

Evidence on the Negative Impact of Commodity Speculation by Scientists, Analysts and Public Institutions

19 September 2011

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- 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) Aliber, Robert 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."
- 3) Baffes, John (The World Bank) / Haniotis, Tassos (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."
- 4) Bass, Hans H. (Univ. Bremen) (2011): Finanzmärkte als Hungerverursacher? Studie für Welthungerhilfe e.V.: „Das Engagement der Kapitalanleger auf den Getreidemärkten führte nach unseren Berechnungen in den Jahren 2007 bis 2009 im Jahresdurchschnitt zu einem Spielraum für Preisniveauerhöhungen von bis zu 15 Prozent.“
- 5) Basu, Parantap / Gavin, William 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."
- 6) Berg, Ann (former CME trader and director, now FAO advisor) (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."
- 7) Berg, Ann (former CME trader and director, now FAO advisor) (2011): The rise of commodity speculation: from villainous to venerable: "Structural changes in global commodity markets have greatly contributed to rising prices and increased price variability. These fundamental trends toward higher prices have been a key lure for increased speculative activity on the major futures exchanges."
- 8) Branson, Richard (Virgin Group), Masters, Mike (Masters Capital) and Frenk, David (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."
- 9) Büyüksahin, Bahattin (IEA) / Robe, Michel A (American University) (2010): Speculators, Commodities and Cross-Market Linkages: "We then show that the correlations between the returns on investable commodity and equity indices increase amid greater participation by speculators generally and hedge funds especially."
- 10) Chevalier, Jean-Marie (ed.) (Ministère de l'Economie, de l'Industrie et de l'Emploi) (2010): Rapport du groupe de travail sur la volatilité des prix du pétrole: "On peut raisonnablement avancer en conclusion que le jeu de certains acteurs financiers a pu amplifier les mouvements à la hausse ou à la baisse des cours, augmentant la volatilité naturelle des prix du pétrole..."
- 11) Deutsche Bank Research (2009): Do speculators drive crude oil prices? Dispersion in beliefs as price determinants. Research Notes 32: "(...) a regulatory measure could be aimed at preventing the non-commercials in the futures market from displaying too wide a dispersion in beliefs, measured via the difference between long and short contracts. Constraining this difference by temporarily restrict trading or higher trading costs could possibly prevent a soaring crude oil price and elevated price volatility."
- 12) Dicker, Dan (former NYMEX trader) (2011): "I wrote Oil's Endless Bid to show how the treatment of oil as a stock by investors, far more than any number of globally significant competing factors, causes the dramatically higher prices that we've seen in recent years. I've witnessed seismic changes to the oil markets during my many years as a trader, and it's the everyday consumer who shoulders the burden."
- 13) Du, Xiaodong / Yu, Cindy L. / Hayes, Dermott 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."
- 14) 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."
- 15) Einloth, James T. (FDIC) (2009): Speculation and Recent Volatility in the Price of Oil: "The paper finds the evidence inconsistent with speculation having played a major role in the rise of price to \$100 per barrel in March 2008. However, the evidence suggests that speculation did play a role in its subsequent rise to \$140."
- 16) El-Badri, Abdalla (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."

- 17) Evans, Tim (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, David (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) Gheit, Fadel / Katzenberg, Daniel (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.”
- 20) Gilbert, Christopher (Trento University) (2010): How to understand high food prices: “By investing across the entire range of commodity futures, index-based investors appear to have inflated food commodity prices.”
- 21) Gilbert, Christopher (Trento University) (2010): Speculative Influences on Commodity Futures Prices: “The results ... indicate that index-based investment in commodity futures may have been responsible for a significant and bubble-like increase of energy and non-ferrous metals prices, although the estimated impact on agricultural prices is smaller.”
- 22) Ghosh, Jayati (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) Goldman Sachs (2011): Global Energy Weekly March 2011: “We estimate that each million barrels of net speculative length tends to add 8-10 cents to the price of a barrel of oil.”
- 24) Greenberger, Michael (University of Maryland) (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.”
- 25) Hamilton, James (Department of Economics, UC San Diego) (2009) Causes and Consequences of the Oil Shock of 2007-08: „With hindsight, it is hard to deny that the price rose too high in July 2008, and that this miscalculation was influenced in part by the flow of investment dollars into commodity futures contracts.”
- 26) Hernandez, Manuel / Torero, Maximo (IFPRI) (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.”
- 27) House of Commons Select Committee on Science & Technology of the United Kingdom (2011): “While the debate on the relative importance of the multiple factors influencing commodities prices is still open, it is clear that price movements across different commodity markets have become more closely related and that commodities markets have become more closely linked to financial markets.”
- 28) Hunt, Simon (Simon Hunt Strategic Services) (2011): “Slowly, the truth on whether the global copper market is really tight is coming out. It illustrates just how large an involvement the financial institutions have become to the copper industry. It shows, too, that by throwing money at a market, prices can be driven higher. In the process, however, the delicate balance between supply and the industry’s requirements for a basic material used to produce a range of essential products is destroyed. In short, copper is becoming a financial asset in place of its historic role as an industrial metal.”
- 29) Inamura, Yasunari / Kimata, Tomonori / Takeshi, Kimura / Muto, Takashi (Bank of Japan) (2011): Recent Surge in Global Commodity Prices – Impact of financialization of commodities and globally accommodative monetary conditions. Bank of Japan Review March 2011: „While the strong increase in commodity prices has been driven by global economic growth propelled by emerging economies, speculative investment flows into commodity markets have amplified the intensity of the price surge. (...) global commodity markets have become more sensitive to portfolio rebalancing by financial investors, which has made commodity markets more correlated with other asset markets, including major equity markets.“
- 30) 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.”
- 31) 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).”
- 32) Jalali-Naini, Ali bin Ibrahim (Economic Research Forum Cairo) (2009): 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.”

- 33) Jickling, Mark / Austin, Andrew D. (Congressional Research Service) (2011): Hedge Funds Speculation and Oil Prices: "A statistically significant correlation is evident between changes in positions held by "money managers" (a category of speculators that includes hedge funds) and the price of oil. In other words, during weeks when money managers have been net buyers of oil futures and options (or increased the size of their long positions), the price has tended to rise. Price falls, conversely, have tended to coincide with reductions in money managers' long positions."
- 34) Jouyet, Jean-Pierre (President de l'Autorité des marchés financiers) / de Boissieu, Christian (President du Conseil d'analyse économique) / Guillon, Serge (Contrôleleur general économique 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."
- 35) Kaufmann, Robert (Boston University)(2010): The role of market fundamentals and speculation in recent price changes for crude oil: "I hypothesize that the price spike and collapse of 2007–2008 are driven by both changes in both market fundamentals and speculative pressures."
- 36) Kemp, John (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."
- 37) Khan, Mohsin 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."
- 38) Korzenik, Jeffrey (CIO, Caturano Wealth Management) (2009): Fundamental Misconceptions in the Speculation Debate: "'Overspeculation' or 'excessive speculation' exists when speculators become primary drivers of price. When this happens, commodities are no longer efficiently allocated – if prices are driven below the point where commercial supply and demand meet, shortages result."
- 39) Krugman, Paul (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."
- 40) Lines, Thomas (commodity consultant) (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."
- 41) Lombardi, Marco J. / Ine Van Robays (ECB) (2011): Do financial investors destabilize the oil price?: "We find that financial investors in the futures market can destabilize oil spot prices, although only in the short run. Moreover, financial activity appears to have exacerbated the volatility in the oil market over the past decade, particularly in 2007–2008. However, shocks to oil demand and supply remain the main drivers of oil price swings."
- 42) Luciani, Giacomo (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."
- 43) Masters, Michael 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."
- 44) Masters, Michael W. (Masters Capital) / White, Adam K. (White Knight Research) (2008): 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."
- 45) Mayer, Jörg (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."
- 46) Medlock, Kenneth B. / Jaffe, Amy M. (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."
- 47) Miller, Marcus (University of Warwick) (2011) Interview with Al-Jazeera: "A disturbing amount of price increases, I fear, is being driven by speculative activity. Bets [on future price rises or declines] can become self-fulfilling if you are big enough to affect the market."
- 48) 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."

- 49) Mou, Yiqun (Columbia University) (2010): Limits to Arbitrage and Commodity Index Investment: Frontrunning the Goldman Roll: "This paper focuses on the unique rolling activity of commodity index investors in the commodity futures markets and shows that the price impact due to this rolling activity is both statistically and economically significant."
- 50) 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."
- 51) Nissanke, Machiko (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."
- 52) Ortiz, Isabel / Chai, Jingqing / Cummins, Matthew (2011): Escalating Food Prices – the threat to poor households and policies to safeguard a Recovery for All. Unicef Social and Economic working paper. "Such activities [trading futures contracts for speculative gains] have contributed to excessive fluctuations in food commodity futures prices and distorted signals for expected prices. By doing so, speculation impedes practical hedging strategies and imposes significant unanticipated costs and undue burden on food farmers, processors and distributors, potentially contributing to unwarranted changes in local food costs"
- 53) Petzel, Todd E. (Offit Capital Advisors)(2009): Testimony before the CFTC: "I believe these investors in aggregate have had a material impact on price levels, price spreads and the level of inventories being held."
- 54) Phillips, Peter C.B. (Yale University) / Yu, Jun (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."
- 55) Pollin, Robert / Heintz, James (University of Massachusetts) (2011): How Wall Street Speculation is Driving Up Gasoline Prices Today: "A major additional factor is the rapid growth in large-scale speculative trading around oil prices through the oil commodities futures market. Indeed, we estimate that, without the influence of large-scale speculative trading on oil in the commodities futures market, the average price of gasoline at the pump in May would have been \$3.13 rather than \$3.96."
- 56) Ray, Darryl E. / Schaffer, Harwood 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."
- 57) Robles, Miguel / Torero, Maximo / Braun, Joachim von (IFPRI) (2009): When speculation matters. IFPRI Issue Brief 57: "Changes in supply and demand fundamentals cannot fully explain the recent drastic increase in food prices. Rising expectations, speculation, hoarding, and hysteria also played a role in the increasing level and volatility of food prices."
- 58) Roubini, Nouriel (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."
- 59) Sachs, Jeffrey 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."
- 60) Schulmeister, Stephan (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."
- 61) Schutter, Olivier de (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.”

- 62) Shiller, Robert J. (Yale University) (2008): Commodity Prices Tumble (New York Times article): “Commodities followed the euphoria cycle that we had along with housing.”
- 63) Silvennoinen Annastiina (Queensland University) / Thorp, Susan (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.”
- 64) Singleton, Kenneth 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.”
- 65) Singleton, Kenneth J. (Stanford University) (2011): Investor Flows And The 2008 Boom/Bust in Oil Prices: “I present new evidence that there was an economically and statistically significant effect of investor flows on futures prices...The intermediate-term growth rates of index positions and managed-money spread positions had the largest impacts on futures prices.”
- 66) Soros, George (2008): Interview with Stern: “Speculators create the bubble that lies above everything. Their expectations, their gambling on futures help drive up prices, and their business distorts prices, which is especially true for commodities. It is like hoarding food in the midst of a famine, only to make profits on rising prices. That should not be possible.”
- 67) Tanaka, Nobuo (head 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, Ke (Princeton University) / Xiong, Wei (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, Ronald (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, Paul (Tudor Investment Corporation) (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, Wallace C. (former Goldman Sachs vice-president) 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 Conference on Trade and Development (UNCTAD) (2011): Price Formation in Financialized Commodity Markets: the Role of Information: “Due to the increased participation of financial players in those markets, the nature of information that drives commodity price formation has changed. Contrary to the assumptions of the efficient market hypothesis (EMH), the majority of market participants do not base their trading decisions purely on the fundamentals of supply and demand; they also consider aspects which are related to other markets or to portfolio diversification. This introduces spurious price signals to the market.”
- 75) 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.”
- 76) 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.”
- 77) United Nations Food and Agricultural Organisation (FAO)(2010). Price Volatility in Agricultural Markets. Economic and Social Perspectives Policy Brief 12, December 2010. “Financial firms are progressively

investing in commodity derivatives as a portfolio hedge since returns in the commodity sector seem uncorrelated with returns to other assets. While this 'financialisation of commodities' is generally not viewed as the source of price turbulence, evidence suggests that trading in futures markets may have amplified volatility in the short term.

- 78) United Nations Food and Agricultural Organisation (FAO), IFAD, IMF, OECD, UNCTAD, WFP, The World Bank, The WTO, IFPRI, UN HLTF (2011): Price Volatility in Food and Agricultural Markets: Policy Responses:** "While analysts argue about whether financial speculation has been a major factor, most agree that increased participation by non-commercial actors such as index funds, swap dealers and money managers in financial markets probably acted to amplify short term price swings and could have contributed to the formation of price bubbles in some situations."
- 79) 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."
- 80) 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."
- 81) 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."
- 82) 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."
- 83) Van der Molen, Door 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.“
- 84) Vansteenkiste, Isabel (ECB) (2011): What is driving oil price futures? Fundamentals versus Speculation:** "We find that for the earlier part of our sample (up to 2004) that fundamentals have been the key driving force behind oil price movements. Thereafter, trend chasing patterns appear to be better in capturing the developments in oil futures markets."
- 85) Von Braun, Joachim (Bonn University) (2010). Time to regulate volatile food markets (Financial Times article):**
- "The setting of prices at the main international commodity exchanges was significantly influenced by speculation that boosted prices. Not only are food and energy markets linked, but also food and financial markets have become intertwined – in short, the "financialisation" of food trade. There are increasing indications that some financial capital is shifting from speculation on housing and complex derivatives to commodities, including food."
- 86) Woolley, Paul (former fund manager, York University / London School of Economics) (2010): Why are financial markets so inefficient and exploitative – and a suggested remedy:** "Before the middle of the last decade the prices of individual commodities could be explained by the supply and demand from producers and consumers. With the flood of passive and active investment funds going into commodities from 2005 onwards, prices have been increasingly driven by fund inflows rather than fundamental factors. Prices no longer provide a reliable signal to producers or consumers. More damagingly, commodity prices have a direct impact on consumer price indices and the role of central banks in controlling inflation is made doubly difficult now that commodity prices are subject to volatile fund flows from investors."
- 87) Wray, Randall 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."