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

10 April 2014

Note: This list is constantly being updated and revised. It only collects evidence that supports a critical view of commodity speculation in general or certain elements of it.

Compiled by Markus Henn, WEED, markus.henn@weed-online.org, www.weed-online.org

A) Academic peer reviewed journal articles

1) Baffes, John (The World Bank) (2011): The long-term implications of the 2007–08 commodity-price boom. Development in Practice 21(4-5), 517-525: “Demand by emerging economies is unlikely to put additional pressure on the prices of food commodities, although it may create such pressure indirectly through energy prices. The effect of biofuels on food prices has not been as great as originally thought, but the use of commodities by investment funds may have been partly responsible for the 2007–08 spike.”

2) Belke, Ansgar (IZA/University Duisburg-Essen) / Bordon, Ingo G. (University Duisburg-Essen) / Volz, Ulrich (German Development Institute) (2013): Effects of Global Liquidity on Commodity and Food Prices. World Development 44, 31–43: “Over the period that we observed, 1980–2011, food and commodity price inflation were apparently driven by monetary expansion in the world’s major economies. By examining the pertinence of monetary liquidity, our results add to the discussion on a financialization of commodities, that stresses the aspect of financial liquidity, where food and commodity prices are driven to a large extent by flows of portfolio investment seeking return in commodity markets and not merely by demand from the real economy. Policymakers should care about the negative side-effects of loose monetary policy and consider stricter regulation of food and commodity markets — such as imposition of tighter limits on speculative positions in food commodities – to prevent a further flow of liquidity into these markets.”

3) Chevallier, Julien (University of Paris) (2012): Price relationships in crude oil futures: new evidence from CFTC disaggregated data. Environmental Economics and Policy Studies 15(2), 133-176: “We are able to highlight the influence of the CFTC “Money Managers” net position category (as a proxy of speculative trading) on the oil price at reasonable statistical confidence levels. (….) The policies being considered by the CFTC to put aggregate position limits on futures contracts and to increase the transparency of futures markets are moves in the right direction.”

4) Cifarelli, Giulio (University of Florence) / Paladino, Giovanna (LUISS University / BIS) (2010): Oil price dynamics and speculation: A multivariate financial approach. Energy Economics 32(2), 363–372: “Despite the difficulties, we identify a significant role played by speculation in the oil market, which is consistent with the observed large daily upward and downward shifts in prices — a clear evidence that it is not a fundamental-driven market.”

5) Creti, Anna / Joëls, Marc / Mignon, Valérie (CEPII, Paris) (2013): On the links between stock and commodity markets’ volatility. Energy Economics 37, 16–28: “We show that the correlations between commodity and stock markets evolve through time and are highly volatile, particularly since the 2007–2008 financial crisis. The latter has played a key role, emphasizing the links between commodity and stock markets, and underlining the financialization of commodity markets. At the idiosyncratic level, a speculation phenomenon is highlighted for oil, coffee and cocoa, while the safe-haven role of gold is evidenced.”

6) Czudaj, Robert / Beckmann, Joscha (Duisburg University) (2012): Spot and futures commodity markets and the unbiasedness hypothesis - evidence from a novel panel unit root test. Economics Bulletin 32(2), 1695-1707: “Our findings show that most spot and futures markets for commodities were efficient until the turn of the millennium, but appear to be inefficient thereafter owing to an increase in volatility, which might be attributed to the intense engagement of speculation in commodity markets.”


8) Fan, Ying (Chinese Academy of Sciences) / Xu, Jin-Hua (Heifei University) (2011): What has driven oil prices since 2000? A structural change perspective. Energy Economics 33(6), 1082–1094: “Through establishing a comparative model, we quantitatively measure the effects of speculation and episodic events such as wars on oil price changes. We find that the explanatory power of the models is obviously improved after allowing for the two factors. In particular, during the “Relatively calm market” period (January, 2000 to March, 2004) and “Bubble accumulation” period (March, 2004, to June, 2008), when the speculation variables are considered, not only they are significant, but also the explanatory ability greatly rises and various diagnostic tests are improved, indicating that speculation is a highly influential factor on oil price changes in these periods.”

9) Gilbert, Christopher (Trento University) (2010): How to understand high food prices. Journal of Agricultural Economics 61(2), 398–425: “By investing across the entire range of commodity futures, index-based investors appear to have inflated food commodity prices.”

10) Guillen, Benoît / Ohana, Jean-Jacques (Riskelia) / Ohana, Steve (ESCP Europe) (2014): The Interaction of Hedge Funds and Index Investors in Agricultural Derivatives Markets. Agricultural Economics 45, 1–26: “Overall, our results demonstrate an impact of index investors on some agricultural prices and suggest that the synchronicity between speculative and index positions is an important determinant of this impact.”

11) Gutierrez, Luciano (University of Sassari) (2012): Speculative bubbles in agricultural commodity markets. European Review of Agricultural Economics 40(2), 1-22: “We investigate whether commodity prices during the spike of 2007–2008 might have deviated from their intrinsic values based on market fundamentals. To do this, we use a bootstrap methodology to compute the finite sample distributions of recently proposed tests. Monte-Carlo simulations show that the bootstrap methodology works well, and allows us to identify explosive processes and collapsing bubbles for wheat, corn and rough rice. There was less evidence of exuberance in soybean prices.”

12) Hache, Emmanuel / Lantz, Frédéric (IFP Énergies Nouvelles, Paris) (2012): Speculative Trading & Oil Price Dynamics: A study of the WTI market. Energy Economics 36, 334–340: “We conclude that the hypothesis of an influence of noncommercial players on the probability for being in the crisis state cannot be rejected. In addition, we show that the rise in liquidity of the first financial contracts, as measured by the volume of open interest, is a key element to understand the dynamics in market prices.”

13) Kaufmann, Robert K. / Ullman, Ben (Boston University) (2009): Oil prices, speculation and fundamentals: Interpreting causal relations among spot and futures prices. Energy Economics 31(4), 550–558: “Together, these results suggest that market fundamentals initiated a long-term increase in oil prices that was exacerbated by speculators, who recognized an increase in the probability that oil prices would rise over time.”
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Evidence that commodity prices have become increasingly correlated with oil prices. This trend is significantly more pronounced for commodities in two popular indices: the S&P GSCI and the DJ-UBSSCI. Our findings reflect a fundamental process of financialization among commodity markets, through which commodity prices have become more correlated with each other. As a result of the financialization process, the price of an individual commodity is no longer determined solely by its supply and demand. Instead, prices are also determined by the aggregate risk appetite for financial assets and the investment behavior of diversified commodity index investors.

22) Tokis_Danir (ESC Rennes) (2011): Rational destabilizing speculation, positive feedback trading, and the oil bubble of 2008. Energy Economics 39(4), 2051–2061; “institutional investors that invest in crude oil to diversify their portfolios and/or hedge inflation can destabilize the interaction among commercial participants and liquidity-providing speculators.”

23) Tse, Yi-man / Williams, Michael (University of Texas at San Antonio) (2013): Does Index Speculation Impact Commodity Prices? The Financial Review 48(3), 365–383; “We conclude that speculative pressures exerted by commodity index futures can impact nonindex commodities, mainly through the activity of uninformed, positive feedback traders.”

B) Research papers published by universities and public institutions

1) Adämmer, Philipp / Bohl, Martin T. / Stephan, Patrick M. (University of Münster) (2011): Speculative Bubbles in Agricultural Prices: „The empirical evidence is favorable for speculative bubbles in the corn and wheat price over the last decade.”

2) Algieri, Bernardino (Bonn University) (2012): Price Volatility, Speculation and Excessive Speculation in Commodity Markets: Sheep or Shepherd Behaviour? “This study shows that excessive speculation drives price volatility, and that often bilateral relationships exist between price volatility and speculation. (…) excessive speculation has driven price volatility for maize, rice, soybeans, and wheat in particular time frames, but the relationships are not always overlapping for all the considered commodities.”

3) Algieri, Bernardino (Bonn University) (2013): A Roller Coaster Ride: an empirical investigation of the main drivers of wheat price: “The variables with the largest effects on price movements over the period 1995-2012 are the global demand, speculation, and the real effective exchange rate. This testifies that the financial 25 and wheat markets have become more and more interwoven, and “speculation” based on investing in futures contract is on commodity markets, to profit from price fluctuations, is an important determinant of price dynamics.”

4) Anderson, David et al., (Texas University) (2009): The effects of ethanol on Texas food and fuel: “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.”

5) Bialesch, John (The World Bank) / Haniotis, Tassos (European Commission) (2010): Placing the 2006-08 Commodity Boom in 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.”

6) Baldi, Lucia / Peri, Massimo, Vandone, Daniela (Università degli Studi di Milano) (2011): Price discovery in agricultural commodities: the shifting relationship between spot and futures prices: “Last but not least, financial speculation, which caused considerable price volatility and prevented the planning of supply in many countries, contributed to creating a situation of market instability.”

Evidence that financial investment on international commodity exchanges, together with market liberalization, have given rise to opportunities and challenges for actors in the coffee industry. Given the heterogeneity of market actors, these tend to exacerbate inequalities already present in the structure of production and marketing of coffee.”

16) Newman, Susan A. (University of the Witwatersrand) (2009): Financialization and Changes in the Social Relations along Commodity Chains: The Case of Coffee. Review of Radical Political Economics 41(4), 539-558; “It is argued that increased financial investment on international commodity exchanges, together with market liberalization, have given rise to opportunities and challenges for actors in the coffee industry. Given the heterogeneity of market actors, these tend to exacerbate inequalities already present in the structure of production and marketing of coffee.”

17) Nissanke, Machiko (University of London) (2012): Commodity Market Linkages in the Global Financial Crisis: Excess Volatility and Development Impacts. Journal of Development Studies 48(6), 732-750; “This article (…) suggests that a significant portion of the closely synchronised price dynamics in commodity and financial markets is explained by market liquidity cycles in global finance, as financial investors manage their portfolio at ease through ‘virtual’ stock holdings of commodities in derivatives dealings and markets.”

18) Morana, Claudio (University of Milano, Bicocca) (2012): Oil price dynamics, macro-finance interactions and the role of financial speculation. Journal of Banking & Finance 37(1), 206–226; “While we then find support to the demand side view of real oil price determination, we however also find a much larger role for financial shocks than previously noted in the literature.”

19) Sigg-Grüb, Christoph / Schiereck, Dirk (Technical University Darmstadt) (2010): Speculation and nonlinear price dynamics in commodity futures markets. Investment Management and Financial Innovations 7(1), 59-73; “In this article we present theoretical considerations and empirical evidence that the short-run autoregressive behavior of commodity markets is not only driven by market fundamentals but also by the trading of speculators.”

20) Silvestrini, Annastina (Queensland University) / Thorp, Susan (Sydney University) (2013): Financialization, crisis, and commodity correlation dynamics. Journal of International Financial Markets, Institutions and Money 24, 42–65; “Stronger investor activity in commodities may be a result of closer integration with conventional asset markets. We estimate sudden and gradual changes in correlation between stocks, bonds and commodity futures returns driven by observable financial variables and time (…). Most correlations begin the 1990s near zero but closer integration emerges around the early 2000s and reaches peaks during the recent crisis. (…) Increases in VIX and financial market stress short open interest reduces liquidity for many commodities. Higher VIX also increases commodity returns correlation with equity returns for about half the pairs, indicating closer integration.”

21) Tang, Ke (Princeton University) / Xiong, Wei (Renmin University) (2012): Index Investment and the Financialization of Commodities. Financial Analyst Journal 68(6), 54-74; “Concurrent with the rapid growth of index investment in commodity markets, prices of non-energy commodities have become increasingly correlated with oil prices. This trend is significantly more pronounced for commodities in two popular indices: the S&P GSCI and the DJ-UBSSCI. Our findings reflect a fundamental process of financialization among commodity markets, through which commodity prices have become more correlated with each other. As a result of the financialization process, the price of an individual commodity is no longer determined solely by its supply and demand. Instead, prices are also determined by the aggregate risk appetite for financial assets and the investment behavior of diversified commodity index investors.”

22) Tokis_Danir (ESC Rennes) (2011): Rational destabilizing speculation, positive feedback trading, and the oil bubble of 2008. Energy Economics 39(4), 2051–2061; “institutional investors that invest in crude oil to diversify their portfolios and/or hedge inflation can destabilize the interaction among commercial participants and liquidity-providing speculators.”
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8) **Basak, Suleyman / Pavlova, Anna (London Business School / Centre for Economic Policy Research) (2013): A Model of Financialization of Commodities:** We find that in the presence of institutions the prices of all commodity futures go up. The price rise is higher for futures belonging to the index than for nonindex ones. If a commodity futures is included in the index, supply and demand shocks specific to that commodity spill over to all other commodity futures markets. In contrast, supply and demand shocks to a nonindex commodity affect just that commodity market alone. In the presence of institutions the volatilities of both index and nonindex futures go up, but those of index futures increase by more. Furthermore, financialization leads to an increase in the correlations amongst commodity futures as well as in equity-commodity correlations. Increases in the correlations between index commodities exceed those for nonindex ones. We model explicitly demand shocks which allow us to disentangle the effects of financialization from the effects of rising demand for commodities, and find that in the presence of institutions demand shocks the impact of institutions on futures prices becomes considerably stronger.


10) **Bajic, Paramap / 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.”

11) **Bicchetti, David / Maystre, Nicolas (UNCTAD) (2012):** The synchronized and long-lasting structural change on commodity markets: evidence from high frequency data. “We document a synchronized structural break, characterized by a departure from zero, which starts in the course of 2008 and continues thereafter. This is consistent with the idea that recent financial innovations on commodity futures exchanges, in particular the high frequency trading activities and algorithm strategies have an impact on these correlations.”

12) **Boos, Jaap W. B. (Universität Maastricht, School of Business and Economics) / van der Moolen, Maarten (Rabobank) (2012): A Bitter Brew? Futures Speculation and Commodity Prices: “speculation is an important part of the coffee price generation process.”

13) **Borin, Alessandro / Di Nino, Virginia (Bank of Italy) (2012): The role of financial investments in agricultural, commodity derivatives markets:** “this result gives some support to the idea that swap dealers, whose growing weight in the regulated exchanges tends to reflect the large exposures of “commodity index investors” in the OTC markets, may have a destabilizing effect on futures prices. On the contrary, the activity of more traditional speculators seems to favour price stability, probably enhancing market liquidity.”

14) **Bunn, Derek / Chevallier, Julien / Le Pen, Yannick, Savi Benoit (Université Montpellier) (2013): Fundamental and Financial Influences on the Co-movement of Oil and Gas Prices:** “we find significant evidence that speculation, with its focus on index trading, increases the correlation between oil and gas, whilst hedging, which is based more on individual forward contracts, actually decreases this correlation. Both of these are plausible effects and consistent with the “financialization” observations.”

15) **Büyüksahin, Bahattin (International Energy Agency) / 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 speculative hedge funds and hedge funds generally.”

16) **Cheng, Lap-Haw (University of Michigan) / Krienken, Andrei (CFTC) / Xiong, Wei (Princeton University) (2012): Convective Risk Flows in Commodity Futures Markets:** “We find that CITS and hedge fund positions reacted negatively to the VIX during the recent financial crisis... Consistent with theories suggesting this is related to the distress of financial institutions, we find that CITS with high CDS spreads are more sensitive to movements in the VIX. Contrary to the hedging pressure hypothesis, we do not find that hedgers increased their hedges as the VIX rose. Finally, the findings show that the reactions of all trader groups were persistent over time. This evidence suggests that during times of distress, there was a flow of risk away from financial institutions back towards commercial hedgers.”

17) **Coleman, Les / Dak, Jonathan (University of Melbourne) (2012): Economic Significance of Non-Hedger Investment in Commodity Markets:** “We find a close relationship in larger markets between scaled open interest and real spot price, where it is usually the price that adjusts to deviations from long run equilibrium.”

18) **Cooke, Bryce / Robles, Miguel (IFPRI) (2009): Recent Food Prices Movements. A Time Series Analysis:** “Overall, our empirical analysis mainly provides evidence that financial activity in futures markets and proxies for speculation can help explain the observed changes in food prices; any other explanation is not well supported by our time series analysis.”

19) **Dicembrino, Claudio / Scandizzo, Pasquale L. (University of Rome) (2012): The Fundamental and Speculative Components of the Oil Spot Price:** “Our results show that speculative components, measured according to mathematical option theory, may be at the origin of significant and sizable effects on oil prices, specially for what concerns the episodes of extreme variations. The speculation issue, however, suggests that further investigation may be conducted in order to identify the factors affecting the speculation itself.”

20) **Dorfman, Jeffrey H. / Karali, Béna (University of Georgia) (2012): Have Commodity Index Funds Increased Price Linkages between Commodities?** “In combination with our results on correlation coefficients and non-stationarity, these empirical results are indicative, but not fully convincing, of the growth of commodity index funds impacting commodity futures market linkages over the last eight years.”

21) **Doroudian, Ali / Vereecken, James (University of British Columbia) (2012): First and Second Order Impacts of Speculation and Commodity Price Volatility:** “Both of these results are consistent with the theoretical arguments that speculation which involves large-scale institutional investment can have first and second order impacts on commodity price volatility.”

22) **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.”

23) **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.”

24) **Filimonov, Vladimir (ETH Zurich) / Bicchetti, David (UNCTAD) / Maystre, Nicolas (UNCTAD) / Sorrenti, Didier (ETH Zurich) (2012): Quantification of the High Level of Endogeneity and of Structural Regime Shifts in Commodity Markets:** “We find an overall increase of the level of short-term endogeneity since the mid-2000s to October 2012, with a typical value nowadays around 0.6–0.7, implying that at least 60–70 per cent of commodity price changes are now due to self-generated activities rather than novel information.”

25) **Frankel, Jeffrey (Harvard Kennedy School) / Rose, Andrew K. (Haas School of Business, UC Berkeley) (2010): Determinants of Agricultural and Mineral Commodity Prices-
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during the financial crisis as well as by the "financialization of commodities," that is, financial investors are increasingly treating commodities as an invesment class.

41) 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." 

42) Lagi, Marco / Bar-Yam, Yavni / Bertrand, Karla Z. / Bar-Yam, Yaneer (New England Complex Systems Institute, Cambridge, MA) (2011): The Food Crises: A Quantitative Model of Food Prices Including Speculators and Ethanol Conversion: "The two sharp peaks in 2007/2008 and 2010/2011 are specifically due to investor speculation, while an underlying upward trend is due to increasing demand from ethanol conversion. The model includes investor trend following as well as shifting between commodities, equities and bonds to take advantage of increased expected returns. Claims that speculators cannot influence grain prices are shown to be invalid by direct analysis of price setting practices of granaries.

UPDATE (2012): "we extend the food prices model to January 2012, without modifying the model but simply continuing its dynamics. The agreement is still precise, validating both the descriptive and predictive abilities of the analysis."

43) Lammendinger, Marc / Stephan, Patrick / Trede, Mark / Witting, Bernd (University of Münster) (2011): "recent oil price dynamics: Evidence from a Bayesian Markov-switching state-space approach; "we find robust evidence for the existence of speculative bubbles in recent oil price dynamics."

44) Le Pen, Yannick (Université Paris-Dauphine) / Sévi, Benoît (Aix-Marseille University) (2012): Futures Trading and the Excess Comovement of Commodity Prices: "Our estimates provide evidence of a time-varying excess comovement which is only occasionally significant, even after controlling for heteroscedasticity. Our evidence is mostly significant in recent years when a large increase in the trading of commodities is observed. However, we show that this increase in trading activity alone has no explanatory power for the excess comovement. Conversely, measures of hedging and speculative pressure explain around 60% of the estimated excess comovement thereby showing the strong impact of the financialization on the price of commodities and the fact that demand and supply variables are not the sole factors in determining equilibrium prices."

45) Liu, Peng (Cornell University) / Zhigang, Qui / Tang, Ke (Renmin University of China) (2011): Financial-Demand Based Commodity Pricing: A Theoretical Model for Financialization of Commodities: "In this paper, we develop an equilibrium model that shows that investment demand influences commodity prices and volatility, and that changes in the underlying commodity investment can lead to substantial changes in the stock prices of commodity companies."

46) Lombardi, Marco J. / Van Robays, Ine (European Central Bank) (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 trend over the past decade, particularly in 2007-2008. However, shocks to oil demand and supply, remain the main drivers of oil price swings." 

47) 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."

48) Mayer, Jörg (UNCTAD) (2009): The Growing Interdependence between Financial and Commodity Markets: "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, 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 1966 and 2000."

50) Mou, Yiqun (Columbia University) (2010): Limits to Arbitrage and Commodity Index Investment: Frontrunning the Goldman Rol: "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."

51) Naylor, Rosamund L. / Falcon, Walter P. (Stanford University) (2010): Food Security in an Era of Economic Volatility: Uncertainty and macroeconomic changes in food and oil prices lead to a policy dilemma. "As macroeconomic changes in food and oil prices are correlated with food insecurity policies, this is a problem for policymakers."

52) Nissanka, Machiko (University of London) (2011): Commodity Markets and Excess Volatility, Sources and Strategies to Reduce Them: "Thus, commodity prices, as prices of any assets traded globally, can be 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."

53) Peri, Massimo / Vandone, Daniela / Baldi, Luca (Università degli studi di Milano) (2012): Internet, Noise Trading and Commodity Prices: "Moreover, results show that variations in information demand have a significant effect on corn futures volatility, and this effect is robust even when controlling for variations in the supply of information. This result is relevant since it can be interpreted in light of behavioural finance, where studies consider information demand as an expression of noise trading: the search of information on commodity prices through internet by noise traders can amplify volatility especially in case of negative shock, when information decisions are more easily influenced by panic or irrational behavior." 

54) Phillips, Peter C. B. (Yale University) / Yu, Jun (Singapore University) (2010): Dating the Timeline of Financially Driven Commodity Bubbles During the Subprime Crisis: "The bubble was identified in the equity market during mid-1995 lasting to the end of 2005, 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."

[46x29]Evidence

56) Ray, Darryl E. / Schaffer, Hanwood 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 fund traders 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."

[60x740]59) Schulte, Stephan (Vienna University) (2009): Trading Practices and Price Dynamics in Commodity Markets: *"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."

[60x750]60) Schulte, Stephan (Vienna University) (2012): Technical Trading and Commodity Price Fluctuations: "If one aggregates over the transactions and open positions of the 1,092 technical models, it turns out that technical commodity futures trading exerts an excessive demand (supply) pressure on commodity markets."

61) Singleton, Kenneth J. (Stanford University) (2010): The 2006 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."

62) Singleton, Kenneth J. (Stanford University) (2011): Investor Flows And The 2006 Boom/Bust in Oil Prices: "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."

63) Sockin, Michael / Xiong, Wei (2013): Informational Frictions and Commodity Markets (Princeton University): "Our analysis highlights important feedback effects of informational noise originating from supply shocks and futures market trading on commodity demand and spot prices, which are ignored by existing empirical studies and policy discussions."

64) Timmer, C. Peter (Center for Global Development, Washington) (2009): Peter Timmer; Peter Timmer: Did Speculators Create High Oil Prices?: "Speculative money seems to surge in and out of commodity markets, strongly linking financial variables with commodity prices during some time periods. But these periods are often short and the relationships disappear entirely for long periods of time."

65) Tie, Yiyuan (University of Texas at San Antonio) (2012): The Relationship Among Agricultural Futures, ETFs, and the US Stock Market: *"I find that Granger-causality in returns primarily runs from individual futures to the agriculture ETFs. However, DBA and RJA returns are also significantly caused by S&P500 index returns, showing that stock market sentiment influences pricing behavior. The results are also consistent with the impact of financialization of commodities on agriculture prices."

66) Van der Molen, Maarten (University of Utrecht) (2009): Speculators Invading the Commodity Markets: a Case Study of Coffee: "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."

67) Vansteenkiste, Isabel (European Central Bank) (2011): What is Driving Oil Price Fluctuations? Fundamentals vs. 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 changing patterns appear to be better in capturing the developments in oil futures markets."

68) Varadi, Vijay Kumar (ICRIER) (2012): An Evidence of Speculation in Indian Commodity Markets: "results exhibit that speculation has played decisive role in the commodity price bubble during the global crisis in India."

69) Von Braun, Joachim (Ruhr-University, Tadessse, Getaw (IFPRI) (2012): Global Food Price Volatility and Spikes: An Overview of Costs, Causes and Solutions: "the general conclusion on price spikes is that they were driven by excessive volumes of futures trading more than by demand side (oil price) and supply side shocks."

70) Windawi, A. Jason (Columbia University) (2012): Speculation, Embedding, and Food Prices. A Counterfactual Analysis: "The Wheat Granger test results show a clustering of speculative financial influences on wheat prices in the period from early 2006 through June of 2010, with a particularly strong increase in the four subperiods beginning with the first drop in prices. (...) Like the wheat tests, the Granger results for Corn were clustered around the first wave of the food crisis..."

71) Wray, Randall L. (University of Missouri-Kansas City) (2008): The Commodities Market Bubble – Money Manager Capitalism and the Financialization of Commodities: "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."

C) Research papers and testimonies by analysts and traders

1) Berg, Ann (former CBOT 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."


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3) Cooper, Marc (Consumer Federation of America) (2011): Excessive Speculation and Oil Price Shock Recursions: A Case of Wall Street “Déjà vu all over again”;

4) Deutsche Bank Research (2009): Do speculators drive crude oil prices? Dispersion in beliefs as price determinants;

5) 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.”

6) 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.”

7) Evans, Tim (Citigroup energy analyst) (2008): The Official Birth of the Oil Bubble (Wall Street Journal article): “This is a market that is basically reflating 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.”

8) Frenk, David (Better Markets) (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.”

9) Frenk, David / Turbeville, Wallace C. (Better Markets) (2011): Commodity Index Traders and the Boom/Bust Cycle in Commodities Prices: “We find strong evidence that the CIT Roll Cycle systematically distorts forward commodities futures price curves towards a contango state, which is likely to contribute to speculative “boom/bust” cycles by changing the incentives of producers and consumers of storable commodities, and also by sending misleading and non-fundamental, price signals to the market.”

10) Gheith, 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.”

11) 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.”

12) 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.”

13) Korzunik, Jeffrey (CIO, Cатурano Wealth Management) (2009): Speculation is the foundation of the debate; “Over speculation 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.”

14) Lake Hill Capital Management (2013): Investable indices are distorting commodities and futures; “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.”

15) Lines, Thomas (commodity consultant) (2010): Speculation in food commodity markets: “It is important to recognize that institutional and retail indexing demand can create price distortions that cloud the fundamental picture. Increased indexing leads to steeper futures term structures, and this results in more costly exposure.”

16) Masters, Michael W. (Masters Capital) / White, Adam K. (White Knight Research) (2008): The Accidental Hunt Brothers: “Index Speculators have bought more commodities futures contracts in the last five years than any other group of market participant. They are now the single most dominant force in the commodities futures markets. And most importantly, their buying and trading has nothing to do with the supply and demand fundamentals of any single commodity. They pour money into commodities futures to diversify their portfolios, hedge against inflation or bet against the dollar.”

17) 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.”

18) 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 swapped real market forces.”

19) Patetz, 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.”

20) 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.”

21) Tudor Jones, Paul (Tudor Investment Corporation) (2010): Price Limits: A Return to Patience and Rationality in U.S. Markets; Speech to the CFTC Global Financial Leadership: “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.”

22) Urbanchuk, John M. (Cardino ENTRIX) (2011): Speculation and the Commodity Markets: “A careful examination of activity by non-commercial and index traders (i.e. speculators) in the corn futures market in the context of supply and demand fundamentals strongly suggests that speculation is a major factor behind the sharp increase in both the level and volatility of corn prices this year.”

23) Woolley, Paul (former fund manager, York University / London School of Economics) (2010): Why are financial markets so inefficient and exploitative – and a suggested remedy: “With the flood of passive and active investment funds going into commodities from 2005 onwards, prices have been increasingly
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-driven by fund inflows rather than fundamental factors. Prices no longer provide a reliable signal to producers or consumers.”

D) Reports by public institutions


2) 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.”


4) 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 … 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.”

5) 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.”

6) United Nations Conference on Trade and Development (UNCTAD) (2009): Trade and Development Report: “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.”

7) 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.”

8) 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.”

9) 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.”

10) 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.”

11) United Nations Food and Agricultural Organisation, (FAO) (2010). Price Volatility in Agricultural Markets. Economic and Social Perspectives Policy Brief 12: “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.”

12) United Nations Food and Agricultural Organisation, (FAO), IFAD, IMF, OECD, UNCTAD, WFP, The World Bank, The WTO, IEPR, UN HLTG (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.”

13) 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.”

14) 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.”

15) United States Senate, Permanent Subcommittee on Investigations (2008): 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.”