

Food and agricultural markets instability: policies and regulation perspectives

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SUMMARY REPORT

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CONFERENCE SPEAKERS AND PANELISTS

ALBISINNI F., *The new CAP after Lisbon: evergreen TFEU objectives and new institutional regulatory models*

BARDAJÌ I., *Thinking about CAP post 2020, how EU policy should be redefined*

GIL J. M., *The functioning of agricultural commodity markets and the role of price volatility*

M'BAREK R., *Long term drivers of food markets variability and uncertainty*

MAGRINI E., *Impact and policies of markets instability in low income countries*

ODENING M., *Which regulation and which regulator for agricultural commodity derivatives markets?*

PERRONE A., *How should good market regulation look like?*

POPPE K., *Why agricultural markets instability is important for innovation and well-functioning food value chains*

SCIARRONE ALIBRANDI A., *EU regulation of agricultural commodity derivatives markets*

Panel discussion (1) - *Navigating unstable food markets: the role of policy vs. the innovation of the private sector*

BORIN A. – VALIENTE D. – CONFORTI P. – HILKENS W.

Panel discussion (2) - *Why good markets regulation can help reduce agricultural markets volatility*

VANDER STICHELE M. – WORLEDGE T. – ARLANDI E. – MILLER R.

Panel discussion (3) - *Policy challenges arising from the increasingly unstable global food markets*

HANIOTIS T. – HALKIN J. P. – BRESCIANI F.

Panel discussion (4) - *What policies should countries, EU and the international community pursue?*

SUMPSI M. J. – PALAU X. – GARCÌA-AZCARÀTE T.

The conference topic

The Food and Agricultural Markets Instability: Policies and Regulation Perspectives International Symposium discussed how food and agricultural markets can become more stable and what policies and regulatory frameworks should be implemented to make world food systems more efficient, sustainable and predictable. The conference is part of a scientific initiative promoted by the European Union (EU) for Expo 2015 within the framework of *The role of research in global food and nutrition security* discussion paper.

Co-organised by the EC Joint Research Centre, Università Cattolica del Sacro Cuore (UCSC), and 7th Framework Programme ULYSSES Project (Understanding and coping with food markets volatility towards more stable world and EU food systems), the conference presented ULYSSES's main conclusions and results, and discussed issues related to the financialisation of agricultural markets, risk management tools and regulation, as well as current policy approaches.

The conference aimed to define EU international policies to improve food security and ensure a proper functioning of food and agricultural markets, benefiting both consumers and producers in accordance with the goals of fairness pursued by the Charter of Milan. Particular attention has been paid to developing countries which are harder hit by agricultural commodity volatility and price spikes that limit access to food.

This report does not necessarily reflect the official opinion of the organising institutions.

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1. The 2007 and 2008 price crisis

During the years of the financial crisis, the spot prices of raw materials and, in particular, agricultural commodities grew substantially, triggering international debate about the potential effects of the financialisation of commodity markets.

The issue has both economic and ethical implications, because the price volatility of raw materials has an immediate effect on the economic growth of developing countries and can become a serious impediment in the fight against hunger and malnutrition. During the first decade of this century, commodity prices on the main agricultural markets increased rapidly. In particular, the three year-period from 2007 to 2009 was characterised by high price volatility: there was a sharp increase in prices in 2007, which reached record levels in 2008 during which they then sank by 30% and, finally, rose again in the summer of 2011.

FAO food price index

		Food Price Index ¹	Meat ²	Dairy ³	Cereals ⁴	Vegetable Oils ⁵	Sugar ⁶
2000		91.1	96.5	95.3	85.8	69.5	116.1
2001		94.6	100.1	105.5	86.8	67.2	122.6
2002		89.6	89.9	80.9	93.7	87.4	97.8
2003		97.7	95.9	95.6	99.2	100.6	100.6
2004		112.7	114.2	123.5	107.1	111.9	101.7
2005		118.0	123.7	135.2	101.3	102.7	140.3
2006		127.2	120.9	129.7	118.9	112.7	209.6
2007		161.4	130.8	219.1	163.4	172.0	143.0
2008		201.4	160.7	223.1	232.1	227.1	181.6
2009		160.3	141.3	148.6	170.2	152.8	257.3
2010		188.0	158.3	206.6	179.2	197.4	302.0
2011		229.9	183.3	229.5	240.9	254.5	368.9
2012		213.3	182.0	193.6	236.1	223.9	305.7
2013		209.8	184.1	242.7	219.3	193.0	251.0
2014		201.8	198.3	224.1	191.9	181.1	241.2
2014	September	192.7	211.0	187.8	178.2	162.0	228.1
	October	192.7	210.2	184.3	178.3	163.7	237.6
	November	191.3	206.4	178.1	183.2	164.9	229.7
	December	185.8	196.4	174.0	183.9	160.7	217.5
2015	January	178.9	183.5	173.8	177.4	156.0	217.7
	February	175.8	176.9	181.8	171.7	156.6	207.1
	March	171.5	170.4	184.9	169.8	151.7	187.9
	April	168.4	170.8	172.4	167.2	150.2	185.5
	May	167.2	172.6	167.5	160.8	154.1	189.3
	June	164.9	169.5	160.5	163.2	156.2	176.8
	July	164.2	172.7	149.1	166.5	147.6	181.2
	August	155.1	171.1	135.5	155.1	134.9	163.2
	September	156.3	170.5	142.3	154.8	134.2	168.4

1 Food Price Index: Consists of the average of 5 commodity group price indices mentioned above, weighted with the average export shares of each of the groups for 2002-2004: in total 73 price quotations considered by FAO commodity specialists as representing the international prices of the food commodities are included in the overall index. Each sub-index is a weighted average of the price relatives of the commodities included in the group, with the base period price consisting of the averages for the years 2002-2004.

2 Meat Price Index: Computed from average prices of four types of meat, weighted by world average export trade shares for 2002-2004. Commodities include two poultry products, three bovine meat products, three pig meat products, and one ovine meat product. There are 27 price quotations in total used in the calculation of the index. Where more than one quotation exists for a given meat type, a simple average is used. Prices for the two most recent months may be estimates and subject to revision.

3 Dairy Price Index: Consists of butter, SMP, WMP, and cheese price quotations; the average is weighted by world average export trade shares for 2002-2004.

4 Cereals Price Index: This index is compiled using the International Grains Council (IGC) wheat price index, itself an average of 10 different wheat price quotations, 1 maize export quotation and 16 rice quotations. The rice quotations are combined into three groups consisting of Indica, Japonica and Aromatic rice varieties. Within each variety, a simple average of the relative prices of appropriate quotations is calculated; then the average relative prices of each of the three varieties are combined by weighting them with their assumed (fixed) trade shares. Subsequently, the IGC wheat price index, after converting it to base 2002-2004, the relative prices of maize and the average relative prices calculated for the rice group as a whole are combined by weighting each commodity with its average export trade share for 2002-2004.

5 Vegetable Oil Price Index: Consists of an average of 10 different oils weighted with average export trade shares of each oil product for 2002-2004.

6 Sugar Price Index: Index form of the International Sugar Agreement prices with 2002-2004 as base.

These price movements went hand in hand with an increase in the use of financial tools, raising questions about their potential impacts on commodity markets.

2. Commodity financialisation and the role of derivatives markets

Financial speculation, which rose dramatically from the early 2000s until the 2008 financial crisis, also involved trading in financial derivatives on agricultural commodities by both hedgers and speculators. As of early 2008, investments in commodity index funds grew sharply, peaking at 460 billion dollars in 2011 (contract notional value)¹. At the same time, hedge funds were also particularly active in agricultural commodity derivatives markets. This kind of funds often employ totally automated systems using algorithms and high-frequency trading techniques, which may possibly have negative effects on price stability, which in turn could be amplified by the limited availability of information².

In addition to these problems, the interconnections between the spot markets and the futures markets increased. Thus, appropriate and correct information about both financial and physical markets is becoming extremely important for a smooth functioning of the markets, as well as for a correct price formation mechanism (e.g. production volumes and trading volumes). Despite the correlations between the position of spot markets and futures markets, it is tricky to evaluate the effects of derivatives trading on the underlying markets.

Given this premise and the possible consequences for the supply and demand of agricultural commodities, the international authorities decided to limit speculative activities and improve the information flow to the markets (cf. Focus 2 in this document).

¹ After a decline in 2011, the investment in this sector is increasing again and reached a level of 311.4 billion dollars at the end of May 2014. The last CFTC report (June 2015) referred a notional value of 267.4 billion dollars. For further information, see <http://www.cftc.gov/marketreports/indexinvestmentdata/index.htm>.

² The lack of EU regulation and supervision became evident in July 2010 when a single commodity hedge fund was able to ‘corner’ the NYSE Euronext cocoa market, causing prices to spike higher and then collapse following the July contract expiration (Berg, 2013: 66-68).

3. FOCUS 1: The economic perspective

This section aims to examine the issue of price volatility from the economic perspective. Firstly, price volatility is defined, and the main causes of the phenomenon are presented. Then, the effects of price volatility and market instability are discussed. Finally, the last section briefly describes the phenomenon of the financialisation of agricultural markets.

3.1 Agricultural market instability and price volatility

Volatility refers to variations in economic variables over time. More precisely, volatility is the measure of price variation from one period to the next.

Commodity prices have shown considerable volatility over the past decade, and there is a general consensus that excessive price volatility can threaten market stability and pose serious risks to food security. Whereas some level of volatility, such as market reaction to the flow of information, can be considered normal, negative or inefficient volatility, occurring when prices spike and then drop to their original level, can do serious harm to market participants. Moreover, excessive price volatility can create price bubbles, with obvious negative effects on traders.

Despite the vast literature, the causes of volatility are not easy to understand due to the complexity of the phenomena. Different sources of external factors are likely to bring uncertainty to agricultural markets, thus affecting prices. Weather shocks (affecting agricultural yields), climate change, macroeconomic indicators, input prices (particularly energy and fertilizers) and policies are generally assumed to be among the most important sources of price variability in agriculture (*M'Barek R.*). Moreover, demand shocks, in particular income shocks and policy shocks, may also play an important role.

Hence, there cannot be said to be one single cause of price volatility, which is, on the other hand, the result of the concurrence of many forces at the same time, like, for example:

- a) long-run trend in food supply, due to the smooth, but continuous, transformation of farm land to alternative uses (e.g. for industry or housing), the growing scarcity of natural resources (like water), climate change effects and extreme weather conditions,

causing pests, natural disasters etc. (most studies project an adverse impact on crop yields due to climate change);

b) long-run trends on the demand side, due to population growth and changes in dietary habits (e.g. increasing demand for meat and, consequently, for cereals used for feed);

c) volatility in oil prices and the corresponding changes in energy prices, which have an impact on production and transportation costs;

d) increasing use of commodities for bio-fuel production;

e) agricultural policies aiming at reducing commodity stocks;

f) fertilizer price increases;

g) low levels of stocks-to-use of the main commodities;

h) macroeconomic factors, like the dollar depreciation and the reduced interest rates

i) more recently, speculation in futures markets.

It is important to underline that there is no general consensus on the relative importance of each of the above drivers of price volatility. Evidence differs considerably across countries and commodities.

3.2. The effects of price volatility

In recent years, volatility has attracted the attention of researchers and policy makers, since it has been perceived as one of the main sources of market instability and a major obstacle to food security in developing and emerging countries (together with production failure), especially countries that are highly dependent on agricultural exports. Low prices can, indeed, strongly impact the balance of payments; moreover, price spikes in international markets can generate domestic shortages.

Thus, price volatility can have a wide range of impacts, which can be analysed both at the level of the economy and the individual (producer and consumer). Besides, these effects may differ depending on the regional and national context. Whereas high domestic food prices in low-income food-importing countries generate negative impacts on the poor depending on basic foodstuffs (more expensive imports and, as a consequence, reduced intake of more nutritious and healthy food), in other developing countries uncertainty-generating price volatility would instead have an impact on investments in technology and production capacity. Moreover, poor

smallholders who do not have easy access to credit may find it difficult to finance inputs (this issue has serious implications particularly for female smallholders). In middle-income countries, inflation can lead to problems as many consumers spend as much as half of their budget on basic food. Finally, in developed economies, higher prices can affect the poorest households, who tend to spend a larger share of their budget on food (however, the impact here is more limited than in developing countries because more choices are available) (*Gil J.M., 2015*).

The transmission of world food prices to domestic markets is an interesting effect of price volatility particularly worth analysing. For example, the FAO's analysis of food inflation and the recent data on global and regional food consumer price indices (food CPIs) suggest that food price hikes at the primary commodity level generally have little effect and that the swings in consumer prices were much less pronounced than those faced by agricultural producers or recorded in international trade (*Conforti P.*). Furthermore, recent studies show that the negative effects of price volatility on the poorest households, particularly in developing countries, may not be as strong as expected. In fact, the poorest subset of the population, living in rural areas, can count on their own production of food, whereas people living in urban areas cannot.

Thus, there is no doubt that volatility can be detrimental for market participants and consumers, particularly in developing countries; but the strongest effects are likely to be caused by price shocks (*Magrini E.*).

The observed impacts are bigger for producers. Excessive or distortive price volatility can do damage to farmers, leading to uncertainty about whether they will receive a high or a low price at the time of sale. The problem affects all the actors in the supply chain: each and every investment is a difficult decision for a farmer to make since they do not know if they will be able to pay back the loan for the investment. It also becomes more difficult to secure a loan, as well as to plan and plant at profitable prices (*Vander Stichele M.*). However, producers in richer nations can deal with price volatility more effectively than in poorer countries through a range of risk management tools (e.g. forward and futures markets and revenue insurance).

As pointed out at the beginning of this section, it would be misleading to consider price volatility exclusively as a negative factor. Volatility can, indeed, also have positive effects at sector level, as it

supports sector dynamics particularly by fostering innovation and scaling up (*Poppe K.*). For example, years with high prices may provide the best farmers with a financial buffer to innovate (e.g. they can buy new machinery) and expand (buying neighbouring land).

3.3. The financialisation of agricultural markets: speculation and price volatility

As is well known, financial markets offer many price risk management instruments: forward and futures contracts, options, swaps and different kinds of insurance have been designed to help farmers manage the risks deriving from price volatility and market instability. The need to link agricultural markets to financial instruments does, indeed, stem from the fact that agricultural production is quite unpredictable. As a result, prices tend to be more unstable over time than industrial and service prices. The possibility of adverse price developments on the spot (cash) markets generates a risk for agricultural producers as well as for food processors. In order to manage this risk, producers, processing companies and other users of agricultural commodities started to transfer risk to commercial speculators, who were willing to accept price risk in exchange for potential profits.

In particular, a derivative is defined as an instrument whose value depends on the value of an underlying variable. Commodity futures and forward markets can be seen as a structure in which risk is transferred from commercial to non-commercial traders (from hedgers to speculators). In assuming this price risk, speculators provide the market liquidity that enables hedgers to find counterparties in a relatively costless manner. As Gilbert and Morgan pointed out, "the traditional view among economists is that speculation will tend to be stabilizing (i.e. volatility reducing) because destabilizing speculation will be unprofitable and will therefore not persist. However, much speculation is undertaken by trend-following commodity trade advisors or amateur traders, and there is a worry that their extrapolatively based actions may result in self-fulfilling beliefs—if identified as a nascent trend, a randomly induced price rise will generate further buying, thereby reinforcing the initial movement".

Futures markets do not only provide food buyers and sellers with insurance against price volatility, but they are also important for *price*

discovery in spot markets, helping commodity traders set benchmarks for current prices. Moreover, they have become an important source of profit for dealers, earning fees from the generation and trading of products; these markets have attracted a growing number of speculators (who make short-term bets on future price movements) and longer-term investors, who seek exposure to commodity investments as part of portfolio diversification.

Hence, institutional investors have recently started to invest in commodity futures through index-based swap transactions as a portfolio diversification strategy and to assume exposure to the commodity asset class. Besides, non-traditional speculators came to outnumber hedgers and traditional speculators. The number of futures and options contracts on commodity exchanges worldwide grew threefold between 2002 and 2008.

Although, historically, US agricultural futures markets have been tightly regulated (e.g. through the system of daily reporting and the position limits on non-commercial traders who are not bona fide hedgers) in order to prevent market manipulation and distortions, the growth in agricultural futures has brought about a loosening of these position limits (for example, through over-the-counter (OTC) swaps not traded on formal exchanges). High prices across a wide range of commodities and the potential diversification benefits of a wide array of investment opportunities have attracted speculative investors (e.g. hedge funds, commodity index and exchange-traded funds) into commodity markets. From 2003 to 2008, speculative investment in commodity indexes was estimated to have increased from \$15 billion to around \$200 billion.

The big increase in the flow of finance into food commodity futures markets has coincided with higher price levels and an increase in price volatility, characterised by large spikes. Although there is no consensus about there being a direct causal relationship between these two phenomena, the concern that speculative investment contributes to food price inflation and volatility has fostered the debate about the ethics of speculation. On the one hand, some of the arguments in praise of speculation are that price increases can be explained by market fundamentals and that price booms on agricultural markets could also be observed without index-trading. On the other hand, speculation may cause price bubbles, may increase price volatility and raises several issues from the moral and ethical point of view (*Odening M. – Miller R.*).

In light of the issues mentioned above, the public and academic debate has focused on whether financial speculation in commodity derivatives influences food prices, with knock-on consequences for the world's poorest people and food security. And this debate is, of course, strictly linked to the regulatory aspect. Empirical knowledge on the effects of regulatory measures on commodity market efficiency is limited, and financial market regulation has to face a complex trade-off between curbing excessive speculation and deterring useful speculation.

4. FOCUS 2: The regulatory perspective

In light of the problems mentioned above, this part of the report addresses the topic of the evolution of regulations in the field of commodity derivatives trading. Special attention is paid to the role of the MiFID Review and to the over-the-counter (OTC) derivatives market reforms. Finally, the analysis concludes with an illustration of prospective reforms.

4.1. Is there a need for regulation?

The complex project of reform of financial markets in the aftermath of the financial crisis also involved the commodity derivatives market.

Apart from the controversial evidence on the correlation between financial speculation and price volatility, there is a need to find a solution to limit the negative effects of speculation, ensuring, at the same time, efficient trading for hedging operations. Furthermore, there is a need for more transparency on the activity of derivatives markets and, in particular, on the investments of hedge funds. As recommended by the competent international organizations, the main objective of the new regulation is to improve transparency in both futures and OTC commodity derivatives markets as well as to formulate/implement/enforce appropriate rules in order to enhance the economic functioning of these markets (*Sciarrone Alibrandi A. - Vander Stichele M.*).

The regulation of derivatives contracts for agricultural commodities has changed substantially over the last five years. The financial crisis and its aftereffects determined a new trend in the regulatory scheme, with a clear shift from the traditional regulatory paradigm of the EU legislator.

In the years following the financial crisis, the regulation of derivatives, especially OTC derivatives, switched from a sort of indifference on the part of the lawmaker (i. e. deregulation) to a deep rethinking of market structures, sometimes implementing elements of product regulation (*Sciarrone Alibrandi A. - Miller R.*).

4.2. More transparency and less speculation: the role of reforms

The 2008 financial crisis primarily highlighted the lack of transparency of derivatives markets, in particular OTC markets. Thus, the reform process developed in this direction, introducing new rules to

strengthen transparency and discipline and to improve the information available to the market (*Sciarrone Alibrandi - Vander Stichele M.*). On this point, the G-20 agricultural ministers meeting in 2011 in Paris agreed with the report by the International Organization of Securities Commissions (IOSCO) "to ensure a better functioning and more transparent agricultural financial markets (including over-the-counter derivatives), to prevent and to address market abuses, cross-market manipulations and disorderly markets".

From this viewpoint, the regulator introduced specific measures in order to reform the OTC derivatives market and algorithmic trading. Some efforts were also made to improve the transparency of investment funds operating in this sector.

4.3. The current legislative framework

EU regulates the trading and execution of agricultural commodity derivatives through several directives and regulations that address the following topics: trading and markets (Directive 2014/65/EU on the market in financial instruments – MiFID II – jointly with Regulation 600/2014 – MiFIR), market infrastructure and post trading services (European Market Infrastructure Regulation 648/2012 – EMIR), supervision of *alternative* investments (Alternative Investment Fund Managers Directive 2011/61/EU – AIFMD), and traded investment funds (Undertakings for Collective Investment in Transferable Securities Directive 2009/65/EC – UCITS IV).

Directive 2014/65/EU (MiFID II) and Regulation 600/2014 (MiFIR) play an important role in defining the new regulatory environment, as a result of the complex review project of the former MiFID Directive (the so-called MiFID Review).

First of all, the new MiFID II regime extends the definitions of securities with the goal of increasing the number of derivative contracts covered by the directive, as requested by the G-20 mandate (cf. Recital 19). On the one hand, every derivative contract with physical delivery is now subject to the new regulatory regime; on the other hand, the EU legislator restricted the scope of exemptions.

These exemptions reflect the previous discipline. The EU regulator implemented these amendments in order to address the problems posed by excessive speculation and risk-taking. As a consequence, under the new regime, exemptions operate only when specific conditions occur (*Sciarrone Alibrandi A.*).

One of the major changes in the EU commodity derivatives regulation is the introduction of position limits. The objectives underlying the imposition of this measure are to diminish, eliminate or prevent excessive speculation, to deter and prevent market manipulation, squeezes and corners, as well as to ensure sufficient market liquidity for bona fide hedgers (in technical terms, the regulator fosters hedge-hedge and the hedge-speculative transactions). MiFID II (art. 57) implemented this ex ante limit on positions that operators can hold on commodity derivatives. Exchanges or other regulated markets (MTF or OTF) must apply the limits on all commodity derivatives traded (*Sciarrone Alibrandi A. - Vander Stichele M.*).

After the financial crisis, the EU regulator began to consider product regulation as an effective tool for protecting the integrity and proper functioning of markets. This policy change marks an important evolution in the EU regulatory strategy. This, the most interventionist form of retail market regulation, can also be effective with respect to the problem of excessive volatility in both spot and derivatives markets. This new regulatory trend is evident in the MiFID review regime. Under these new provisions, national competent authorities have the power to prohibit or restrict “the marketing, distribution or sale of certain financial instruments or derivatives that pose a threat to the orderly functioning and integrity of financial markets or commodity markets or to the stability of whole or part of the financial system within at least one member state” , or have “a detrimental effect on the price formation mechanism in the underlying market” (MiFIR, art. 42).

Furthermore, EU regulators also introduced a new framework for the *trade* phase. MiFIR introduces the obligation to trade sufficiently standardized OTC derivatives, subject to mandatory clearing, at regulated trading venues. In particular, the trading venues are subject to on-going pre- and post-trade disclosure requirements to the market. More precisely, they must publish the bid and ask prices, including the units of the funds (e.g. ETFs on commodities), as well as the prices, volumes and time of the closed transactions.

In the UCITS IV regime, product intervention is a function of the portfolio-shaping and risk management rules which apply to mutual funds. Articles 49, et seq., of the UCITS Directive state precisely which asset is eligible for UCITS fund managers.

Regarding derivatives, the policy is restrictive. Commodities and commodity derivatives are not eligible. According to the guidelines of the CESR, the funds may invest in structured instruments whose performance is linked to the market indices of commodities or commodity derivatives. This means that commodity index ETFs must be synthetic in the EU. More precisely, the provision comes from UCITS Directive art. 50 (1), which lists the eligible assets, and art. 50 (2), which specifies the exemptions. Commodity derivatives do not fall under these two provisions. In fact, the trading operations on commodity derivatives cannot occur even indirectly through shares of ETFs (e.g. under US law) authorized for trading in commodity derivatives.

The purpose of this regulatory regime is to protect investors. From this viewpoint, commodity derivatives are considered excessively risky and exposed to large price fluctuations. By prohibiting funds to operate in the commodity derivatives market, however, the regulator introduces a limit on the possible distortive effects of speculation on the regular performance of these markets.

Regulation 648/2012/EU, on the other hand, introduced a new market architecture for OTC derivatives, implementing the clearing obligation through CCP as well as the obligation to report data about all transactions occurring through an authorized trade repository.

Increasing the use of CCPs pursues both of the above objectives. Mandatory clearing has three main identifiable benefits: it improves the management of counterparty risk, it leads to more efficient multilateral netting of exposures and it facilitates the execution of payments. Finally, the clearing structure increases transparency by making information concerning the trading operations and exposures available to the market.

In other words, a CCP could be described as a centralized information collector, with two main advantages: on the one hand, the concentration of the transactions provides precise information on the exposures of each operator and can, consequently, identify potential risks; on the other hand, through the publication of prices and trading volumes, the market is better able to assess risks.

In order to increase transparency on the OTC derivatives market, the new regulatory framework introduces the mandatory data reporting of transaction details to a trade repository. The reporting requirement guarantees the specification by the CCP of the parts and the main features of the contract for both counterparties.

With the objective of limiting practices that may compromise the orderly functioning of markets, the Alternative Investment Fund Managers Directive 2011/61/EU (AIFMD) regulates the activities of alternative fund managers that are not covered by the UCITS regime. Therefore, even hedge funds specialized in agricultural commodities trading have to comply with certain transparency obligations.

In conclusion, the EU legislator aims, through the new regulatory framework, to improve transparency, reduce the negative effects of financial speculation and make more information about investment policies of funds available to the market and to the supervising authorities. In order to prevent market distortions, authorities are now also able to prohibit some operations.

4.4. Appraisal and prospects

The current state of the EU legislation clearly shows the main motivations of the recent reforms. In general, the measures focus on transparency requirements, investor protection and financial system stability risks as a whole. The regulation of the agricultural commodity derivatives markets was implemented by financial regulators and the measures were not put in place only to address the problems related to the agricultural commodity derivatives.

From this point of view, the specific issues of agricultural commodity markets have not been thoroughly addressed (*Sciarrone Alibrandi A. - Vander Stichele M.*).

Nonetheless, specific legislation for agricultural commodity market could be useful as a consequence of the further liberalisation of agricultural markets pursued by the 2013 Common Agricultural Policy (CAP) reform. In particular, an improved functioning of agricultural commodity derivatives markets could be crucial as a price indicator for the market and as an effective risk management tool (e.g. hedging activity).

From this viewpoint, the new legislation has some loopholes. Under EMIR, for example, no distinction has to be made in each trade repository report between agricultural and non-agricultural derivatives. In addition, no clear definition is provided on the different type of agricultural commodity derivatives traded in the EU (*Sciarrone Alibrandi A. - Vander Stichele M.*).

The position limit regime implemented by MiFID II and MIFIR also has some weaknesses. One of the main criticisms is with regard to its capacity to prevent excessive speculation. The proposed limit on speculative

positions is only likely to have the effect of avoiding market cornering (*Perrone A - Vander Stichele M.*). In other words, while the proposed levels may be effective for preventing market manipulation, they are insufficient for preventing the statutory objective of stopping excessive speculation: the actual level of limits³ can be considered too high for non-liquidity and there are no limits on the total amount of speculative trading. On the other hand, the position limits, in the aggregate, constrains market fundamentals.

Another important weakness depends on the structure of the law-making process: many crucial decisions are delegated to level 2 where not all stakeholders are well represented. In addition, the final decision is ultimately taken at the national level. This may create problems of regulatory arbitrage among EU member states (*Vander Stichele M.*). From this viewpoint, although an important change has taken place, the EU regulatory regime still reflects the traditional approach focused more on market manipulation than on excessive price volatility. Position limits, disclosure requirements, and market abuse regulation work better for thwarting market manipulation than for curbing excessive speculation.

In the light of these criticisms, the current challenges for regulation should better consider the interests involved.

Agricultural derivatives markets bring together: (1) commercial traders who seek to hedge their risks, (2) speculators with heterogeneous expectations concerning such risks, and (3) the victims of price spikes. A reasonable regulation balances the interests of the key stakeholders in such a way that the protection of one interest does not rule out another (*Perrone A. - Vander Stichele M.*). It is a question of distributive justice considering the benefits of speculation against its negative externalities generated by limiting access to food. From this viewpoint, the regulator should consider some measures in order to directly address speculation, such as:

- a) limiting legal enforceability to agricultural derivatives traded on a regulated exchange to foster transparency and allow more effective control;
- b) introducing reasonable volume limits based on some form of correlation between the notional amount of traded derivatives and the size of physical production;

³ From 10% to 40% of deliverable supply of a particular contract (average: 25%) during the spot month; from 10% to 40% of open interest of a particular contract (average: 25%).

- c) granting product intervention powers to a public authority as a last resort in order to preserve the integrity of agricultural commodity markets.

In conclusion, since regulatory choices cannot be avoided and all stakeholders' interests must be properly taken into account, regulation in this field cannot ultimately be a matter of efficiency, since efficiency has not proved to be a justifiable distributive criterion (*Perrone A.*).

CONCLUSIONS

During the Food and Agricultural Markets Instability: Policies and Regulation Perspectives International Symposium several ideas were brought to the attention of the public. Because of the serious consequences of agricultural and food markets instability (the 2007-08 price crisis forced millions into a situation of food insecurity), the effects of price volatility and possible policy and regulatory actions for implementation were discussed from different viewpoints. The main outcomes presented are summarized below.

- Excessive volatility can pose serious risks, particularly for poor households in developing economies, with an impact on their food security. However, some positive aspects of price volatility warrant consideration, i.e. it fosters private sector innovation. Some level of price volatility is physiological: it is the normal reaction of the market to information and expectations; however, expectations should be based on reliable information in order to drive decisions by market participants (*Arlandi E.*).
- It is necessary to increase the transparency of both financial and spot markets for both public authorities and market participants. Moreover, financial authorities dealing with derivatives at trading venues should report to and cooperate with public bodies controlling physical agricultural markets as mentioned in the most recent EU regulatory tools (MiFID II - MiFIR).
- In the light of the currently complex regulatory environment, it might be well worth implementing a more specific regulation on agricultural commodities. In this context, it might be useful to thoroughly address some of the issues concerning the proposed level

of position limits for tailoring to agricultural derivatives. The regulator should weigh up the introduction of reasonable volume limits based on some form of correlation between the notional amount of traded derivatives and the size of physical production.

- Different actions need to be implemented in order to deal with price volatility in terms of both new policy and regulation approaches and further research to be implemented.

European agriculture faces several challenges, which include increasing production using fewer resources, producing high quality and nutritious food, coping with climate change and natural disasters, dealing with land abandonment etc. One of the key factors is to foster innovation and to invest more in research and development in agriculture in order to increase productivity and soil management quality, improve private facilities and reduce post-harvest losses, develop resources to deal with and mitigate climate change effects.

It is important also to improve data collection and research methodologies. Indeed, proper political and regulatory actions also depend on the quality of available data. In this respect, research on this topic has to address several challenges. There is the need for more reliable data. The effects of price volatility differ depending on the regional context and commodities, and even the methods used. There is the need to use multifactor approaches, which take into account cross-country and cross-commodity factors. Possible issues to be explored in the near future concern the type of commodities that will be more influenced by volatility, as well as the most affected regions. Further research should focus on the impact of food price volatility on the poorest in the short and medium term.

- Policy and regulatory challenges are also a key point to be addressed. On this issue, the three keywords of the symposium were information, policies and governance. As outlined before, improving the information system is crucial in both developed and developing countries. In particular, some governments and cooperation agencies in developing countries are working to improve the statistical services and the information systems.

State interventions to reduce price volatility should be reduced as much as possible, leaving more room for private initiative. “Stabilization initiatives in some cases have exacerbated volatility,

at massive costs and foregone investments in other areas where positive impacts might otherwise have been achieved” (*Magrini E.*). Of course, a proper regulatory framework is needed. Effective risk management tools can reduce the need for public interventions to deal with market crises (*Bardaji, 2015*).

Finally, better global governance is a strong requirement. Effective solutions cannot be implemented by a single country: only coordinated actions will be effective, and close integration and harmonization between the world Food Security Committee (FSC), G20 and WTO are recommended (*Sumpsi, J.M.*).

- At the European level, the issue of price volatility should be better addressed by the Common Agricultural Policy. Direct payments can lower the effects of price volatility, but some farmers still remain exposed to risks. The new CAP has strengthened the actions to enhance transparency and to improve the functioning of the value chain, but there is a need to enhance the role of private organizations and actors in preventing crises before public intervention is triggered. Research evidence shows that there is very limited scope for policy interventions to prevent and reduce food price volatility, whereas there is an increasing scope for policy interventions to manage volatility and a lot of scope for dealing with extreme domestic price volatility. The new income stabilisation tool recently introduced as part of the second pillar of the CAP may play a role in this context, but it would probably be much more effective to manage price volatility through the proper use of market tools. In this respect, specific information and training initiatives are needed in order to familiarise EU farmers with these tools.

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