

REGULATING EXCESSIVE SPECULATION: COMMODITY DERIVATIVES AND THE GLOBAL FOOD CRISIS

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Abstract Evidence suggests that commodity derivatives speculation contributed to extraordinary patterns of grain price volatility that led to a global food crisis in 2007–11. People in countries throughout the world are increasingly dependent on international commodity markets for access to food. Almost everywhere, now, the value of food is determined by a single condensed symbol of its worth—its price. Persuaded of the need to ensure that this measure of value is not put at risk of distortion in the pursuit of financial profit, governments in the US and in the EU are now implementing new regulations designed to curb ‘excessive’ levels of speculation in derivative markets. Carrying out an analysis of these regulatory measures, the article demonstrates that both sets of reforms suffer from a critical limitation: They are predicated on an inaccurate understanding of how activity in commodity derivative markets can impact on underlying food prices. If the new regulations for commodity derivative markets are not up to the task, as this article argues that they are not, a more fundamental revision of global economic structures may be required if the basic needs of human beings are not to be subsumed to the interests of financial capital in the years to come.

Keywords: commodity derivatives, Dodd Frank, EMIR-MiFID II, financial regulation, food insecurity.

I. INTRODUCTION

The proliferation of derivative instruments that have enabled financial institutions to disguise, re-package, and retail debt is now well recognized to have been a contributing factor in the causation of the global financial crisis. Less widely acknowledged, though no less important, is the role that derivatives played in the causation of the coincident global food crisis. Between 2007 and 2008 the prices of staple grains including maize, rice, and wheat underwent record levels of inflation, doubling, in some cases, in a matter of months.¹ So extreme was the price inflation that the price of rice on international markets increased by 31 per cent in a single day, in March 2008.²

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¹ D Mitchell, ‘A Note on Rising Food Prices’ (2008) World Bank Working Paper WPS 4682, 3.

² J Blas and D Ten Kate, ‘Jump in Rice Price Fuels Fears of Unrest’ *Financial Times* (28 March 2008).

The human cost of these market movements was very high. The UN Food and Agriculture Organization (FAO) estimates that an additional 100 million people were pushed into hunger and poverty as a result of grain price volatility in 2008 alone.³ Persuaded by evidence that speculative investment contributed to the price volatility, G20 governments have moved to introduce new regulations to curb levels of financial speculation in commodity derivative markets. The provisions form part of legislation enacted in the wake of the global financial crisis that aims to tackle systemic risk and to promote economic recovery. The likely efficacy of the US Dodd Frank Act, and the European equivalents—the European Market Infrastructure Regulation (EMIR) and second Markets in Financial Instruments Directive (MiFID II)—in meeting these financial goals has been subject to considerable scrutiny by legal academics. The equally salient question of whether the regulations will shield commodity prices from speculative interference, on the other hand, has been largely neglected to date. In light of the critical import of ensuring that international commodity prices are not distorted by the activities of financial investors, it is necessary to give this dimension of the regulatory reforms the attention that it deserves.

The new regulations for commodity derivative markets are not the only initiatives being advanced in the aftermath of the global food crisis. A UN High-Level Task Force on the Global Food Security Crisis (HLTF) was established in April 2008.⁴ In its Comprehensive Framework for Action, the HLTF makes a number of recommendations with a view to tackling food insecurity and ensuring that the events of 2007–11 are not repeated.⁵ The majority of these interventions seek to respond to the needs of populations in low-income countries of the Global South, where the price volatility in 2007–11 had the greatest impact. However, some recommendations are aimed at ensuring the better performance of international commodity markets. One initiative that is seen to be especially promising in this regard is the new Agricultural Market Information System (AMIS)—an inter-agency platform launched by the G20 Ministers of Agriculture in 2011 that seeks to enhance food market transparency.⁶ The principal idea is to improve the quality and timeliness of market data for key food crops by collecting and disseminating data on fundamentals for grains such as maize, rice, wheat, and soy.⁷ Improving the availability of reliable data for crops could help to ensure that international commodity prices are better tethered to the fundamentals of

³ FAO, '1.02 Billion People Hungry' (19 June 2009) <www.fao.org/news/story/en/item/20568/icode/>.

⁴ HLTF on the Global Food Security Crisis, 'Updated Comprehensive Framework for Action' (2010) <www.un-foodsecurity.org/node/842> xi.

⁵ These include the improvement of emergency food provision mechanisms for vulnerable groups, increased support for smallholder farming, the strengthening of social safety nets, and the scaling-up of investment in food and nutrition security. *ibid.* xiii.

⁶ 'About AMIS' <www.amis-outlook.org/amis-about/en/>.

⁷ *ibid.*

supply and demand for agricultural commodities. Indeed, as the analysis below will relate in more detail, the development of financialized commodity derivatives that encourage an array of market actors to take positions in commodity futures markets that are not based on research into agricultural fundamentals is deeply implicated in the price volatility of 2007–11. Nonetheless, the AMIS initiative does not directly address the threat posed to food prices by practices of derivatives speculation. Moreover, curbing speculative excesses in financial markets is widely considered to be a worthwhile regulatory objective in its own right. The common narrative that speculators have socialized risk while privatizing profit has been taken up by leading political figures, including former Brazilian President Luiz Inacio Lula da Silva, who has openly chastised ‘the irresponsibility of speculators who have transformed the world into a gigantic casino’.⁸

The critical importance of the new regulations for commodity derivative markets becomes clear when the broader post-crisis agenda for international commodity markets is considered. Commodity futures markets are being positioned by international institutions to play a leading role in the management of risks extending from international markets going forward. This is clear from a 2011 interagency report co-authored by the FAO, the International Fund for Agricultural Development, and the UN Conference for Trade and Development (UNCTAD), among others (hereafter 2011 Interagency Report).⁹ Other measures that have traditionally been used to guard against market volatility, such as buffer stocks, have been rejected in favour of futures markets as the primary means by which farmers, manufacturers and other commercial actors can insure themselves against price instability.¹⁰ This is in spite of the concerns raised as to how financialized futures—commodity derivatives—may, in fact, present a threat to agricultural production.¹¹ The safe and efficient functioning of international markets in the post-crisis era, therefore, depends on the successful implementation of the new regulations proposed to curb the excesses of these markets. What is more, from a food security perspective, the centrality of the new derivatives regulations to the post-crisis market vision is underscored by the fact that trade liberalization continues to be high on the international agenda, as is evidenced by the 2011 Interagency Report. Developing countries are encouraged to reduce import barriers, trade distorting domestic support, and remove all forms of export subsidies in

⁸ H Henderson, ‘G-20: Reform The Global Casino’ Inter Press Service (21 September 2009) <www.ipsnews.net/2009/09/g-20-reform-the-global-casino/>.

⁹ FAO, IFAD, WFP UNCTAD *et al.*, ‘Price Volatility in Food and Agricultural Markets: Policy Responses’ (2011) Interagency Policy Report 21–3.

¹⁰ Buffer stocks—physical grain reserves that are used to influence prices by release into the market—were historically a widely used mechanism to combat price volatility. However, the various international commodity agreements which provided for stockholding or supply controls to stabilize prices have either collapsed or been replaced by agreements whose main role is market information provision. *ibid.*

¹¹ *ibid.*

order to promote growth and facilitate trade.¹² These recommendations are a stark contrast to other proposals that stress the need to de-link vulnerable populations from volatile global markets. Critics of development policy,¹³ food regime theorists,¹⁴ advocates of ‘food sovereignty’,¹⁵ and critical scholars of international economic law¹⁶ have argued for some years that the liberalization of trade and of agriculture—coupled with the promotion of an industrialized, specialized, export-oriented model of agricultural production geared to exploiting comparative advantages—has actively contributed to food insecurity in many countries in the Global South, in particular, by conditioning dependence on international commodity markets for physical and economic access to food. Many of the countries worst affected by the global food crisis were those that were highly dependent on imports for their food supplies. Mozambique, for instance, imports 60 per cent of the wheat its people needs, and Egypt imports 50 per cent of its food supplies.¹⁷ Given that the international community continues to favour the liberalization of markets for trade, financial regulations preventing speculative trading from exacerbating price volatility on international markets are of fundamental importance for the future food security of populations around the world. Evaluating the likely efficacy of the US and EU regulations for commodity derivative markets in insulating international commodity prices from speculative interference is the main task of this article.

The first part of the article will offer an introduction to the phenomenon of commodity futures trading and will relate the controversial debate over the role that commodity derivatives speculation could have played in the causation of the global food crisis. Part II will carry out an analysis of those regulatory provisions in the new US and European frameworks that aim to tackle excessive levels of speculation—provisions that NGOs hope will protect commodity prices

¹² *ibid* 23. The HLTF also advocates that international trade continue to be focused on ‘the maximization of comparative cost advantages, and not be influenced by subsidies and distortions’. HLTF (n 4) 3.

¹³ G Rist, *The History of Development: From Western Origins to Global Faith* (Zed Books 2002); A Gunder Frank, *The Development of Underdevelopment* (New England Free Press 1966).

¹⁴ This analysis has been carried out by proponents of ‘food regime theory’—a body of scholarship carrying out historical materialist analysis of the development of the global food system. See H Friedmann, ‘Distance and Durability: Shaky Foundations of the World Food Economy’ (1992) 13 *TWQ* 2; P McMichael, ‘A Food Regime Genealogy’ (2009) 36 *Journal of Peasant Studies* 1.

¹⁵ R Patel, ‘Food Sovereignty’ (2009) 36 *Journal of Peasant Studies* 3; A Shattuck and E Holt-Giménez, ‘Moving from Food Crisis to Food Sovereignty’ (2010) 13 *YHRDLJ* 2.

¹⁶ Carmen Gonzales illuminates the role of the international trade regime in creating and exacerbating vulnerability and food insecurity in the South. C Gonzalez, ‘Trade Liberalization, Food Security and the Environment: The Neoliberal Threat to Sustainable Rural development’ (2004) 14 *Transnat’l&ContempProbs* 420. Anne Orford has also explored the role of free trade doctrines in exacerbating food insecurity in already poor parts of the world. See A Orford, ‘Food Security, Free Trade, and the Battle for the State’ (2015) 11 *JLIR* 1.

¹⁷ O De Schutter, ‘Observations on the Current Food Price Situation’ (2011) Background note of the Special Rapporteur on the right to food <www.srfood.org/images/stories/pdf/otherdocuments/20110124_background-note-food-price-situation_en.pdf> 1.

from future distortion. Part III moves on to advance a critical analysis of the likely efficacy of the regulations in meeting the goals of campaigners. Pointing to evidence from the contemporary trading of commodity derivatives, this section of the article argues that the new regulations suffer from a critical limitation. Both the US and EU reforms have been developed from an inaccurate understanding of the way that commodity derivative markets can contribute to price volatility in underlying markets. The conclusion drawn from a revised conception of this causal relationship is that the reforms are unlikely to offer much protection for commodity prices in the future. The article does not offer a concrete alternative proposal for how these issues should be addressed, though it does point to a number of measures that might be an improvement on the existing proposals. Instead, it calls for NGOs, governments, and regulators to move away from a fixation on implementing the existing reforms and asks them to engage in further interrogation of the complex operations of modern financial markets and their role in the broader economy. Ultimately, it is suggested that a more radical restructuring of global economic arrangements may be required if the operations of global financial markets are not to jeopardize the most basic needs of human beings in the years to come.

II. COMMODITY DERIVATIVES TRADING AND THE GLOBAL FOOD CRISIS

The global food crisis 2007–11 saw the prices of many commodities on international markets reach historic highs. Particularly impacted were staple grains. According to FAO estimates, by the end of 2008, the average world price for rice had risen by 217 per cent, wheat by 136 per cent, corn by 125 per cent and soybeans by 107 per cent.¹⁸ While the price volatility did have a global impact, the effects were particularly acute for poor communities in low-income countries in the Global South.¹⁹ The rising price of food was instrumental in triggering an unprecedented number of food riots between 2007 and the end of 2008 in more than 25 countries in Africa, Asia, the Middle East, the Americas and the Caribbean.²⁰ Food prices plummeted again in 2009; however, the rapid price deflation caused another kind of havoc for the millions of small farmers and labourers worldwide who depend on agricultural revenue for their livelihoods.²¹ This pattern of extreme price inflation and equally precipitous deflation was played out again on international markets less than a year later.²²

¹⁸ FAO, *The State of Food Insecurity in the World 2008: High Food Prices and Food Insecurity – Threats and Opportunities* (Rome, FAO, 2008).

¹⁹ M Ivancic and W Martin, 'Implications of Higher Global Food Prices for Poverty in Low-Income Countries' (2008) World Bank Policy Research Working Paper WPS 4594.

²⁰ R Bush, 'Food Riots: Poverty, Power and Protest' (2010) 10 *Journal of Agrarian Change* 21.

²¹ J von Braun, *Food and Financial Crises: Implications for Agriculture and the Poor* (International Food Policy Research Institute (IFPRI) 2008) 7.

²² Grain prices moved in a very similar trajectory between the second half of 2010 and late 2011 with the prices of wheat, corn and soybeans all reaching record heights by the summer of 2010. See

In the years following the first price spike, economists attempting to explain the volatility identified a number of causally significant factors. On the supply side, it was suggested that a combination of adverse weather conditions,²³ low stock levels,²⁴ and the ill-timed imposition of export-bans meant that markets were tight in the months leading up to the food crisis.²⁵ Others argued that the increased production of biofuels,²⁶ a growing appetite for meat in emerging economies,²⁷ and the depreciation of US dollar resulted in an increase in demand for the grains in question.²⁸ Significantly, however, while almost all of these factors are likely to have made some contribution to the price spikes, none of them—either alone or combined—can account for the full extent of the volatility. In April 2008, corn volatility was 30 per cent, and soybean volatility 40 per cent *beyond what could be accounted for* by relevant supply and demand fundamentals during this period.²⁹ A coalition of NGOs led by Global Justice Now (formerly World Development Movement), GRAIN, and SOMO has since produced a compelling body of evidence that suggests a significant measure of the food price volatility in 2007–11 is attributable to speculative trading in commodity derivative markets.³⁰ The particulars of this claim require elaboration.

A. From Commodity Futures to Financial Derivatives

Derivatives are so called as they are understood to derive their value from that of an underlying asset. Some of these assets are tangible, such as property and commodities; others are intangible, like stocks, currencies, and interest rates.

FAO, 'World Food Prices Reach New Historic Peak' (3 February 2011) <www.fao.org/news/story/en/item/50519/icode/>.

²³ Droughts in Australia and floods in India and Pakistan are commonly cited. See T Hebling and S Roache, *Rising Prices on the Menu: Higher Food Prices May Be Here to Stay* (International Monetary Fund 2011) 24.

²⁴ FAO, *The State of Agricultural Commodity Markets: What Happened to World Food Prices and Why?* (Rome, FAO, 2009) 17.

²⁵ J Blas, 'Tackle Export Bans to Ease Food Crisis' *Financial Times* (3 February 2011).

²⁶ Almost one-third of the entire 2008 corn crop in the US was used to produce ethanol to fuel cars. See A Mittal, 'The 2008 Food Price Crisis: Rethinking Food Security Policies' (2009) UNCTAD G24 Discussion Paper Series No 56, 6.

²⁷ D Heady and S Fan, 'Anatomy of a Crisis: The Causes and Consequences of Surging Food Prices' (2008) IFPRI Discussion Paper 00831.

²⁸ G20, 'Price Volatility in Food and Agricultural Markets: Policy Responses' (2011) G20 Policy Report <www.oecd.org/tad/agricultural-trade/48152638.pdf>.

²⁹ FAO, 'Volatility in Agricultural Commodities: An Update' (2008) FAO Food Outlook.

³⁰ T Jones, 'The Great Hunger Lottery: How Banking Speculation Causes Food Crises' (2010) World Development Movement Report; M Worthy, 'Broken Markets: How Financial Market Regulation Can Help Prevent Another Global Food Crisis' (2011) World Development Movement Report; MO Herman, R Kelly and R Nash, 'Not a Game: Speculation vs. Food Security' (2011) Oxfam Issues Briefing; M Vargas and O Chantry, 'Ploughing through the Meanders in Food Commodity Speculation' (2011) GRAIN Report; M Vander Stichele *et al.*, 'Financing Food: Financialisation and Financial Actors in Agriculture Commodity Markets' (2010) SOMO Report; J Ghosh, 'The Global Food Crisis' (2008) 212 *Third World Resurgence* 4.

While these instruments have a reputation for being highly complex, at root, they are essentially variations on a more basic instrument known as a futures contract. A futures contract is a standardized contract through which two parties agree to exchange an agreed amount of a given commodity at an identified date in the future for a price negotiated in the present.³¹ The use of futures as a means of agricultural insurance has been prevalent since the nineteenth century. Originally, these contracts were only sold on regulated exchanges, known as ‘futures exchanges’. In recent decades, however, a new ‘over-the-counter’ (OTC) market—also known as the ‘swaps’ market—has emerged.³² OTC transactions are carried out bilaterally, between private parties, and are transacted outside of regulated futures exchanges. OTC derivatives are principally traded by banks and hedge funds who have devised an extensive range of more elaborate financial instruments linked to commodity prices including commodity ‘swaps’,³³ and commodity ‘index funds’.³⁴ Those claiming that speculation in commodity derivatives played a role in the grain price volatility of 2007–11 commonly argue that as a result of processes of financialization—catalysed by earlier financial ‘deregulation’—the operations of commodity futures markets have been distorted away from their proper functioning. NGOs claim that no longer are commodity derivatives deriving their values from underlying assets but the very opposite: that the values of underlying assets—the prices of physical commodities—are *now being derived from the prices of commodity derivatives*.

It is beyond doubt that the character of commodity futures markets has changed remarkably since the Chicago Board of Trade (CBOT) pioneered the US trade in agricultural futures in 1848.³⁵ At that time, these markets were the almost exclusive province of farmers, grain traders, and other commercial actors involved in the production and the manufacture of food. Today, the majority of futures trading is carried out from the desks of traders in London and New York who manage commodity derivatives as part of a portfolio of financial investments.³⁶ As of 2012, financial investors were estimated to outnumber

³¹ For an overview of contemporary futures trading see ‘A Trader’s Guide to Futures’ <www.cmegroup.com/education/files/a-traders-guide-to-futures.pdf>.

³² Swaps were first invented in 1981 to facilitate a deal between IBM and the World Bank. They are a species of derivative that enable parties to exchange future cash flows, allowing parties to ‘swap’ their respective advantages in different markets for mutual benefit. However, ‘swaps’ is a common name given to all OTC derivatives. ‘IBM in Deal on Currency’ *New York Times* (18 August 1981).

³³ A commodity swap is a contract where two sides of the deal agree to exchange cash flows, which are dependent on the price of an underlying commodity.

³⁴ Index funds are designed to give investors a return based on a mathematical formula aggregated from the values assigned to a specified basket of commodities including non-food commodities such as fuels and metals.

³⁵ A Bjerga, *Endless Appetites: How the Commodities Casino Creates Hunger and Unrest* (John Wiley & Sons 2011) 6.

³⁶ CME Group, ‘Annual Report Pursuant to Section 13 or 15(D) of the Securities Exchange Act of 1934,’ <investor.cmegroup.com/investor-relations/secfiling.cfm?filingID=1156375-13-7>.

commercial participants in futures markets by as many as four to one.³⁷ Banks and hedge funds now routinely deal in commodity derivatives, developing new products and retailing them to clients like pension funds.³⁸ Millions of trades are now executed by computer programmes that use algorithms to exploit ‘infinitesimal price discrepancies that only exist over the most infinitesimal time horizons’.³⁹ While it is still possible to purchase a traditional futures contract for 5,000 bushels of Soft Red Winter Wheat, many individual contracts are now bundled together and traded as part of an investment scheme known as a ‘commodity index fund’.⁴⁰ Commodity index funds are designed to give investors a return based on a mathematical formula aggregated from the values assigned to a basket of different commodities including non-food commodities such as metals and fuels. The first such index was created by Goldman Sachs in 1991. As researchers at Global Justice Now have underlined, commodity index funds have since become the primary vehicle for speculative capital involvement in food commodity markets. Understood in Epstein’s terms, financialization connotes the increasing role of financial motives, financial markets, financial actors and financial institutions in the operations of commodity futures markets.⁴¹ According to analysts at UNCTAD, it is as a consequence of the financialization of futures trading that grain prices have become more volatile in recent years.⁴²

The role of market deregulation in enabling the development of a market in OTC derivatives has been discussed by a number of NGO analysts, as well as by historians and legal scholars.⁴³ As Lynn Stout has illustrated, OTC derivatives

³⁷ Michael Greenberger speaking at the High Level Thematic Debate on Addressing Excessive Price Volatility in Food and Related Financial and Commercial Markets, United Nations, New York, on Wednesday 11 April 2012 <www.unmultimedia.org/tv/webcast/2012/04/general-assembly-thematic-debate-on-addressing-excessive-price-volatility-in-food-and-related-financial-and-commodity-markets.html>.

³⁸ The UK Financial Services Authority (FSA) estimated that, as of 2007, approximately 80 billion dollars of capital from pension funds globally was invested in commodities. E Doyle, J Hill and I Jack, ‘Growth in Commodity Investment: Risks and Challenges for Commodity Market Participants’ <www.fsa.gov.uk/pubs/other/commodity_invest.pdf> 23.

³⁹ M O’Brien, ‘Everything You Need to Know about High-Frequency Trading’ *The Atlantic* (11 April 2014) <www.theatlantic.com/business/archive/2014/04/everything-you-need-to-know-about-high-frequency-trading/360411/>.

⁴⁰ Jones, ‘The Great Hunger Lottery’ (n 30) 9.

⁴¹ GA Epstein (ed), *Financialization and the World Economy* (Edward Elgar Publishing 2005) 3.

⁴² ‘Don’t Blame the Physical Markets: Financialization Is the Root Cause of Oil and Commodity Price Volatility’ (2012) UNCTAD Policy Brief No 25.

⁴³ The role of financial deregulation in precipitating the financialization of commodity futures markets has been discussed by a number of commentators. While these scholars are correct to argue that changes in the law were instrumental in bringing about growth of the OTC derivatives market, it is inaccurate to suggest that all of the changes amounted to ‘deregulation’. Derivatives can be understood as a form of regulation in themselves, and the OTC market depends on an intricate network of contracts, legal techniques, and courts in order to function. A more compelling analysis is that financial regulations were not so much removed but rather recalibrated during the 1990s and 2000s. For an account of the legal changes made to allow for the emergence of the OTC market see LA Stout, ‘Derivatives and the Legal Origin of the 2008 Credit Crisis’ (2011) 1

that had begun to be traded outside of regulated futures exchanges in the 1980s were at risk of being voided as ‘contracts for difference’ under common law rules that saw speculative trading as no better than gambling.⁴⁴ In the UK, these obstacles were overcome with relative ease via the passing of the Financial Services Act of 1986.⁴⁵ In the US, legislation from the 1930s that sought to restrict the volume of speculative investment in exchange-traded commodity futures stood in the way of industry ambitions to grow the market. A decade-long battle commenced as Wall Street sought to distinguish the new OTC derivatives from illegal contracts for difference.⁴⁶ In spite of doubt expressed about the safety of the proposals, the Clinton Administration eventually passed the Commodity Futures Modernization Act (CFMA) in 2000.⁴⁷ As well as legitimizing the emerging market in OTC derivative instruments, a provision in the CFMA known as the ‘swap-dealer’ loophole benefited financial institutions selling OTC derivatives by treating them as commercial hedgers for the purposes of investing in exchange-traded futures contracts. This re-characterization allowed financial institutions dealing in swaps to take long-term positions in exchange traded futures—a change that paved the way for the development of commodity index funds.⁴⁸

B. Competing Claims

Levels of investment rose astronomically on both futures exchanges and the OTC market following the CFMA. The size of the OTC market had ballooned to close to nine trillion dollars by the end of 2007.⁴⁹ The volume of investment in financial instruments linked to commodity prices also surged dramatically during this period. At Lehman Brothers investment bank, the capital being funnelled into index investment increased by 1,900% between 2003 and March 2008.⁵⁰ NGOs place great emphasis on the scale and timing of this surge in trade, arguing that it served to produce a ‘speculative bubble’ in commodity prices. As Global Justice Now reports, ‘Gregory Fleming, President of Merrill Lynch, said in May 2008 that commodity markets looked similar to the dot.com bubble of the late 1990s and the bubble in structured-credit products which preceded the credit crunch.’⁵¹ NGOs have also

HBLR 1 and G Tett, *Fool's Gold: How Unrestrained Greed Corrupted a Dream, Shattered Global Markets and Unleashed a Catastrophe* (Abacus 2010) 26–47. For scholarship that problematizes the discourse on ‘deregulation’ see S Vogel, *Freer Markets, More Rules: Regulatory Reform in Advanced Industrial Countries* (Cornell University Press 1996).⁴⁴ Stout *ibid.*, 11–15.

⁴⁵ Under section 63, the FSA 1986 offered OTC trading an enforceability guarantee in the UK.

⁴⁶ Tett (n 43); Stout (n 43)

⁴⁷ Commodity Futures Modernization Act 2000.

⁴⁸ J Ghosh, ‘The Commodity Price Rollercoaster’ (2008) World Development Movement Report 5.

⁴⁹ J Ghosh, ‘The Unnatural Coupling: Food and Global Finance’ (2010) 10 *Journal of Agrarian Change* 1.

⁵⁰ P Wahl, ‘Food Speculation as the Main Factor of the Price Bubble in 2008’ (2009) *World Economy, Ecology & Development Briefing Paper* 11.⁵¹ *ibid.*

presented persuasive statistical evidence of a causal link between the price volatility and practices of commodity derivatives speculation.⁵² In particular, it is emphasized that new correlations between the prices of previously distinct groups of commodities have been observed since index fund trading has become prevalent.⁵³ NGOs have condemned the activities of financial traders, and have called on policymakers and regulators to take action. As Global Justice Now asserted in 2010, ‘allowing gambling on hunger in financial markets is dangerous, immoral and indefensible. And it needs to be stopped before any more people suffer to satisfy the greed of the banks.’⁵⁴

In contrast to the arguments of the NGOs, the very possibility that speculative trading in derivative markets could have this kind of impact on underlying commodity prices is vehemently denied by many financial institutions, as well as by some prominent economists.⁵⁵ Paul Krugman has insisted that a futures contract is a bet about the future price of a commodity, and that it can have ‘no, zero, nada direct effect on the spot price’—the spot price being the price of a tangible commodity when it is traded in an underlying market.⁵⁶ The claim that financial traders taking positions in derivatives markets could cause the prices of physical food commodities to display such volatility contravenes many of mainstays of economic theory. Prices in a market economy are considered to bear a rational relationship to their ‘true’ values as determined by fundamentals of supply and demand. This is thought to be particularly true of asset prices in financial markets, which—via the assimilation and dissemination of information on fundamentals across dispersed markets—are commonly believed to contribute to processes of ‘price discovery’.⁵⁷ Even if a group of speculators were driving futures prices away from fundamentals, it is commonly held that ‘the market’—or, more accurately, a contingent of market participants known as ‘arbitrageurs’—would correct this.⁵⁸ Many economists also resist what they regard as an inaccurate and misleading portrayal of speculative investment by the NGOs.

⁵² Ghosh, ‘The Unnatural Coupling’ (n 49).

⁵³ Economists at UNCTAD have highlighted that the prices of many commodities including metals, agriculture and energy commodities are ‘clearly moving today in tandem’, when, prior to the development of derivative products such as commodity index funds, this was not the case. UNCTAD ‘Don’t Blame the Physical Markets’ (n 42) 2.

⁵⁴ Jones, ‘The Great Hunger Lottery’ (n 30) 4.

⁵⁵ Deutsche Bank recently justified its decision to continue investing in commodity derivatives arguing that ‘there is no convincing evidence that the products we offer have a de-stabilizing impact on prices and cause more people to go hungry’. Deutsche Bank, ‘Our position: The Key Questions and Answers’ <<https://www.db.com/cr/en/concrete-current-questions-and-answers-may-2014.htm>>.

⁵⁶ P Krugman, ‘Speculative Nonsense Once Again’ *The New York Times* (23 June 2008).

⁵⁷ The theory that financial markets are ‘informationally efficient’ is known as the ‘efficient markets hypothesis’. E Fama, ‘Efficient Capital Markets: A Review of Theory and Empirical Work’ (1970) 25 *Journal of Finance* 2.

⁵⁸ P Krugman, ‘Commodity Prices (Wonkish)’ *The New York Times* (19 March 2008).

As Kulkarni maintains, '[b]y assuming risk, providing liquidity and capital the speculator brings stability to the market'.⁵⁹

Parties on both sides of this contentious debate have turned to causal economic analysis in the effort to prove conclusively whether or not speculative practices were a cause of the commodity price volatility.⁶⁰ A number of studies rely on Granger causality testing, but reach opposing conclusions.⁶¹ In response to this impasse, it has been suggested that existing causal models are simply unable to explain the complex inter-linkages between contemporary global financial and commodity markets.⁶² Indeed, the question of whether financial activity in derivative markets (speculative or otherwise) can impact on underlying commodity prices has been designated by analysts at the New England Complex Systems Institute (NECSI) as 'one of the central controversies of economics'.⁶³ Under pressure to respond to what civil society actors insist is a grave threat to food prices, governments in the US and in Europe have adopted a precautionary approach and have moved to introduce regulations to reduce 'excessive' levels of speculation in commodity derivative markets.⁶⁴ Regulatory agencies in these jurisdictions have now finalized rules which aim to subject the OTC derivative market to a higher degree of regulatory supervision and oversight. These measures will now be discussed.

III. REGULATORY REFORMS: DODD FRANK AND EMIR-MIFID II

In September 2009 world leaders met at the G20 forum in Pittsburgh and sought to 'turn the page on an era of irresponsibility', agreeing to develop regulations to stabilize the financial system in order to meet the needs of the twenty-first century global economy.⁶⁵ Preventing another global food crisis was not an explicit aim of the reforms; nevertheless, concerns about commodity derivatives speculation were exertive. Among the many commitments made at the G20 Summit was a specific pledge to improve the regulation of financial and commodity markets in order to address excessive commodity price volatility.⁶⁶ G20 leaders undertook to ensure that 'where appropriate'

⁵⁹ B Kulkarni, *Commodity Markets and Derivatives* (Excel Books 2011) 40.

⁶⁰ The Institute for Agriculture and Trade Policy (IATP) provides a helpful compendium of much of this work, see B Lilliston and A Ranallo (eds), 'Excessive Speculation in Agriculture Commodities: Selected Writings from 2008–2011' (2011) IATP Report.

⁶¹ The Granger Causality test is a test developed by Nobel prize-winning econometrician, Clive Granger, and has been acclaimed for developing a rigorous way of establishing when correlations might have a causal link. C Granger, 'Investigating causal relations by econometric models and cross-spectral methods' (1969) 37 *Econometrica* 424.

⁶² M Lagi *et al.*, 'The Food Crises: A Quantitative Model of Food Prices Including Speculators and Ethanol Conversion' (2011) NECSI Report. ⁶³ *ibid* 2.

⁶⁴ G20 governments made a specific pledge at the G20 forum in Pittsburgh in 2009 to improve the regulation of financial and commodity markets in order to address excessive commodity price volatility. See 'G20 Leaders Statement: The Pittsburgh Summit' 24–25 September 2009, Pittsburgh, Preamble <www.g20.utoronto.ca/2009/2009communique0925.html>. ⁶⁵ *ibid*. ⁶⁶ *ibid*.

all standardized OTC derivative contracts should be traded on exchanges or electronic trading platforms and cleared through central counterparties by end-2012 at the latest.⁶⁷ While all of the G20 Member States committed to enact this reform, the US and countries of the EU have been at the forefront of the efforts.

In the US, most of the provisions giving effect to the G20 commitment on OTC derivatives fall under Title VII of the Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd Frank).⁶⁸ In Europe the G20 commitment will be met by two separate instruments: the European Market Infrastructure Regulation (EMIR)⁶⁹ and the Markets in Financial Instruments Directive (MiFID II).⁷⁰ In both cases, national and regional regulatory agencies have been tasked with elaborating technical standards to give substantive effect to the objectives outlined in the framework agreements.⁷¹ The reforms aim to ensure that the trade in OTC derivatives is more effectively monitored, better collateralized and poses less of a threat to the stability of the global financial system. It is this goal that has to be understood as the primary target of the new regulations. Only one provision is explicitly aimed at addressing speculatively-conditioned commodity price volatility, which is the imposition of position limits (see below). Nevertheless, a number of the other regulations are seen by NGOs to offer some ancillary potential in terms of limiting excessive speculation. These include restrictions on proprietary trading, the requirement that derivatives go through centralized clearing, the obligation to report trading data, and the regulation of automated and high frequency trading (HFT) technologies. A short overview of each of these regulatory measures is offered below.

A. Overview of Regulatory Provisions

1. Position limits

In response to concerns about the volume of financial investment in commodity futures markets, regulators have mandated the imposition of limits on the amount of contracts that parties can purchase in both the exchange-traded and

⁶⁷ *ibid.*

⁶⁸ The Dodd Frank Wall Street Reform and Consumer Protection Act of 2010 Pub.L. 111–203, H.R. 4173 (Dodd Frank).

⁶⁹ The Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counter-parties (CCPs) and trade repositories (TRs) (EMIR).

⁷⁰ Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU Text with EEA relevance (MiFID II).

⁷¹ In the US this falls to either the Commodity Futures Trading Commission (CFTC) or the Securities and Exchange Commission (SEC) depending on how a given instrument is classified. In Europe, the task has been allocated to the European Securities and Markets Authority (ESMA), a new regulatory body established to oversee financial stability and investment practices in the EU.

OTC trading arenas. Position limits are the principal measure in the new regulatory frameworks explicitly designed to ‘diminish, eliminate, or prevent excessive speculation’.⁷² The rules are designed to place an upper limit on the number of positions *other than bona fide hedging positions* which an investor or combined group of investors may hold for a specific commodity. The hedging exemption (discussed below) seeks to preserve the benefits of non-standardized bilateral OTC transactions for commercial hedgers—a strategy thought to be important given the critical role of futures and derivatives as risk management devices. CFTC commissioners voted in October 2012 to issue position limits on 28 commodity derivative contracts, including 19 agricultural commodities, metals and fuels.⁷³ The limits apply for exchange-traded futures contracts and their ‘economically equivalent’ futures, options and swaps—the OTC contracts.⁷⁴ The CFTC has set the limits at 25 per cent of estimated deliverable supply in ‘spot month contracts’—the spot month being the final month of the contract when futures prices are supposed to converge to meet the prices of physical commodities.⁷⁵ The Draft Regulatory Technical Standards (RTS) developed by ESMA are largely identical to the US provisions, setting a limit of 25 per cent of deliverable supply in spot-month contracts.⁷⁶ However, there is one important difference in that Draft RTS 29, Article 1(5) allows national authorities within the EU to use their discretion to set higher limits than those recommended by ESMA.⁷⁷ National authorities may vary the baseline by either increasing or decreasing it by up to an additional 15 per cent.⁷⁸ NGOs have reacted against ESMA’s decision to allow national authorities the remit to adjust position limits. Finance Watch has protested that this is contrary to the spirit of the MiFID II agreement, and, if approved, will turn limits on speculation decided by the European Parliament into ‘an empty shell’.⁷⁹

⁷² Dodd Frank act section 737, Stat 4173, 1620–31.

⁷³ CFTC, ‘Aggregation, Position Limits for Futures and Swaps’ Proposed Rule: 17 CFR Part 151 (RIN 3038–AD82 77) Federal Register (FR 31767 // PDF Version) <www.cftc.gov/LawRegulation/DoddFrankAct/Rulemakings/DF_26_PosLimits/index.htm> 31768.

⁷⁴ CFTC, ‘Fact Sheet: Proposed Regulations on Position Limits for Derivatives’ <www.cftc.gov/LawRegulation/DoddFrankAct/Rulemakings/PositionLimitsforDerivatives/index.htm>.

⁷⁵ For non-spot-month contracts the limits will be set at 10 per cent of open interest in the first 25,000 contracts and 2.5 per cent thereafter. CFTC, ‘Q & A – Position Limits for Derivatives’ <www.cftc.gov/idx/groups/public/@newsroom/documents/file/pl_qa.pdf> 2.

⁷⁶ Positions on non-spot month contracts are yet to be decided. ESMA, ‘Consultation Paper – Annex B Regulatory technical standards (RTS) on MiFID II/MiFIR’ <www.esma.europa.eu/system/files/2014-1570_cp_mifid_ii_part_2.pdf> 381–399, RTS 29 and RTS 30.

⁷⁷ *ibid* 385.

⁷⁸ In practice this would mean that no position limit is higher or lower than 40 per cent of deliverable supply. *ibid* 385.

⁷⁹ B Lewis and H Jones, ‘EU Told Rules on Commodity Price Speculation Risk Losing Their Teeth’ Reuters (21 May 2015) <<http://uk.reuters.com/article/2015/05/21/eu-regulation-commodities-idUKL5N0YC35Y20150521>>.

2. *Proprietary trading*

Proprietary trading occurs when financial entities use their own funds to trade in addition to that of customers in order to make a profit. Such practices are deemed to be largely speculative in nature by industry experts such as Paul Volcker, the former chairman of the US Federal Reserve, and the proponent of the US regulation. The restrictions on proprietary trading seek to re-effectuate the separation between retail and investment banking that was mandated by the Glass–Steagall Act before it was repealed in 1999.⁸⁰ Under the Volcker Rule, enacted under Title VI of Dodd–Frank, banks are prohibited from using or investing more than three per cent of their capital for this variety of trading.⁸¹ On the European side, draft plans by the EU financial services Chief Michel Barnier propose to restrict systemically important banks from proprietary trading from 2018 onwards.⁸² The EU proposes to deal with the risks emanating from proprietary trading through the use of supplementary provisions that ‘ring-fence’ such trading, requiring banks to transfer other high-risk trading activities including complex derivatives and securitization operations to separate legal trading entities within the group.⁸³

3. *Central counterparty clearing*

The consensus reached in the aftermath of the global financial crisis was that it was the bilateral character of OTC trades that was particularly problematic. Accordingly, the centrepiece of the OTC reforms is a requirement that trades go through a process known as ‘centralized clearing’. Under this process, instead of trading bilaterally with one another the counterparty of each trader will ultimately be an institution known as a clearing house—labelled ‘CCPs’ under EMIR and ‘DCOs’ under Dodd–Frank.⁸⁴ The clearing obligation transposes into the OTC arena the kinds of institutional safeguards that have traditionally characterized the trading of futures contracts on futures exchanges. Significantly, clearing houses requiring the posting of additional

⁸⁰ The relevant provision of the Glass–Steagall Act can be found in the Banking Act of 1933 Sections 16, 20, 21, 32, 12, USC. ⁸¹ Dodd Frank Act section 619, 124 Stat 1376, 1620–31.

⁸² J Mont, ‘European Commission Proposes EU Version of Volcker Rule’ *Compliance Week* (29 January 2014) <<https://www.complianceweek.com/blogs/global-glimpses/european-commission-proposes-eu-version-of-volcker-rule#.VYF5PfnWbGh>>.

⁸³ European Commission, ‘Proposal for a Regulation of the European Parliament and of the Council on Structural Measures Improving the Resilience of EU Credit Institutions’ art 9, 13 COM (2014) 43 final.

⁸⁴ Art 4(1) EMIR; Dodd–Frank Act section 723. A central counterparty is an entity that ‘interposes itself’, in one or more markets, between counterparties to the contracts traded, becoming ‘the buyer to every seller and the seller to every buyer’ guaranteeing the performance of contracts. European Central Bank/Eurosystem, ‘Glossary of Terms Related to Payment, Clearing and Settlement Systems’ (December 2009) 4.

collateral than OTC trades.⁸⁵ Clearing houses are to be directly regulated by the CFTC and SEC in the US, and by ESMA in Europe. Categories of derivatives that are subject to the mandatory clearing requirements must also be transacted on a regulated trading arena: a futures exchange, a swap-execution facility, a registered electronic trading platform, or an organized trading facility.

4. Reporting requirements

A dominant theme in debates over the market in OTC derivatives is that they are opaque, and that this lack of transparency has impaired regulators in their efforts to monitor these markets. Key provisions under Title VII of Dodd–Frank and Article 9 of EMIR require both trading entities and centralized clearing organizations to report details of all derivatives contracts to the CFTC and SEC in the US, and to designated ‘trade repositories’ in the EU. Both sets of reporting requirements are broadly similar, however, EMIR is considered to be slightly more demanding as it requires reports from both parties to a transaction,⁸⁶ and requires the collection of more detailed trading data than that required under Dodd Frank.⁸⁷ The overall purpose of these provisions is to give regulators more information about volumes of transaction within the market in order that risks may be identified at an earlier stage. Regulators are also imbued with potentially far-reaching powers to intervene in markets on the basis of information communicated to them via transaction data.⁸⁸

5. Automated and HFT trading technologies

On 24 November 2015, the CFTC issued a notice of proposed rulemaking on the regulation of both automated and high frequency trading (HFT) in US markets.⁸⁹ Under the proposed rule, persons engaged in automated trading would be responsible for implementing a number of pre- and post- trade controls, including monitoring execution frequency per unit time and order price and maximum order size parameters, as well as implementing order

⁸⁵ Whereas the execution of an OTC trade involves ‘variation’ margin—pledging a sum of money to act as a buffer against daily market movements—additional payments in the form of ‘initial’ margin are involved in centrally cleared transactions. JP Braithwaite, ‘Private Law and the Public Sector’s Central Counterparty Prescription for the Derivatives Markets’ (2011) LSE Law, Society and Economy Working Papers 2/2011, 18.

⁸⁶ Art 2(1) EMIR.

⁸⁷ Dodd Frank only requires reports from larger banks and financial institutions that deal in large volumes of derivatives. P Gibbon, ‘Commodity Derivatives: Financialization and Regulatory Reform’ (2013) Danish Institute for International Studies Working Paper, 18.

⁸⁸ ESMA, ‘Final Report: ESMA’s Technical Advice to the Commission on MiFID II and MiFIR’ (19 December 2014) ESMA/2014/1569, 429, paras 2–3; ‘CFTC Market Surveillance’ CFTC website, <www.cftc.gov/IndustryOversight/MarketSurveillance/CFTCMarketSurveillanceProgram/index.htm>.

⁸⁹ CFTC, Regulation Automated Trading, RIN 3038-AD52 17 CFR Pts 1, 38, 40 and 170 <www.cftc.gov/idc/groups/public/@newsroom/documents/file/federalregister112415.pdf>.

cancellation systems, developing standards for new technologies, and testing and monitoring them.⁹⁰ In the EU, a harmonized framework of regulations for HFT has recently been agreed by the European Parliament under MiFID II. The measures include regulations designating a standardized ‘tick’ size—the size of the individual trade—in a bid to prevent trading venues from attracting aggressive trading based on miniscule differences in price.⁹¹ Other provisions include a requirement for trading venues to synchronize their clocks to make it easier to spot abuses, an obligation to test algorithms and trading software on regulated exchanges, and the use of ‘circuit-breakers’ to stop the trading process if price volatility gets too high.⁹² The efficacy of the provisions will depend on their final shape and implementation.

6. Exemptions

Both the US and European regulations impose a different regulatory burden for different types of market participant. The full spectrum of the regulations in Title VII is reserved for ‘Swaps Dealers’—large financial entities who create financial products—on the basis that these institutions pose a greater threat in terms of systemic risk. The European reforms affect a similar distinction between two categories of actors: ‘financials’—banks, insurers and asset managers—and ‘non-financials’.⁹³ Exemptions have been built into both sets of regulations to retain the benefits of bilaterally negotiated OTC trading for commercial hedgers (‘End Users under Dodd Frank’), exempting them from position limits.⁹⁴ Both Dodd Frank and EMIR grant further exemptions to ‘small financials’ engaged in a ‘de minimis quantity’ of derivatives trading.⁹⁵

While the de minimis exemption has been carved out with some precision, bona fide hedging has been given several differing definitions within the

⁹⁰ N Mathews and J Robison, ‘CFTC Proposes “Regulation AT” on Automated Trading’ Derivatives in Review (18 December 2015) <<http://blogs.orrick.com/derivatives/2015/12/18/cftc-proposes-regulation-at-on-automated-trading/>>.

⁹¹ ‘MiFID II Update: HFT Crackdown, Speculative Position Limits, and Investor Protection’ Finance Magnates (17 January 2014) <www.financemagnates.com/forex/regulation/update-on-mifid-ii-hft-crackdown-trading-systems-position-limits-and-investor-protection/>. ⁹² *ibid.*

⁹³ The threshold for commodity derivatives for non-financial counterparties is 3 billion euros. ESMA, ‘EMIR Review Report no. 1: Review on the Use of OTC Derivatives by Non-Financial Counterparties’ ESMA/2015/1251 (13 August 2015) <https://www.esma.europa.eu/sites/default/files/library/2015/11/esma-2015-1251_-_emir_review_report_no.1_on_non_financial_firms.pdf>. This rule functions as a parallel to the de minimis exemption granted to commercial and small financial market participants in the US.

⁹⁴ CFTC, ‘Final Rules Regarding Further Defining “Swap Dealer,” “Major Swap Participant” and “Eligible Contract Participant”’ <www.cftc.gov/LawRegulation/DoddFrankAct/Rulemakings/DF_2_Definitions/index.htm>; ESMA, ‘Consultation Paper MiFID II/MiFIR’ (19 December 2014) ESMA/2014/1570, 503-4.”

⁹⁵ In order to claim such an exemption, the aggregate gross notional amount of the swaps that the person enters into over the prior 12 months in connection with dealing activities must not exceed \$3 billion. Similar provisions enacted under EMIR allow financial counterparties to bypass central clearing up to a threshold volume of 3 billion euros of commodity derivatives.

CFTC rulemaking areas.⁹⁶ The CFTC has emphasized that the definition of hedging does not include a market position that is held for a purpose that is in the nature of ‘speculation, investing, or trading’,⁹⁷ defined as ‘those positions executed primarily to take an outright view on market direction or to obtain an appreciation in value of the swap position itself’.⁹⁸ A bona fide hedge is defined as a position taken to hedge against ‘commercial risk’. Commercial risk has been defined by the CFTC as risk that it ‘economically appropriate to the reduction of risks in the conduct and management of a commercial enterprise, where the risks arise in the ordinary course of business’.⁹⁹ Examples given are risks arising from a potential change in the value of assets that a person ‘owns, produces, manufactures, processes, or merchandises’.¹⁰⁰ Article 10 of EMIR carves out a largely similar provision to define the meaning of legitimate hedging for ‘non-financial counterparties’.¹⁰¹ The regulatory wording strongly implies that only those parties seeking to hedge commercial risks associated with productive activities can benefit from the exemptions, and that parties—commercial or financial—who are trying to speculate or to hedge against financial risks taken in other markets are not able to benefit. Nonetheless, there remains some ambiguity as to who can claim a hedging exemption and with respect to which transactions.

B. Summary

Both the US and EU reforms to the trading of derivatives aim to tackle what are now regarded to be ‘excessive’ levels of speculation in these markets, while preserving their benefits for commercial actors seeking to hedge against commercial risks. The principle measure designed to curb levels of speculation is the imposition of position limits. Campaigners at the Global Justice Now and Oxfam have fought hard to ensure that the limits are put in place. In particular, these groups have lobbied European regulators to ensure that the provisions under MiFID II are not to be limited to a weaker approach of ‘position management’.¹⁰² However, critics have pointed out that the limits are set so high as to be of dubious value in the efforts to tackle speculation. As analysts at the IATP have pointed out, at a level of 25 per cent, ‘in theory, four trading entities could control the market in a specific

⁹⁶ Deloitte, ‘An Interpretation of the “Hedge or Mitigate Risk” Criteria and the Impact to Compliance with the Dodd-Frank Act’ (Deloitte Development 2012) <http://deloitte.wsj.com/riskandcompliance/files/2013/05/Dodd-Frank_Hedge_Mitigate.pdf> 6.

⁹⁷ *ibid* 5.

⁹⁸ *ibid*.

⁹⁹ CFTC, ‘Final Rules Regarding Further Defining “Swap Dealer,” “Major Swap Participant” and “Eligible Contract Participant”’ <www.cftc.gov/LawRegulation/DoddFrankAct/Rulemakings/DF_2_Definitions/index.htm> 4.

¹⁰⁰ *ibid*.

¹⁰¹ ESMA (n 93).

¹⁰² World Development Movement, ‘Back to Fundamentals: Why Position Limits Are Needed to Help Prevent Food Price Hikes’ (2012) Report, 18.

contract'.¹⁰³ Although position limits are the principal measure envisaged to respond to concerns about commodity price volatility, restrictions on proprietary trading could also serve to curb the volume of capital used by financial institutions to enter into short-term speculative trading ventures. Furthermore, there may be additional ancillary benefits from those regulatory rules that have principally been crafted to respond to the threat of systemic risk in the financial system. Clearing and margin requirements should make it somewhat more expensive and laborious for financial institutions that deal in commodity derivatives to do so for speculative purposes. Reporting requirements could help to counteract the market opacity that disabled regulators in the years leading up to the global financial crisis, and there would also appear to be some potential in the regulations to curb high frequency trading.

It is difficult to offer a definitive assessment of the efficacy of the regulations until they have been finalized, and until market practices have been amended in response to the rules. What can be said at the present juncture is that the approach adopted by both the US and European regulators has been largely similar, with few major differences between the two regimes.¹⁰⁴ This is important as harmonization across jurisdictions is seen as imperative to the effective regulation of financial markets given their globalized and liberalized character. It is expected that the US and EU provisions will act as a blueprint for other G20 governments in their efforts to develop derivatives regulations.¹⁰⁵ In terms of reactions to the reforms, NGOs have welcomed the new rules, though it is commonly argued that more stringent measures, such as a ban on commodity index funds, ought to have been taken.¹⁰⁶ NGOs are now concentrating their efforts on ensuring that the new regulations are not watered down due to pressure from the financial services industry. Both ESMA and the CFTC and SEC are engaged in protracted consultation policies that require them to publish draft rules and to respond to any comments that are submitted. The CFTC was inundated by nearly 15,000 comment letters in response to just one of its rules,¹⁰⁷ and critics have noted that the rule-making process is being dominated by financial

¹⁰³ K Hansen-Kuhn and S Suppan, 'Speculation Update: Progress Report on US Commodity Market Reforms' (2012) IATP Report <www.iatp.org/documents/speculation-update-progress-report-on-us-commodity-market-reforms>.

¹⁰⁴ For a table providing an overview of some small points of difference between the two regimes see C Staritz and K Küblböck, 'Re-Regulation of Commodity Derivative Markets – Critical Assessment of Current Reform Proposals in the EU and the US' (2013) Austrian Research Foundation for International Development Report 17–18.

¹⁰⁵ Several countries have indicated that they are waiting for regulatory provisions in the US and in Europe to be refined before they finalize their own regimes of reform. See Financial Stability Board, 'OTC Derivatives Market Reforms: Third Progress Report on Implementation' (15 June 2012) <www.fsb.org/wp-content/uploads/r_120615.pdf> 1.

¹⁰⁶ Hansen-Kuhn and Suppan (n 103). ¹⁰⁷ CFRC website <<http://comments.cftc.gov/PublicComments/CommentList.aspx?id=965>>.

institutions.¹⁰⁸ Oxfam has expressed concern that regulators are being pressured to adjust the rules to accommodate the financial services industry's desire to continue a profitable trade in financial instruments linked to commodity prices.¹⁰⁹ Another worrying trend in this vein is that banks and hedge funds have begun to engage in forms of organizational and jurisdictional arbitrage—restructuring their operations, or moving them to other jurisdictions—apparently in an effort to mitigate the impact of the rules.¹¹⁰ Financial institutions are already said to be exploring the frontiers of collateral 'management' and 'transformation' to lessen the regulatory load.¹¹¹ It remains unclear what the final result of this forum-shopping and product-shaping will be. NGOs are highly alert to these developments, and aim to maintain an active presence as the regulatory rules are finalized.¹¹² Some attention is also being paid to concerns about directions in regulatory evasion, and a number of scholars are writing on the challenges that financial innovation is likely to present for the future of these regulatory endeavours.¹¹³ In mainstream policy and regulatory circles, however, interest in the matter of speculatively-conditioned commodity price volatility is waning. Overwhelmingly, analysis of the Dodd–Frank and EMIR–MiFID II regimes has centred on tackling systemic risk, and on restoring stability in financial markets to reassure and attract investors.

The next section will make an argument as to why entrusting these regulations with the future food security of millions of people worldwide could be a grave mistake. As the forthcoming analysis will make clear, in spite of the considerable efforts of regulators to delineate between speculators and hedgers and to come up with a sufficiently sensitive scheme of rules for these markets, the new provisions fail to adequately account for how commodity derivatives trading can impact on underlying commodity prices.

¹⁰⁸ D Samardi, 'Financiers Attack EU Rules against Food Speculation' (15 July 2015) <www.euractiv.com/sections/development-policy/financiers-attack-eu-rules-against-food-speculation-316315>. ¹⁰⁹ *ibid.*

¹¹⁰ As *The Economist* has noted: '[a]nticipating the Volcker rule, bank departments previously using the word "proprietary" have been dropped, renamed or quietly shifted to sheltered corners'. 'Too Big Not to Fail' *The Economist* (18 February 2012).

¹¹¹ 'Regulating Derivatives: Teething Problems' *The Economist* (22 January 2014).

¹¹² Global Justice Now, 'Food Speculation Open Letter' <<http://www.globaljustice.org.uk/food-speculation-open-letter>>.

¹¹³ Bart Chilton, Commissioner of the Commodity Futures Trading Commission, addressing a potential 'race to the bottom' in the absence of internationally harmonized rules for the global derivatives market, B Chilton, 'Stopping Stammering: Overcoming Obstacles in Financial Regulatory Reform' Address before the Goldman Sachs Global Commodity Conference, 28 March 2011, <www.ctfc.gov/pressroom/speechestestimony/opachilton-43.html>; D Awrey, 'Complexity, Innovation and the Regulation of Modern Financial Markets' (2012) 2 *HarvBusLRev* 235, 289.

IV. CRITIQUE OF THE REGULATORY MEASURE

The highly polarized views on the causal significance of commodity derivatives trading in the global food crisis have already been discussed. Outside of the financial services industry, it is commonly accepted that derivatives speculation made some contribution to the price volatility. Nevertheless, there remains substantial ambiguity as to precisely how this occurred. The difficulty in forming a conclusive judgment on the role that these instruments played in the events of 2007–11 is illustrated by the 2011 Interagency Report, which concluded that increased financial sector involvement in food commodity markets ‘probably acted to amplify short-term price swings and could have contributed to the formation of price bubbles in certain circumstances’.¹¹⁴ The complex dynamics of price formation between capital markets and commodity markets have also made ‘proving’ a causal connection in accordance with economic standards of causation difficult. A coalition of researchers at NECSI has since developed what they describe as a ‘dynamic mathematical model’ that ‘overcomes the limitations of earlier studies’ and establishes a significant causal role for speculation. The NECSI analysts claim that their model proves that the two sharp peaks in 2007–08 and 2010–11 were ‘specifically due to investor speculation’, while an underlying upward trend is ‘due to increasing demand from ethanol conversion’.¹¹⁵ Given the prestige of the institution, this would seem a persuasive finding. Nevertheless, the NECSI study, along with the other analyses that have been carried out on the causal impact of derivatives trading are predominantly concerned to show *if* commodity derivative trading had an impact. They are not so informative as to precisely *how* the trading of commodity derivatives influenced the prices of underlying commodities in 2007–11.

NGOs including Global Justice Now, GRAIN, SOMO, and Oxfam have been the primary groups to have studied the question of how activity in commodity derivative markets can impact on underlying food prices. This group of interlocutors places great emphasis on a surge in levels of speculation on commodity futures markets since they were ‘deregulated’, and also take issue with the development of instruments such as commodity index funds.¹¹⁶ The reports of Global Justice Now, in particular, shed a lot of light on how trading practices have changed with the elaboration of these new pathways to profitable investment in commodity markets—a point that will shortly be elaborated. Nevertheless, there is significant ambiguity in terms of how they consider derivatives trading to impact on underlying food prices. NGOs have tended to cast ‘speculative’ ‘financial’ investment as a negative practice, and to view the use of futures for ‘commercial’ ‘hedging’ and risk management purposes in a benevolent light. Yet, distinguishing whether an investment

¹¹⁴ Interagency Report (n 9)¹¹⁵ NECSI (n 63)¹¹⁶ See references at (n 30).

practice is or isn't 'speculative' is not straightforward.¹¹⁷ Speculative investment is often reputed to involve taking on higher levels of risk than the average investor, and is commonly equated with short-term trading. However, such a characterization does not equate with the mechanics of index investment—said to be a key contributor to the price spikes in 2007–08 and 2010–11. Index investment is carried out over the long term, and provides stable, as opposed to risky, returns.¹¹⁸ Making matters more complex, many financial institutions use both exchange-traded commodity futures and OTC instruments to hedge against risks taken in other financial markets.¹¹⁹ Such macro-portfolio hedging strategies make it hard to convincingly determine which market actors are speculating or when they are doing it. Not only have large agribusiness companies who have predominantly traded physical food commodities—Archer Daniels Midland (ADM), Bunge, and Cargill—begun to sell commodity derivatives to farmers and food manufacturers, they now engage in 'proprietary trading'—taking speculative positions in the market with their own capital.¹²⁰ Some of these agricultural conglomerates own hedge funds that specialize in commodity derivatives trading. A prominent example is Black River Asset Management LLC, a subsidiary of Cargill that was rumoured to have \$6 billion in assets in October 2011.¹²¹

A development in the US illustrates how necessary it is to clarify the nature of the causal connection between practices of commodity derivatives speculation and the food price volatility of 2007–11. The financial services industry has successfully exploited uncertainty over how activity in derivatives markets impacts on underlying food prices to have the CFTC's position limits overturned by the courts. The CFTC's limits were due to be imposed in October 2012, however, two trade associations associated with the derivatives industry successfully petitioned to have the regulations struck down. The text of Dodd Frank only mandates the imposition of such limits 'as appropriate'.¹²² Significantly, these groups contend that this was not the case since, in their view, it 'remains unclear' that excessive levels of speculation were the cause of the recent price volatility.¹²³ On 28 September 2012, at a District Court in Washington DC ruled that the CFTC had failed to

¹¹⁷ For a discussion of the semantic and conceptual issues that stem from the identification of a given practice as 'speculative' see E Szado, 'Defining Speculation: The First Step toward a Rational Dialogue' (2011) 14 *Journal of Alternative Investments* 1.

¹¹⁸ J Clapp, *Food* (Polity Press 2012) 142. ¹¹⁹ See 'Macro-Hedge' Investopedia <<http://www.investopedia.com/terms/m/macrohedge.asp>>.

¹²⁰ S Murphy, D Burch and J Clapp, 'Cereal Secrets: The World's Largest Grain Traders and Global Agriculture' (2012) Oxfam Research Report 29.

¹²¹ 'Challenges for Regulators: Financial Players in the (Food) Commodity Derivatives Markets' (2012) SOMO Report 5.

¹²² Dodd–Frank Wall Street Reform and Consumer Protection Act, section 737, 'Position Limits' (2)(A) Establishment of Limitations.

¹²³ For a discussion of the implications of this judgment, see JW Williams, 'Dodging Dodd–Frank: Excessive Speculation, Commodities Markets, and the Burden of Proof' (2015) 37(1–2) *Law & Policy* 131.

heed instructions requiring it to determine that its rule was ‘necessary to diminish, eliminate or prevent excessive speculation’.¹²⁴ The CFTC appealed the judgment, and is in the process of drafting new limits on the basis of a finding that they are indeed ‘necessary and appropriate’ to this goal. The re-proposed rules are on track to closely mirror the vacated rules.¹²⁵ However, there is widespread concern that the victory in Washington will embolden banks to challenge other provisions. There is also the possibility that legal challenges will be mounted against the European measures.¹²⁶

Legislators in the US and in Europe have been persuaded to adopt a precautionary approach to the issue of commodity derivatives speculation, and have introduced regulations that reflect NGO concerns about food security. As will now be demonstrated, however, this has resulted in a regulatory strategy that largely misses the mark in its attempt to address the threat posed to food prices by commodity derivatives trading. After seeking to clarify precisely the vision of commodity derivatives speculation upon which the US and EU initiatives are based, the final section of the article draws on evidence from market practice to offer an alternative explanation for how derivatives can impact on underlying commodity prices.

A. Current Regulatory Vision

In both the US and EU regulatory frameworks the principal measures implemented to respond to speculatively-conditioned commodity price volatility—position limits—are grounded in a market-power analysis of how derivatives trading has impacted on food prices. The limits, which restrict that number of contracts that both individual traders and trading institutions can purchase, effectively seek to prevent any one trader or institution from having a monopoly in the market. Allowing both financial and commercial actors a limited capacity for speculation is based on the widely held view that some degree of speculative participation in the market is necessary for the provision of liquidity. Speculative investors are seen to assist those parties using commodity futures to hedge against risk by taking up the other side of the contracts. As mentioned earlier, commodity futures markets are being positioned as the primary tool of risk management for commercial actors who are vulnerable to volatility and price shocks from liberalized international markets. Instead of lying in the financialization of commodity futures markets, the threat posed to commodity prices by commodity derivatives is seen to lie with an ‘excessive’ volume of speculation carried out by a

¹²⁴ J Farchy and J Blas, ‘CFTC Urged to Act on Position Limits’ *Financial Times* (1 October 2012).

¹²⁵ T Arbit, ‘Market Participants Weigh in Regarding CFTC’s Re-proposed Position Limits Rules’ <www.regulationtomorrow.com/us/market-participants-weigh-in-regarding-cftcs-re-proposed-position-limits-rules/> (2 September 2014) *Financial Services: Regulation Tomorrow*.

¹²⁶ ‘The Speculators Win a Round’ *The New York Times* (14 October 2012).

contingent of financial speculators, who are understood to have monopolized markets, thereby distorting commodity prices away from their fundamental values.

The regulation of new trading technologies aside, the Dodd Frank and EMIR-MiFID II reforms largely reinstate regulatory measures adopted in the US in the 1930s in response to concerns about a burgeoning culture of market speculation and its links to grain price volatility. Position limits, classifications that distinguish ‘financial’ ‘speculators’ from ‘commercial’ ‘hedgers’, and the requirement that all derivatives be traded on regulated exchanges are all throwbacks to the English and American common law restrictions on ‘purely’ speculative trading,¹²⁷ many of which were formalized as part of the Grain Futures Act of 1922 in the US, and later re-enacted in 1936 as the Commodity Exchange Act.¹²⁸ While these provisions did help to curb the speculative trade in ‘off-exchange’ commodity futures during much of the twentieth century, the character of commodity futures trading has changed dramatically in the interim. The exchange-based futures trading of earlier eras bears little resemblance to contemporary trading practices in terms of trading volumes, market participants, investment products and strategies, or the speed and complexity of transactions.¹²⁹ The next section will draw on evidence of shifts in market practice and the altered role of financial markets in the global economy to argue that the Dodd Frank and EMIR-MiFID II reforms are based on an outdated understanding of the relationship between commodity derivatives speculation and patterns of price volatility.

B. Changes in the Nature of Speculation

As Olivier de Schutter—former Special Rapporteur on the right to food—has underlined, the ‘traditional’ form of speculation carried out in the early days of the CBOT was still speculation based on agricultural fundamentals.¹³⁰ Speculators were betting on the future direction of commodity prices based on their information about agricultural production, and a link to agriculture was maintained. Commodity derivatives trading in contemporary futures markets, on the other hand, is predominantly ‘momentum based’. In synergy with trading in other financial markets, traders increasingly engage in ‘herding’ behaviour—observing the markets and anticipating how other actors are going to invest.¹³¹ That herding behaviour and market psychology can lead to the formation of ‘speculative bubbles’ has been ably

¹²⁷ Stout Legal Origin (n 43) 11.

¹²⁸ Grain Futures Act of 1922; Commodity Exchange Act 1936.

¹²⁹ Staritz and Küblböck (n 104) 15.

¹³⁰ O De Schutter, ‘Food Commodities Speculation and Food Price Crises: Regulation to Reduce the Risks of Price Volatility’ (2010) Briefing Note 02, 3.

¹³¹ UNCTAD, ‘Price Formation in Financialized Commodity Markets: The Role of Information’ (2011) UNCTAD Report, 21.

demonstrated by scholarship from the Behavioural School of economics, most notably, the work of Nobel prize-winning economist, Robert Shiller.¹³²

New commodity derivatives actively structure investments around momentum-based trading. Commodity index funds channel large volumes of capital into passive ‘long’ positions, premised on the expectation that prices for commodities can only go up.¹³³ Vast sums of money are channelled into indexes by large institutional investors, such as pension funds, irrespective of the day-to-day movements of each individual commodity. Far from being a reflection on the actual movements in supply and demand for grain, the investment is effectively ‘on autopilot’.¹³⁴ As of March 2008, commodity index funds were estimated to control an amount of corn, wheat and soybeans equivalent to half of total US stocks for such grains.¹³⁵ Index fund investment is further exacerbated by increased reliance on financial algorithms. More than 95 per cent of futures are bought and sold today through computer networks, many of which operate to exploit a twitch in market movement or value, irrespective of what informed it.¹³⁶ Economists at UNCTAD studying the impact of such high frequency trading technologies estimate that at least 60–70 per cent of commodity price changes are now due to self-generated activities, rather than novel information.¹³⁷ The significance of the shift towards momentum-based trading is that many market actors are no longer making investments based on research into agricultural fundamentals. They are not incentivized to do so. As Hyman Minsky and John Maynard Keynes have both argued, it can become irrational for traders to persist in trying to trade on market fundamentals when so-called ‘technical’ or ‘noise’ traders are driving prices upwards of fundamentals.¹³⁸

This brief foray into the mechanics of contemporary market practice clearly illustrates the limitations of the current regulatory approach based on position limits. Rather than being the consequence of the ‘excessive’ volume of speculative trading, or ‘outsize’ monopolistic derivatives transactions by single market actors and institutions, price volatility needs to be understood

¹³² Robert Shiller won a Nobel Prize for his work on speculative bubbles in the 1990s in which he demonstrated how ‘feedback loops’ created by traders adopting positions informed by the behaviour of other traders could drive prices away from fundamentals and result in market volatility. RJ Shiller, *Irrational Exuberance* (Princeton University Press 2015).

¹³³ Investing ‘long’ means investing in the expectation that an asset is going to rise in value.

¹³⁴ J Rogers, *Hot Commodities: How Anyone Can Invest Profitably in the World’s Best Market* (John Wiley & Sons 2007) 58.

¹³⁵ J Wilson, ‘Wall Street Grain Hoarding Brings Farmers, Consumers near Ruin’ *Bloomberg News* (28 April 2008) <<http://www.infiniteunknown.net/2008/04/30/wall-street-grain-hoarding-brings-farmers-consumers-near-ruin/>>.

¹³⁶ FoodWatch, ‘The Hunger Makers: How Deutsche Bank, Goldman Sachs and Other Financial Institutions Are Speculating with Food at the Expense of the Poorest’ FoodWatch Report (2011) 24.

¹³⁷ UNCTAD (n 131).

¹³⁸ S Dow, ‘The Psychology of Financial Markets: Keynes, Minsky and Emotional finance’ in G Papadimitriou and Wray (eds), *The Elgar Companion to Hyman Minsky* (Edward Elgar Publishing 2010) 246.

as a consequence of the cumulative trading practices of thousands of individual traders using new trading techniques: index fund trading, reliance on trading algorithms, and a culture of herding behaviour. Significantly, these traders may not be based at the same financial institution, or even domiciled in the same jurisdiction. Closer scrutiny of contemporary trading practices also casts doubt on the benefits of provisions aimed at improving transparency. As financial industry insiders have noted, greater transparency effected through data reporting allows opportunistic market participants to learn about their competitors' trading strategies.¹³⁹ This could mean that the US and EU reporting requirements may only serve to *exacerbate* trends in herding behaviour, and encourage further momentum-based trading. The AMIS initiative might help to mitigate against this trend in that it aims to improve the dissemination of accurate data on agricultural commodities. Nevertheless, this does not address the possibility that the proliferation of commodity derivatives and the profitable opportunities that they extend to market actors has changed the basis on which trading decisions are made in commodity derivatives markets. Simply ensuring the availability of more data for fundamentals may not be sufficient to encourage investors to trade based on that data, as opposed to trading with the herd.

These insights further help to explain the emergence of a speculative bubble in commodity derivative markets in 2007–11. Nevertheless, the question of how investment in this financial market impacts on underlying food prices remains unanswered. An explanation for this can be found in the altered role that derivative markets play in the global economy.

C. The Altered Role of Financial Markets

As financial historians have related, futures exchanges in the nineteenth and twentieth centuries attempted to prevent their prices from being replicated in shadow futures exchanges known as 'bucket shops', where the 'common people' would speculate.¹⁴⁰ The exchanges fought a legal battle between the 1880s and 1903 to try to prevent bucket shops from using their futures price quotations to facilitate wagers.¹⁴¹ Today, by contrast, commodity derivative markets are regarded as sophisticated information-gathering mechanisms which leads to 'price discovery'. As Staritz and Küblböck summarize, 'the price discovery function of trading on futures markets enables the open-market discovery of prices of commodities that are used as a benchmark for spot transactions and as a basis for decisions on production, consumption and investments'.¹⁴² That the prices on US futures exchanges are used to set prices

¹³⁹ GD Rosenberg and JR Massari, 'Regulation through Substitution as Policy Tool: Swap Futurization under Dodd–Frank' (2013) 667 *ColumBusLRev* 729.

¹⁴⁰ D Hochfelder, "'Where the Common People Could Speculate": The Ticker, Bucket Shops, and the Origins of Popular Participation in Financial Markets, 1880–1920' (2006) 93(2) *JAmHist* 351.

¹⁴¹ *ibid.*

¹⁴² Staritz and Küblböck (n 104) 14.

in underlying commodity markets was confirmed by Charles Carey, the Chairman of the preeminent futures exchange, the CBOT, in 2007: '[T]he whole world sees our prices, and the whole world reacts to our prices'.¹⁴³ There are applications for mobile phones that are marketed to farmers and grain commodity sellers to allow them to check futures prices for precisely this purpose.¹⁴⁴ This prevalent market practice demonstrates that while investment in derivatives markets has no direct effect on commodity prices, it has a well-established *indirect* effect. Prices inflated by the 'exuberance' of financial investors in derivative markets can impact on underlying commodity prices via the practice of benchmarking.¹⁴⁵ Krugman, the economist whose comments are typically used to deny a role for speculation in the price volatility of 2007–11, would probably accept this. Nevertheless, he, along with other speculation sceptics, continues to place great faith in rational arbitrageurs to intervene and purchase physical commodities to restore prices to fundamental values. It is this process of arbitrage that is really the sticking point as concerns the economic debate over the significance of commodity derivatives in relation to the global food crisis. When the shift in the character of derivative markets is contemplated, and when the array of instruments that offer arbitrageurs the opportunity to profit from price volatility without paying for grain storage are taken into account, there is good reason to question the faith placed in these market actors to intervene and purchase physical grain. One might say that there is a realistic possibility that they too will be swept up in the 'irrational exuberance' of financial trading.¹⁴⁶ One might also say that the fundamental changes in the composition of these markets have changed what it is rational for an arbitrageur to do in them.

As well as speaking to the debate over *if* commodity derivatives speculation was significant in the commodity price volatility of 2007–11, the new role of derivative markets in the global economy is also significant to investigations into *how* activity in commodity derivative markets can impact on underlying commodity prices. The word 'activity' must be stressed here, as the altered role of derivative markets suggests that it may also be commercial hedging that poses a threat to food prices. Speculation in commodity futures has been practised for centuries. The critical difference with the contemporary trade in commodity derivatives is that it enables a spectrum of different actors to take positions in the market for commodity futures that are not based on information about supply and demand fundamentals, but that are being *read as such by other market actors*. Once the prices listed on commodity futures exchanges were almost entirely a reflection of the needs of parties involved in agricultural production. Today, those prices are a function of a diverse

¹⁴³ Bjerga (n 35) 18. ¹⁴⁴ A Kittrell, 'New App Streamlines Grain Trading' <www.agriculture.com/news/technology/new-app-streamlines-grain-trading_6-ar17557>. ¹⁴⁵ Shiller (n 132).

¹⁴⁶ *ibid.*

range of motives, encompassing the desire to make profit through speculation, the need to diversify an investment portfolio, or the need to hedge against a risk taken in another market—be it commercial or financial. Rather than the problem lying solely or even predominantly with greedy, risk-loving financial speculators, hedging, if it is not carried out based on information about supply and demand fundamentals, may be just as problematic when it comes to food price volatility. This possibility has been widely overlooked in a regulatory approach fixated on preserving the benefits of commodity derivative markets for commercial actors, and on keeping international markets liberalized.

D. Beyond Financial Regulation?

The ambition to apply a scheme of regulatory rules that preserves the benefits of commodity derivative markets but removes their worst ‘excesses’ has an obvious appeal. As this article has illustrated, however, it may be the broader industry of commodity derivatives trading that puts food prices in jeopardy. It is not clear if this industry can be regulated in a way that removes the potential threat posed to food prices, whilst ensuring that derivatives can still be used to play a vital function in the management of various species of risk. Growing recognition of the limits of the post-crisis regulations has led to the advancement of some interesting proposals. Some have argued for an outright ban on commodity index funds on the basis that it is the *nature* of instruments that represents a threat to commodity prices, irrespective of the motives for which they are traded.¹⁴⁷ Both Eric Posner and Glen Weyl and Saule Omarova have debated the possibility of introducing compulsory pre-market government licensing of complex financial instruments.¹⁴⁸ These proposals seek to shift the burden of proof concerning the social utility and risks posed by a given financial instrument onto those seeking to profit by its trade. Much in the way that the US Federal Drugs Agency carries out safety checks on the use of medical drugs before they are released into the market, these proposals would require that instruments that have the potential to be ‘financial weapons of mass destruction’ are subject to higher standards of review and testing before being let loose in the economy.¹⁴⁹ Other proposals, such as a financial transactions tax (FTT), would also appear to hold more potential than the existing reforms in terms of incentivizing investors to

¹⁴⁷ IATP, Better Markets, Inc. and other critics of speculation argue that the CFTC should ban index funds because even if their components are regulated, they still correlate and move prices in otherwise uncorrelated commodities. Hansen-Kuhn and Suppan (n 103).

¹⁴⁸ EA Posner and GE Weyl, ‘An FDA for Financial Innovation: Applying the Insurable Interest Doctrine to 21st century Financial Markets’ (2012) 107 NWULRev 1307; ST Omarova, ‘License to Deal: Mandatory Approval of Complex Financial Products’ (2012) 90 WASHULRev 63.

¹⁴⁹ Derivatives were first coined as ‘financial weapons of mass destruction’ by the investor, Warren Buffet in 2003. ‘Buffett warns on investment “time bomb”’ BBC News (4 March 2003) <<http://news.bbc.co.uk/1/hi/2817995.stm>>.

consider more productive, long-term investment options, as opposed to opting for short-term trading strategies.¹⁵⁰ Perhaps such a tax could eventually encourage more investors to invest directly in actual agricultural production? A lack of investment in agriculture is, after all, one of the most commonly flagged reasons for the prevalence of hunger in the world today.¹⁵¹ Evaluating the likely efficacy of these more ambitious proposals for shielding commodity prices from future interference from derivative markets is beyond the scope of the article. However, it is suggested that these initiatives have greater potential than the existing US and EU measures for addressing the socially harmful effects of derivatives trading.

More radical regulatory proposals are an option for policymakers. Nevertheless, when the broader operations of the global economy are contemplated, there is also a case to be argued that other policies, aside from financial regulation, must be adopted if the food security and well-being of populations around the world is to be a priority. The current regulations leave the broader background conditions that give rise to a fertile environment for profitable speculative operations largely untouched. Prior to the abandonment of fixed exchange rates in the 1970s and the removal of restrictions on the free movement of capital, the need for commercial businesses to hedge financial risk was significantly lower. The need for hedging is, therefore, contingent on the (politically-determined) structure of the market. If, as this article has suggested, hedging practices may also put food prices in jeopardy, it might be necessary to use other measures that can help to stabilize food prices, instead of promoting further reliance on futures markets. One such option is the maintenance of buffer stocks that are released by governments into the market in order to stabilize episodes of price volatility. These measures have been rejected by leading international institutions, ostensibly on the basis that they are too costly.¹⁵² Considering the vital importance of food price stability around the world, however, surely it is those measures that are most effective in responding to the needs of human beings that ought to be prioritized, even if they are more expensive? As Olivier de Schutter has underlined, the establishment of international grain reserves could have been used to feed hungry people during the global food crisis.¹⁵³ What is more, the depletion of national grain reserves in many countries in the Global South was pursued under a drive towards cost-effectiveness and market efficiency, and the prioritization

¹⁵⁰ A tax on short-term financial transactions was first proposed by James Tobin in 1972. Tobin suggested that a tax on all spot conversions of one currency into another, proportional to the size of the transaction, could serve to curb levels of volatility in currency trading. Interviewed in 2001, he suggested it might be levied at 0.5 per cent. See 'They Are Misusing My Name' Spiegel Online International (9 March 2011) <www.spiegel.de/international/spiegel/english-summaries-a-154539.html>.

¹⁵¹ HLTF (n 4).

¹⁵² Interagency Report (n 9) para 76.

¹⁵³ O De Schutter, 'Final Report: The Transformative Potential of the Right to Food' (2014) Report of the Special Rapporteur on the Right to Food, A/HRC/25/57, 10–11.

of private mechanisms of risk management over public ones.¹⁵⁴ Buffer stocks are a public mechanism of risk management; futures markets are a private one. Agricultural producers in developing countries continue to be encouraged to use futures contracts and derivative markets as tools of risk management, in spite of the risks that the trading of these instruments poses to food price stability. The analysis in this article would suggest, at the very least, the need for a serious reappraisal of the relative benefits of public and private risk management mechanisms. Ultimately, however, the form of the global food crisis of 2007–11 suggests the need for a fundamental revision of global economic structures. Legal regimes fostering trade and financial liberalization, the merging of retail and investment banks, practices of subsidiarization that enable organizational arbitrage, and the existence of tax havens and offshore financial centres remain far from the cross hairs of financial regulators. MiFID II does not call into question many of the basic rules of MiFID I, which are designed to foster the further the integration, competitiveness and efficiency of EU financial markets. Many of these rules are explicitly aimed at creating an equal global playing field for financial investors, and for facilitating the movement of all kinds of assets. They are also, then, an invitation to continue profitable speculative operations on fluctuating market values, and to develop yet more financial instruments to evade the current scheme of regulatory rules. Derivative instruments, after all, were an innovation developed as a means to circumvent regulations on the free movement of capital.¹⁵⁵ What is more, as Dan Awrey and others have intimated, financial innovation poses a critical challenge to the future efficacy of even the most sophisticated body of regulatory rules.¹⁵⁶

The substantiated argument of this article is that the Dodd Frank and EMIR-MiFID II reforms are not suitable for the NGO project of addressing problematic trends in commodity derivatives trading. The author urges the NGO community and policymakers to investigate further into the complex operations of derivative markets, and to ask deeper questions about how these instruments are impacting on values in and beyond underlying markets. However, a much more tentative conclusion that might be drawn from this study is that financial regulation alone may be insufficient to address developments in global finance that pose a threat to social welfare. Speculative investment and the bent of the financial services industry to develop complex products that enable investors to profit from volatility in underlying markets, irrespective of how this impact on human lives, would appear to be the very lifeblood of modern financial markets—their *raison d'être*. Is it possible to regulate these markets in a way that retains their

¹⁵⁴ S Murphy, 'Grain Reserves: A Smart Climate Adaption Policy' in Lilliston and Ranallo (n 60) 18.

¹⁵⁵ E Helleiner, 'Explaining the Globalization of Financial Markets: Bringing States Back In' (1995) 2 *Review of International Political Economy* 2.

¹⁵⁶ Awrey (n 113).

profitability for financial investors and ensures stability for actors in the underlying economy? More radical proposals, such as the need for vulnerable populations to be delinked from international markets, and the need for a reconsideration of trade and capital liberalization rules can be easily dismissed as unfeasible. Yet, as this article has shown, neither does financial regulation appear to a viable strategy if the needs of people are to be put before the pursuit of financial profit. More radical proposals that might lead to more effective and sustainable solutions deserve contemplation.

V. CONCLUSION

Scholars and organizations concerned with the persistence of hunger in the world have been warning of the dangers of exposing small farmers and poor communities in the Global South to liberalized markets for years. The events of the global food crisis of 2007–11 confirmed the validity of their concerns regarding the precarious state of the global food system. Millions of people worldwide were left unable to command access to basic food staples during this period, as a result of the spread of rampant commodity price volatility from international markets. A substantial body of evidence attributes some measure of the volatility to the activities of financial and corporate actors transacting in commodity derivative markets. Yet, in spite of the potential threat that commodity derivatives pose for global food security, these instruments continue to be positioned by international institutions to play a leading role in agricultural risk management going forward. The drive to keep flows of trade and capital liberalized—coupled with the ambition to preserve the risk management function that derivatives play in the broader economy—has resulted in a regulatory agenda bent on retaining the benefits of derivative markets, and on fixing their worst defects. Significant attention and resources are now being directed towards effectuating a regulatory strategy that is content to leave many of the structural underpinnings that have led to food prices becoming vulnerable to the logics of financial markets untouched.

Legal scholars analysing the new regulatory architectures in the US and the EU have tended to focus on their capacity to respond to concerns about systemic risk and financial market competitiveness. This article has sought to focus attention on the equally important question of the utility of the regulations for shielding food prices from future ‘speculative’ interference. By means of a critical analysis of the regulatory measures, the article has demonstrated that the faith placed in the Dodd Frank and EMIR-MiFID II reforms by parties concerned to prevent a repeat of the events of 2007–11 is misplaced. Both the US and EU regulations are largely confined to a project of attempting to reinstate limits that used to function to restrict volumes of speculative investment on futures exchanges in the past. This is a serious underestimation of the significant changes in the nature of speculative trading that have occurred

in the interim. The new reforms are predicated on a conceptual distinction between types of market participant that is insufficiently sensitive to the mixed motives for which both financial and corporate actors enter into positions on futures markets. What is more, the new regulations not only critically underweight the role that collective market psychology—enabled and augmented by new instruments and trading technologies—plays in determining futures prices, but they fail to adequately account for how the price ‘discovery’ function of financial markets leads inflated futures prices to impact on the prices of physical food commodities.

As well as illustrating the limitations of the new regulatory proposals, the article has also challenged a number of pervasive assumptions about the dynamics of commodity derivative markets that have been used to negate the very possibility that speculative practices contributed to the global food crisis. In particular, objections have been raised to the faith placed in rational arbitrageurs by sceptical economists—a faith that appears misplaced when read alongside the other characteristics commonly attributed to ‘economic man’, such as the drive to maximize one’s own utility. Equally, though, the article suggests that the characterizations common throughout much of the NGO literature need to be revisited. Commercial hedging is largely looked on with approval by those concerned to respond to the perceived excesses of the financial sector; and yet, to the extent that more complex hedging needs may mean that commercial hedging is not being carried out based on research into agricultural supply and demand fundamentals, this pervasive market practice may also put food prices in jeopardy. Taken together, the work carried out in this article lends support to the arguments of those who have advocated for the development of more radical regulatory measures intended to address harmful trends in the financialization of economic and social life. It further underlines the need for deeper structural issues in the global economy to be acknowledged and addressed, if the most basic needs of vulnerable populations are not to be threatened by the activities of the financial sector in the years to come.