

# **COMMODITY MARKETS OVERSIGHT COALITION**

**An Alliance of Commodity Derivatives End-Users and Consumers**

September 7, 2011

Federal Trade Commission  
600 Pennsylvania Avenue, NW  
Washington, DC 20580

The Honorable Jon Leibowitz, Chairman  
The Honorable William E. Kovacic, Commissioner  
The Honorable J. Thomas Rosch, Commissioner  
The Honorable Edith Ramirez, Commissioner  
The Honorable Julie Brill, Commissioner

## **RE: Response to the Federal Trade Commission Staff Report “Gasoline Price Changes and the Petroleum Industry: An Update,” September 1, 2011**

Dear Chairman Leibowitz and Commissioners Kovacic, Rosch, Ramirez and Brill:

The undersigned members of the Commodity Markets Oversight Coalition would like to take this opportunity to respond to the Federal Trade Commission Staff Report, *Gasoline Price Changes and the Petroleum Industry: An Update*. We specifically would like to comment on the section entitled “Futures Market Trading and Crude Oil Prices,” where we believe the report provides a less-than-adequate examination of the role of financial speculation in crude oil prices.

The CMOC is an independent, non-partisan and non-profit alliance of groups that represent commodity-dependent industries, businesses and end-users, including American consumers, that rely on functional, transparent and competitive commodity derivatives markets as a hedging and price discovery tool. Our coalition advocates in favor of government policies that promote stability and confidence in the commodities markets, that seek to prevent fraud, manipulation and excessive speculation, and that preserve the interests of *bona fide* hedgers and consumers.

In light of this, we commend the Commission for its interest in examining the factors that contribute to unwarranted price swings and extreme volatility in the energy markets. However, Commission staff provide a significantly less comprehensive examination of the role of derivatives (futures, options and swaps) trading than other issues examined elsewhere in the report.

The staff did not draw conclusions on the role of excessive financial speculation in the energy markets based on its own analysis of available market data. Rather, the staff relied on an extremely limited sampling of available academic literature. We have included for your consideration a list of more than 75 academic and governmental studies, reports and analyses on the topic, only a handful of which were reviewed by the Commission’s staff. Further, the conclusion that “there is little consensus in the resulting literature” that speculative trading is a driving force behind high oil prices (page 21) was not reached by the staff but rather by two academics unaffiliated with and independent of the Commission.

While we understand the Staff Report does not reflect the official opinions of the FTC or its Commissioners, we urge the staff to more diligently examine this issue. We also encourage the Commission to consult with regulators at the Commodity Futures Trading Commission, germane committees in Congress and *bona fide* hedgers of commodities when it revisits the role of excessive financial speculation on energy prices in the future.

Thank you for your time.

Sincerely,

Air Transport Association  
Colorado Wyoming Petroleum Marketers Association  
Florida Petroleum Marketers Association  
Fuel Merchants Association of New Jersey  
Gasoline and Automotive Service Dealers of America  
Independent Connecticut Petroleum Association  
Institute for Agriculture and Trade Policy  
Louisiana Oil Marketers & Convenience Store Association  
Maine Energy Marketers Association  
Massachusetts Oilheat Council  
Montana Petroleum Marketers & Convenience Store Association  
NAFA Fleet Management Association  
National Association of Oil & Energy Service Professionals  
National Association of Shell Marketers  
National Association of Truckstop Operators  
New England Fuel Institute  
New Jersey Citizen Action Oil Group  
New Mexico Petroleum Marketers Association  
New York Oil Heating Association  
North Dakota Petroleum Marketers Association  
North Dakota Retail Association  
Oil Heat Council of New Hampshire  
Oil Heat Institute of Long Island  
Oil Heat Institute of Rhode Island  
Petroleum Marketers & Convenience Store Association Kansas  
Petroleum Marketers & Convenience Stores of Iowa  
Petroleum Marketers Association of America  
Public Citizen  
R-CALF USA  
The Organization for Competitive Markets  
Utah Petroleum Marketers & Retailers Association  
Vermont Fuel Dealers Association  
West Virginia Oil Marketers and Grocers Association

cc: The Honorable Gary Gensler, Chairman, Commodity Futures Trading Commission  
The Honorable Michael Dunn, Commissioner, Commodity Futures Trading Commission  
The Honorable Jill Sommers, Commissioner, Commodity Futures Trading Commission  
The Honorable Bart Chilton, Commissioner, Commodity Futures Trading Commission  
The Honorable Scott O'Malia, Commissioner, Commodity Futures Trading Commission  
Senator Debbie Stabenow, Chairman, Senate Committee on Agriculture, Nutrition & Forestry  
Senator Pat Roberts, Ranking Member, Senate Committee on Agriculture, Nutrition & Forestry  
Representative Frank D. Lucas, Chairman, House Committee on Agriculture  
Representative Collin Peterson, Ranking Member, House Committee on Agriculture

# COMMODITY MARKETS OVERSIGHT COALITION

An Alliance of Derivatives End-Users & Reform Advocates

## **Evidence on the Impact of Commodity Speculation By Academics, Analysts and Public Institutions**

Updated August 22, 2011

- 1) **Agriculture and food policy centre (Texas University) (2008): The effects of ethanol on Texas food and feed:** “Speculative fund activities in futures markets have led to more money in the markets and more volatility. Increased price volatility has encouraged wider trading limits. The end result has been the loss of the ability to use futures markets for price risk management due to the inability to finance margin requirements.”
- 2) **Abdallah, Ahmed: Speculators vs. Investors & Can the Recovery Afford Higher Oil Prices?:** “We believe that investor’s desire to hold commodity exposure has an adverse effect on the price discovery process.”
- 3) **Aliber, R.Z. (University of Chicago) (2008): Oil Rally Topped Dot-Com Craze in Speculators' Mania (Bloomberg article):** “You’ve got speculation in a lot of commodities and that seems to be driving up the price. (...) Movements are dominated by momentum players who predict price changes from Wednesday to Friday on the basis of the price change from Monday to Wednesday.”
- 4) **Al-Naimi, A. (Minister of Petroleum & Mineral Res., Saudi Arabia) (2008): Speech at the 2008 Jeddah Energy Meeting:** “I would also note that while there is little or no correlation over the past two years between global crude oil inventories and crude oil prices, there has been a strong correlation between the increasing volumes of crude oil futures trade on the NYMEX and rising prices. According to many observers and analysts, inadequate oversight, regulation and reporting of speculative investments in commodities have further exacerbated this situation.”
- 5) **el-Badri, A. (OPEC secretary-general) (2009): OPEC Calls for Curbing Oil Speculation, Blames Funds (Bloomberg article):** “The speculators are still there. (...) Before, they were playing a supply shortage, now they are playing too much supply. They are delaying a recovery in prices.”
- 6) **Baffes, J. (World Bank) and Haniotis, T. (European Commission) (2010): Placing the 2006/08 Commodities Boom into Perspective. World Bank Research Working Paper 5371:** “We conjecture that index fund activity (one type of “speculative” activity among the many that the literature refers to) played a key role during the 2008 price spike. Biofuels played some role too, but much less than initially thought. And we find no evidence that alleged stronger demand by emerging economies had any effect on world prices.”
- 7) **Basu, P. and Gavin, W.T. (Federal Reserve Bank of St. Louis) (2011): What explains the Growth in Commodity Derivatives?:** “Banks argue that they need to use commodity derivatives to help customers manage risks. This may be true, but the recent experience in commodity futures did not reduce risks but exacerbated them just at the wrong time.”
- 8) **Berg, A. (former CME trader) (2010). Agricultural Futures: Strengthening market signals for global price discover. Paper to the FAO's Committee on Commodity Problems Extraordinary meeting:** “...over 150 years of futures trading history demonstrates that position limits are necessary in commodities of finite supply to curb excessive speculation and hoarding.”
- 9) **Burg, Ann. The Rise of Commodity Speculation: From Villainous to Venerable:** “Far from causing harm or havoc, the modern speculator is often hailed as the new oracle of the food cycle...”
- 10) **Better Markets (2011): Comment On Position Limits:** “This letter demonstrates...excessive speculation has caused increased volatility and increased prices in futures markets.”

- 11) **Branson, R. (Virgin Group), Masters, M. (Masters Capital) and Frenk, D. (Better Markets Inc.) (2010): Letter to the Economist:** “There is strong evidence that speculation exacerbated the last oil and food bubble. Speculation will fuel the next one too, unless meaningful speculative position limits are established.”
- 12) **Joachim von Braun (2010): Time To Regulate Volatile Food Markets:** “With the current extreme price increases for wheat, we are observing potentially the early stages of another global food-price crisis. Even if this does not evolve into something as dramatic as the crisis of 2007-08, when prices of major agricultural commodities from corn to rice shot up to record levels, triggering food riots from Bangladesh to Haiti, it is a stark indication of the perilous state of the world food market.”
- 13) **Dresden Kleinwort: Fighting the Speculators:** “We attribute our forecasting accuracy in our view that oil prices have become the plaything of financial investors.”
- 14) **Du, X., Yu, C.L. and Hayes, D.J. (Iowa State University) (2009), Speculation and Volatility Spillover in the Crude Oil and Agricultural Commodity Markets: A Bayesian Analysis. Working Paper No. 09-WP 491, 2009:** “Speculation, scalping, and petroleum inventories are found to be important in explaining oil price variation.”
- 15) **Eckaus, R.S. (MIT) (2008): The Oil Price Really Is A Speculative Bubble:** “Since there is no reason based on current and expected supply and demand that justifies the current price of oil, what is left? The oil price is a speculative bubble.”
- 16) **European Central Bank: What Is Driving Commodity Prices?** “The importance of oil to the modern world is unique in character and far reaching in scope.”
- 17) **Evans, T. (Citigroup, energy analyst) (2008): The Official Demise of the Oil Bubble (Wall Street Article):** “This is a market that is basically returning to the price level of a year ago which it arguably should never have left. (...) We pumped up a big bubble, expanded it to an impressive dimension, and now it is popped and we have bubble gum in our hair.”
- 18) **Frenk, D. (Better Markets Inc.) (2010): Review of Irwin and Sanders 2010 OECD report:** 1) The statistical methods applied are completely inappropriate for the data used. 2) The study is contradicted by the findings of other studies that apply more appropriate statistical methods to the same data. 3) The overall analysis is superficial and easily refuted by looking at some basic facts.”
- 19) **Financial Stability Board (2011):** Potential Financial Stability Issues Arising from Trends in Exchange Traded Funds
- 20) **Gheit, F. and Katzenberg, D. (2008) (Oppenheimer & Co.): Surviving lower oil prices:** “The investment banks that hyped oil prices using voodoo economics have suddenly reversed their position and now expect much lower oil prices. They helped cause excessive speculation, create the oil bubble, and contributed to the global financial crisis. They have changed their tune in exchange for a government bailout, not because of changes in market fundamentals.”
- 21) **Gilbert, C. (Trento University) (2010): How to understand high food prices. Journal of Agricultural Economics:** “By investing across the entire range of commodity futures, index-based investors appear to have inflated food commodity prices.”
- 22) **Gosh, J. (Jawaharlal Nehru University) (2010): Commodity speculation and the food crisis:** “Thus international commodity markets increasingly began to develop many of the features of financial markets, in that they became prone to information asymmetries and associated tendencies to be led by a small number of large players. Far from being ‘efficient markets’ in the sense hoped for by mainstream theory, they allowed for inherently ‘wrong’ signalling devices to become very effective in determining and manipulating market behaviour. The result was the excessive price volatility that has been displayed by important commodities over the recent period – not only the food grains and crops mentioned here, but also minerals and oil.”

- 23) Greenberger, M. (2010): The Relationship of Unregulated Excessive Speculation to Oil Market Price Volatility. Paper for the International Energy Forum:** “When speculators make up too large a share of the futures market, they have the potential to upset the healthy tension between consumers and producers and resulting adherence of prices to market fundamentals. The resulting volatility makes it more difficult for commercial consumers and producers to successfully hedge risk, because prices do not reflect market fundamentals, and so they abandon the futures market and risk shifting—thereby further destabilizing the price discovery influence of these markets.”
- 24) Hernandez, A. and Torero, M. (2010): Examining the Dynamic Relation between Spot and Future Prices of Agricultural Commodities. In: FAO Commodity Market Review 2009-2010:** “The causality tests performed indicate that the futures markets analyzed generally dominate the spot markets. Price changes in futures markets lead price changes in spot markets more often than the reverse, especially when examining returns.”
- 25) The High Level Panel of Experts on Food Security and Nutrition (2011):** Price Volatility and Food Security: “Food spikes and volatility are of increasing political, professional and public concern for food security world wide.”
- 26) IMF (2011): Assessing Reserve Adequacy:** “This paper, part of the Fund’s ongoing work on aspects of the international monetary system, does not claim to provide definitive guidance on a subject already subject to extensive academic discussion. Instead it reviews recent experience and existing approaches to reserve adequacy, building on which simple new metrics for emerging market economies (EMs) and low income countries (LICs) are proposed, based on broad country characteristics.”
- 27) IMF (2011): Taxing Financial Transactions: Issues and Evidence:** “In reaction to the recent financial crisis, increased attention has recently been given to financial transaction taxes (FTTs) as a means of (1) raising revenue for a variety of possible purposes and/or (2) helping to curb financial market excesses. This paper reviews existing theory and evidence on the efficacy of an FTT in fulfilling those tasks, on its potential impact, and on key issues to be faced in designing taxes of this kind.”
- 28) IMF (2011): Recent Experiences in Managing Capital Inflows—Cross-Cutting Themes and Possible Policy Framework:** “This paper reviews the recent experience of EMs in dealing with capital inflows and suggests a possible framework for IMF policy advice on the spectrum of measures available to policymakers to manage inflows, including macroeconomic policies, prudential measures and capital controls.”
- 29) IMF (2011): Reviving the Storage Model: A Holistic Approach to Food Commodity** “The 2007-08 surges in global food and fuel prices are yet another example of their short-run volatility defying long-run tranquility.”
- 30) IMF (2011): Making OTC Derivatives Safe – A Fresh Look:** “This paper looks at the possibility that central counterparties (CCPs) may be too-big-to-fail entities in the making.”
- 31) IMF (2011): Capital Flows, Exchange Rate Flexibility, and the Real Exchange Rate:** “The impact of capital inflows and exchange rate flexibility on the real exchange rate.”
- 32) IMF (2009): What Explains the Rise in Food Price Volatility:** “The macroeconomic effects of food price swings can be broad and far-reaching.”
- 33) IMF (2011): Statement by Qabazard, H. (OPEC)**
- 34) Institute for Agriculture and Trade Policy (2009): Betting Against Food Security: Futures Market Speculation. Trade and Global Governance Programme Paper:** “A large share of the commodity exchange price volatility resides not so much in supply and demand of the commodity traded as in the fund formulas for buying and selling the bundled futures contracts.”
- 35) Institute for Agriculture and Trade Policy (2010): Multi-Lateralizing G20 Commitments on the Commodity Derivatives Market:** “The cascade of defaults in the fall of 2008...set into motion several multi-lateral economic, governance processes.”

- 36) **Institute for Agriculture and Trade (2011): Excessive Speculation in Agricultural Commodities: Selected Writings**
- 37) **Institute for Agriculture and Trade (2011)**: Some impediments to fulfilling economic governance commitments with examples of US opposition to regulation affecting commodity markets
- 38) **International Monetary Fund (2008): Regional Economic Outlook: Middle East and Central Asia**: “In summary, it appears that speculation has played a significant role in the run-up in oil prices as the U.S. dollar has weakened and investors have looked for a hedge in oil futures (and gold).”
- 39) **Jalali-Naini, A.R. (Economic Research Forum Cairo) (2006): The Impact of Financial Markets on the Price of Oil and Volatility: Developments since 2007**: “Causality tests indicate that changes in speculative positions – resulting from the entry and exit of non-commercials – can generate price volatility. When used in conjunction with a number of other variables, including commercial stocks and product prices to explain variations in the price of oil, the speculative length in the futures market has a positive and significant coefficient.”
- 40) **Jouyet, J.-P. (President de l’Autorite des marches financiers), de Boissieu, C. (President du Conseil d’analyse economique), Guillon, S. (Controleur general economique et financier) (2010) : Rapport d’étape – Prévenir et gérer l’instabilité des marchés agricoles**: “Les marchés agricoles sont confrontés à une mondialisation et à une financiarisation qui influencent leur fonctionnement. La volatilité naturelle des prix qui caractérise ces marchés est amplifiée par de nouveaux facteurs et notamment par une spéculation excessive.”
- Translation: Agricultural markets are confronted by a globalization and financialization that influences their ability to function. The natural price volatility that characterizes these markets is amplified by new factors and notable amongst these is excessive speculation.*
- 41) **Kemp, J. (Reuters) (2008): Crisis remakes the commodity business**: “It does not alter the fact most of the upsurge in futures and options turnover on commodity exchanges and in OTC markets over the last five years has come from investment-related rather than trade-related business.”
- 42) **Khan, M.S. (Petersen Institute) (2009): The 2008 Oil Price “Bubble”**: “While market fundamentals obviously played a role in the general run-up in the oil prices from 2003 on, it is fair to conclude by looking at a variety of indicators that speculation drove an oil price bubble in the first half of 2008. Absent speculative activities, the oil price would probably have been in the \$80 to \$90 a barrel range.”
- 43) **Krugman, P. (Columbia University) (2009): Oil speculation**: “Last year I was sceptical about claims that speculation was central to the price rise, because what I considered the essential signature of a speculative price rise ... just wasn’t showing. This time, however, oil inventories are bulging, with huge amounts held in offshore tankers as well as in conventional storage. So this time there’s no question: speculation has been driving prices up.”
- 44) **Lines, T. (2010): Speculation in food commodity markets**: “These are the main problems that are caused by long-only index trading: It pushes prices up, irrespective of the market situation. It disrupts the rolling over of futures contracts when the nearest month expires.”
- 45) **Luciani, G. (Director, Gulf Research Center Foundation) (2009): From Price Taker to Price Maker? Saudi Arabia and the World Oil Market**: “The inflow of liquidity, the increasing role played by the futures market (paper barrels) over the spot (wet barrels), and the proliferation of derivatives which encourage betting on price changes rather than on the absolute level of prices all contribute to worsen the situation, amplifying price oscillations.”

- 46) **Masters, M.W. (Masters Capital) (2009): Testimony before the Commodities Futures Trading Commission:** "In summary, passive investors compete with physical commodity consumers and make it much more difficult for them to hedge. (...) They provide no benefits whatsoever to the markets because they consume liquidity. And most importantly, they drive up commodity prices, which hurts everybody on the planet."
- 47) **Masters, M.W. (Masters Capital) and White, A.K. (White Knight Research) (2008): The Accidental Hunt Brothers, how institutional investors are driving up food and energy prices:** "Unfortunately, this price discovery function of the commodities futures markets is breaking down. With the advent of financial futures, the important distinctions between commodities futures and financial futures were lost to regulators. Excessive speculation gradually became synonymous with manipulation, and speculative position limits were raised or effectively eliminated because they were not deemed necessary to prevent manipulation."
- 48) **Mayer, J. (2009): The Growing Interdependence between Financial and Commodity Markets. UNCTAD Discussion Paper 195:** "The increasing importance of financial investment in commodity trading appears to have caused commodity futures exchanges to function in such a way that prices may deviate, at least in the short run, quite far from levels that would reliably reflect fundamental supply and demand factors. Financial investment weakens the traditional mechanisms that would prevent prices from moving away from levels determined by fundamental supply and demand factors – efficient absorption of information and physical adjustment of markets. This weakening increases the proneness of commodity prices to overshooting and heightens the risk of speculative bubbles occurring."
- 49) **Medlock, K. and Myers Jaffe, A. (Rice University) (2009): Who is in the Oil Futures Market and How Has It Changed?:** "...trading strategies of some financial players in oil appears to be influencing the correlation between the value of the U.S. dollar and the price of oil. (...) We also find that the correlation between movements in oil prices and the value of the dollar against the trade-weighted index of the currencies of foreign countries has increased to 0.82 (a significant measure) for the period between 2001 and the present day, compared to a previously insignificant correlation of only 0.08 between 1986 and 2000."
- 50) **Ministere de l'Economie (2010): Rapport du Groupe de Travail Sur la Volatilite des Prix du Petroll**
- 51) **Van der Molen, M. (University of Utrecht) (2009): Speculators invading the commodity markets: a case study of coffee:** „Various analyses were performed to investigate these effects [i.e. effects that index speculators have on the futures market]. The results indicate that index speculators frustrated the futures market in the period between 2005 and 2008. This conclusion is based on the following indications: fundamentals have a lower impact on the price, the volume of index speculators has increased and their ability to influence the futures market has increased.“
- 52) **Morse, E. (former Lehman Brothers chief energy economist) (2008): Oil Dotcom, Research Note:** "Fundamental changes cannot explain sudden, severe price or curve movements. (...) Our conclusion from this study is that we are seeing the classic ingredients of an asset bubble."
- 53) **Newell, J. (Probability Analytics Research) (2008): Commodity Speculation's "Smoking Gun":** "Real market forces in these diverse markets are largely independent of one another, and therefore price changes should be essentially uncorrelated. This was clearly true historically; from 1984 through 1999 average correlation between all commodities was only 7%. In the last 12 months this average rose to 64%. Correlation with the GSCI was 23% historically, and rose to 76% in the last year. Index speculation has swamped real market forces."
- 54) **Nissanke, M. (University of London) (2010): Commodity Markets and Excess Volatility. Sources and Strategies to Reduce Adverse Development Impacts. Paper**

**presented at the CFC Conference in Brussels December 2010:** “It can be argued that asset prices, including commodity prices, traded globally are largely influenced by market liquidity cycles in global finance. From this particular perspective, we can have a plausible narrative of the recent episode of commodity price cycle. (...) Clearly, trading activities in world commodity markets have undergone some fundamental change, as the links between activities in commodity and financial markets has further intensified.”

**55) OPEC (2009): Annual Report:** “Oil demand contracte by 1.6% in 2009.”

**56) Philips, P. (Yale University) and Yu, J. (Singapore University) (2010): Dating the Timeline of Financial Bubbles During the Subprime Crisis:** “a bubble first emerged in the equity market during mid-1995 lasting to the end of 2000, followed by a bubble in the real estate market between September 2000 and June 2007 and in the mortgage market between August 2005 and July 2007. After the subprime crisis erupted, the phenomenon migrated selectively into the commodity market and the foreign exchange market, creating bubbles which subsequently burst at the end of 2008, just as the effects on the real economy and economic growth became manifest.”

**57) Randall Wray, L. (University of Missouri-Kansas City) (2008) The Commodities Market Bubble – Money Manager Capitalism and the Financialization of Commodities. Public Policy Brief No 96, The Levy Economics Institute of Bard College:** “There is adequate evidence that financialization is a big part of the problem, and there is sufficient cause for policymakers to intervene with sensible constraints and oversight to reduce the influence of managed money in these markets.”

**58) Ray, D.E. and Schaffer, H.D. (University of Tennessee) (2010): Index funds and the 2006-2008 run-up in agricultural commodity prices:** “the fundamentals and/or expectations in the energy and mineral markets rein supreme—grains are along for the ride with little-to-no regard to what is happening in the grain sector. Worries during the period about the availability of oil drove up the price of crude, which caused index funds to rebalance their portfolios by making additional purchases of the other commodities to maintain the specified balance. Since the resulting price increases in agricultural commodities had virtually nothing to do with their market conditions, the record level of activity in the futures market by index funds would seem to make index funds a logical source of possible price overshooting.”

**59) Robe, M. and Buyuksahin, B. and Haigh, M. (2008): Commodities and Equities: A Market of One:** “Amidst a sharp rise in commodity investing, many have asked whether commodities nowadays move in sync with traditional financial assets.”

**60) Roubini, N. (New York University) (2009): The risk of a double-dip recession is rising (Financial Times Article):** “Another reason to fear a double-dip recession is that oil, energy and food prices are now rising faster than economic fundamentals warrant, and could be driven higher by excessive liquidity chasing assets and by speculative demand.”

**61) Sachs, J.D. (Columbia University) (2008): Corn Futures Spark Riots as Speculators Take Trading to Limit (Bloomberg article):** “The fact that prices soared and then they came down so much really does suggest that there was a speculative element to it.”

**62) Schulmeister, S. (Vienna University) (2009): Trading Practices and Price Dynamics in Commodity Markets. Study commissioned by the Austrian Federal Ministry of Finance and the Austrian Federal Ministry of Economics and Labour:** “Based on the “bullishness” in commodity derivatives markets, short-term oriented speculators reacted much stronger to news in line with the expectation of rising prices than to news which contradicted the “market mood”. Hence, they put more money into long positions than into short positions and held long positions longer than short positions. Due to this trading behavior, upward commodity price runs lasted longer in recent years than downward runs causing prices to rise in a stepwise process. Commodity price runs were lengthened by the use of trend-following trading systems of technical analysis. These systems try to exploit price runs by producing buy (sell) signals in the early stage of an upward (downward) run. The aggregate trading signals then feed back upon commodity prices.”

- 63) **de Schutter, O. (UN Special Rapporteur on the Right to Food) (2010): Food commodities speculation and food price crises: Regulation to reduce the risks of financial volatility:** “The global food price crisis that occurred between 2007 and 2008, and which affects many developing countries to this day, had a number of causes. The initial causes related to market fundamentals, including the supply and demand for food commodities, transportation and storage costs, and an increase in the price of agricultural inputs. However, a significant portion of the increases in price and volatility of essential food commodities can only be explained by the emergence of a speculative bubble.”
- 64) **Shiller, R.J. (Yale University) (2008): Commodity Prices Tumble (New York Times article):** “Commodities followed the euphoria cycle that we had along with housing.”
- 65) **Silvennoinen A. (Queensland University) and Thorp S. (Sydney University) (2010): Financialization, crisis and commodity correlation dynamics:** „We observe higher and more variable correlations between commodity futures and stock returns from mid-sample, with many series showing a structural break in the conditional correlation processes from the late 1990s.”
- 66) **Singleton, K.J. (Stanford University) (2010): The 2008 Boom/Bust in Oil Prices:** „In my view, while spot-market supply and demand pressures were influential factors in the behavior of oil prices, so were participation in oil futures markets by hedge funds, long-term passive investors, and other traders in energy derivatives.”
- 67) **Tanaka, N. (head of International Energy Agency) (2009): IEA says speculation amplifying oil prices moves (Reuters article):** “Our analysis shows that the fundamentals are deciding the direction of the price while these funds or speculations ... are amplifying the movement.”
- 68) **Tang, K. (Princeton University) and Xiong, W. (Renmin University) (2010): Index Investment and The Financialization of Commodities:** “This paper finds that concurrent with the rapid growing index investment in commodities markets since early 2000s, futures prices of different commodities in the US became increasingly correlated with each other and this trend was significantly more pronounced for commodities in the two popular GSCI and DJUBS commodity indices. This finding reflects a financialization process of commodities markets and helps explain the synchronized price boom and bust of a broad set of seemingly unrelated commodities in the US in 2006-2008. In contrast, such commodity price comovements were absent in China, which refutes growing commodity demands from emerging economies as the driver.”
- 69) **Trostle, R. (2008): Global Agricultural Supply and Demand: Factors Contributing to the Recent Increase in Food Commodity Prices. USDA Economic Research Service:** “It is unclear to what extent the effect these new investor interests had on prices and the underlying supply and demand relationships for agricultural products. However, computerized trend-following trading practices employed by many of these funds may have increased the short-term volatility of agricultural prices.”
- 70) **Tudor Jones, P. (2010): Price Limits: A Return to Patience and Rationality in U.S. Markets. Speech to the CME Global Financial Leadership Conference, October 18, 2010:** “Every exchange traded instrument including all securities, futures, options and any other form of derivatives should have some form of a price limit. And this is all the more urgently needed now that electronic execution dominates trading.”
- 71) **Turbeville, W. C. (Former Vice-President of Goldman Sachs) Critique of Irwin and Sanders 2010 OECD report (August 2010):** “The issue is so important that scepticism of conventional beliefs, not faith in the perfection of free markets, is appropriate for any study of the issue.”
- 72) **United Nations Conference on Trade and Development (UNCTAD) (2009): Trade and Development Report, Chapter II – The Financialization of Commodity Markets:** “The financialization of commodity futures trading has made commodity markets even more prone to behavioural overshooting. There are an increasing number of market

participants, sometimes with very large positions, that do not trade based on fundamental supply and demand relationships in commodity markets, but, who nonetheless, influence commodity price developments.”

- 73) United Nations Conference on Trade and Development (UNCTAD) (2009): The global economic crisis: Systemic failures and multilateral remedies:** “The evidence to support the view that the recent wide fluctuations of commodity prices have been driven by the financialization of commodity markets far beyond the equilibrium prices is credible. Various studies find that financial investors have accelerated and amplified price movements at least for some commodities and some periods of time. (...) The strongest evidence is found in the high correlation between commodity prices and the prices on other markets that are clearly dominated by speculative activity.”
- 74) United Nations Commission of Experts on Reforms of the International and Monetary System (2009): Report:** “In the period before the outbreak of the crisis, inflation spread from financial asset prices to petroleum, food, and other commodities, partly as a result of their becoming financial asset classes subject to financial investment and speculation.”
- 75) United Nations Food and Agricultural Organisation (FAO) (2010): Final report of the committee on commodity problems: Extraordinary joint intersessional meeting of the intergovernmental group (IGG) on grains and the intergovernmental group on rice:** “Unexpected crop failure in some major exporting countries followed by national responses and speculative behaviour rather than global market fundamentals, have been amongst the main factors behind the recent escalation of world prices and the prevailing high price volatility.”
- 76) United Nations High Level Task Force on the global food security crisis (2008):** “The impact of speculation in futures and commodity markets on food prices has also highlighted the importance of appropriate regulatory measures to ensure that on-going integration of financial markets provides the basis for increased benefits, rather than risks, for the poor.”
- 77) United States Senate, Permanent Subcommittee on Investigations (2006): The Role of Market Speculation in Rising Oil and Gas Prices:** “The large purchases of crude oil futures contracts by speculators have, in effect, created an additional demand for oil, driving up the price of oil to be delivered in the future in the same manner that additional demand for the immediate delivery of a physical barrel of oil drives up the price on the spot market.”
- 78) United States Senate, Permanent Subcommittee on Investigations (2007): Excessive Speculation in the Natural Gas Market:** “Amaranth’s 2006 positions in the natural gas market constituted excessive speculation. (...) Purchasers of natural gas during the summer of 2006 for delivery in the following winter months paid inflated prices due to Amaranth’s speculative trading.”
- 79) United States Senate, Permanent Subcommittee on Investigations (2009): Excessive Speculation in the Wheat Market:** “This Report concludes there is significant and persuasive evidence that one of the major reasons for the recent market problems is the unusually high level of speculation in the Chicago wheat futures market due to purchases of futures contracts by index traders offsetting sales of commodity index instruments.”
- 80) United Nations Conference On Trade & Development (2011): Price Formation in Financialized Commodity Markets – The Role of Information:** “A number of studies find evidence of commodity price bubbles. Analyses show that position-taking by index investors, that passively replicate the price movements of an index based on a basket of commodities, has an impact on price developments, particularly of crude oil and maize. The fact that these effects are persistent – especially in the case of crude oil – points to the presence of herd behaviour.”

**81) University of Massachusetts: Pollin, R. and Heintz, J. (2011): How Wall Street Speculation is Driving Up Gasoline Prices Today: “Consumers are now paying twice as much to fill their cars as they did 2.5 years ago.”**