 - Adverse weather leading to lower than expected harvests
 - Low worldwide inventories of food commodities
 - Export restrictions and hoarding in producing countries
 - Increased consumption growth from developing countries
 - High oil prices creating incentives to divert corn crops from food to biofuels; and
 - Cheap money in the USA, *although* there is less consensus on this one (Headey & Fan 2008)

Conclusions

- Note: low inventories left little buffer when harvests were worse than expected for several crops in 2007-8; stock levels have yet to be rebuilt, raising the risk of another food crisis in the event of another poor production year for food commodities;
- Does talking about “harmful” or “excessive” speculation mean a misunderstanding of how commodities market work?
- Speculators no doubt tried their hand at profiting from the resulting price movements; and, perhaps in some cases, the volume of capital flows amplified some of the price movements (e.g. UNCTAD);
- But is there sufficient evidence that speculative transactions “caused” these price movements? With the number of inflationary influences that hit the market in a short period of time, is it possible that the food crisis would have happened even if speculators had stayed out of commodities markets?
- Whatever their effect on prices, there also would be negative consequences if we removed these financial players from the market – less liquidity chief among them;
- The vectors by which financialization have affected commodities markets are still being studied, but these studies may reveal that commodities price movements over the last decade, as they always have always done, were the result of a complex set of factors;
- Increasing Investments in, and improving the efficiency, of commodity production are critical to *reducing the vulnerability* of commodity markets to the impact of huge financial flows and activities of financial actors.



Conclusions (ii)

- Major reason why we cannot come to a consensus on the effects of financialization is that reporting requirements for commodities traders are minimal compared to those required on for equity, debt or currency traders (UNCTAD 2009).
- As such, no comprehensive data exists, for example, to track over time the change in positions of specific categories of traders – whether they be financial or commercial - for an individual commodity;
- Among UNCTAD's policy proposals:
 - o Regulating more transparency through enhancing reporting requirements in commodities markets (note also G20 proposals);
 - o Along with the impacts of financialization on commercial actors in commodities markets, study the potential for imbalances in commodities futures markets to send wrong macroeconomic signals to monetary policy markets (UNCTAD 2011a).
- G20: Enhance market transparency in agricultural commodities markets through more reliable market information systems (AMIS).
- How do we reduce imperfect competition, market concentration and associated market power? WTO?
- Discipline the use of policies that distort global agricultural commodities markets – Fully liberalize global agricultural commodities trade – WTO.

THANK YOU FOR YOUR ATTENTION

UNCTAD

PROSPERITY FOR ALL

www.unctad.org



UNITED NATIONS
UNCTAD