



# Financing Food

## Financialisation and Financial Actors in Agriculture Commodity Markets

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This briefing paper aims to contribute to a better understanding of the so-called ‘financialisation’ of agricultural commodity markets. The briefing first explains how financial agricultural commodity markets work, with a main focus on the derivatives market, and who are the main financial actors involved. Without replicating the many existing and varying reports on the role of financial speculation in the rise and fall of food prices, the paper explains the increased role of financial speculators in the agricultural commodity markets and their impact. Since the nature of the debate about food price increases is often quite technical and intangible, this paper has avoided many technical terms and complexities. This SOMO briefing aims to allow more people than only insiders to contribute to the current discussions about reforms of the derivatives market in agricultural commodities, and their financial players.

### Introduction

The sharp increase in the prices of food and agricultural commodities, as well as of oil, in 2007 and 2008, raised many concerns. The high price of basic food commodities contributed to social unrest and an increase in global hunger, undermining development and people’s right to food as defined in the Universal declaration of Human Rights. The IMF price index of internationally traded food

commodities increased 130% from January 2002 to June 2008, and 56% from January 2007 to June 2008.<sup>1</sup> This period of exceptionally steep price increases ended at the time the financial crisis intensified, mid 2008, with food commodity and oil prices showing a sharp decrease. However, late 2009, the Food and Agriculture Organisation (FAO) issued a new warning about rising food prices.<sup>2</sup>

The causes of the sudden price increases and decreases have been described and discussed intensively in the last two years and continue to be the subject of much debate. The role played by speculation in relation to the volatility of commodity prices is receiving wide-ranging attention from academics, international institutions, journalists, market regulators, civil society and many others. Views and analyses vary widely, from firm support of ‘speculation caused price spikes’ and created a commodity bubble, to the standpoint that there is ‘no relation between speculative investment and price increases’. Taking a rather moderate approach in the debate, UNCTAD states that ‘the trend towards greater financialisation of commodity trading is likely to have increased the number and relative size of price changes that are unrelated to market fundamentals.’<sup>3</sup> The two fundamentals that traditionally constituted agricultural commodity prices are roughly described as (1) demand side factors (e.g. more people needing food, ○

income growth, and increased demands for bio-fuel) and (2) supply side factors (e.g. yield growth or bad harvests, the prices of inputs, and availability of food reserves).<sup>4</sup> Manipulation of these fundamentals, e.g. by keeping commodities away from the market (hoarding), causing a shortage that results in price increases, is the kind of speculation or price management that might still play a role in today's commodity markets. In addition, the value of the US dollar, in which most commodity trading takes place, can play a role. This paper will focus on the role of financial markets, and especially derivatives markets, in agriculture commodities over the last decade.

## **Agricultural commodities and financial markets**

Commodities can be defined as *'goods that are capable of being delivered, including metals, agriculture products and energy products such as oil and gas'*.<sup>5</sup> So commodities themselves are not artificial and complex financial products but just goods that can be delivered and traded physically on the 'spot' market place. However, trading in commodities has been increasingly subject to 'financialisation', which can be described as *'the increasing role of financial motives, financial markets, financial actors and financial institutions'*.<sup>6</sup>

Many papers on financialisation and speculation in commodity markets not only refer to agricultural commodities but also include metals and energy commodities, whose financial markets might function slightly differently than agricultural commodity financial markets. This paper focuses on the financialisation of food and other agricultural commodities, particularly through derivative markets. The primary agricultural commodities traded on the financial markets are wheat, maize, sugar, cotton and soybean (oil). Coffee and cocoa are also traded on derivatives markets while tea is not, due to its specific characteristics and shorter shelf life.

### **How financialisation started**

Since agricultural commodities would not be traded on the financial markets if they had not been produced in the first place, exploring financialisation starts with the first stages of the trade. Note that the period of a commodity trade on a financial market ends at the moment that commodities are actually delivered as agreed in the original contract between the farmer and the user of the commodities.

### **Farmers, cooperatives and end-users**

By nature, the agricultural production is characterised by a certain level of unpredictability. As a result, prices are often more volatile and unstable over time than, for example, manufactured goods. The possibility of future adverse and

volatile price developments on the 'spot' markets creates risks for agricultural commodity producers as well as users. In the past, the risk of declining prices for farmers was intercepted by cooperatives, marketing boards and commodity agreements. After the latter two were abolished, large farmers and cooperatives of small farmers increasingly turned to so-called forward contracts or 'forwards' with end-users. End-users are companies who trade, store and process food, such as Cargill and Unilever, and whose products end up being sold to consumers at the price determined by end-users.

Through a forward contract a producer agrees to sell, and an end-user agrees to buy, a quantity of a commodity at a certain time in the future, for a predetermined price that is decided at the time of the contract-making. Forward contracts are not the same as contract farming.<sup>7</sup> Forward contracts have traditionally provided primary producers (e.g. farmers) with the guarantee to receive cash for their harvest, while providing processors and traders with a predictable supply of raw materials. The price of the commodities to be delivered through forwards is mostly fixed and depends on many aspects including the bargaining power of both parties, some of which are multinational agribusinesses, as well as the period of delivery of the physical commodities. A forward can also contain an agreement that the price is (partially) based on the value of the commodity in the future. For instance, some forward contracts developed and offered by Cargill Aghorizons include Pacer™ contracts that pay the average of the daily market closing prices over a set period of time. Indeed, the multinational Cargill, one of the largest US private agribusinesses, is not only producing, processing, and trading agricultural commodities but also offering various services with regard to financing and risk management of agricultural production by farmers.

### **End-users and hedgers who contract with speculators**

In order to overcome risks, such as unforeseen price changes and no delivery as agreed, commercial farmers, trading and processing companies, and other end-users of agricultural commodities started to hedge, i.e. to transfer the risks to someone else. Processing companies also wanted to hedge the risks of the forward contracts they have agreed to. In this way, agribusinesses and end-users of agricultural commodities are hedgers who protect themselves against risks. They should not be confused with hedge funds (see below). To transfer risks to speculators, hedgers make use of so-called agricultural commodity derivative contracts, which are agreements between two parties and whose value varies depending on the value of the underlying agricultural commodity.<sup>8</sup> The types of derivative contracts that are important to understand

the financialisation of the agricultural commodity markets are futures and swaps and will be explained below.

Relatively few individual farmers play directly on these financial derivatives markets, as it is generally too expensive for small farmers. Still, if individual farmers do want to participate in the derivatives market, they usually do so through intermediary companies such as farmers' associations, processors, banks, brokers, dealers, and commodity exchanges.<sup>9</sup>

### The growth of non-traditional speculators

Contrary to hedgers, who want to stabilise the commodity prices and acquire protection against various risks, there traditionally have always been speculators willing to take on the risks by agreeing to be the counter party to the derivative contracts.<sup>10</sup> While speculators have to pay a certain price as defined in the derivative contract, they speculate that they will profit from price changes although they can also potentially lose. Speculators sell derivative contracts before delivery time. They would sell the derivative contract with a profit at any time that the spot price for the underlying commodity is higher than the fixed price of the commodity in the contract, because it is assumed that the commodity will be able to be sold at a profit on the spot market.

Since 2002, non-traditional speculators have increasingly participated in the derivatives markets and have been (re-)buying and (re-)selling all kinds of derivative contracts with agricultural commodities and derivative contracts as underlying assets. These non-traditional speculators have only financial motives and no interest or knowledge of the underlying commodities nor their delivery. These non-traditional speculators include hedge funds, pension funds, other institutional investors and large banks, often investment banks, operating as dealers (offering and entering into derivative contracts). They are in search of high returns which they cannot find any more through investing in, for instance, the stock market after the dot com bubble burst at the end of 2001.

The division between hedgers and all kind of speculators has been distorted over the last years because some commodity speculators often hedge against the risks of their speculative derivatives with other derivatives, and hedgers are sometimes speculating, based on their knowledge of the commodity markets. Also speculators might buy some commodities to hedge their derivative contracts or control spot markets. This adds to the complexity and problems of the derivatives markets in agricultural commodities. An important consequence of these diffuse roles is that some speculators are classified as traditional hedgers and not subject to limits on how many speculative contracts they can enter into ('positions').<sup>11</sup>

These limits were created to protect the market against excessive speculation and manipulation in order to prevent 'sudden or unreasonable fluctuations or unwarranted changes' in the price of commodities traded on an exchange (see also below).<sup>12</sup>

## The important role of derivatives markets

Hedgers and speculators use all kind of derivative contracts whose price is being agreed on derivatives markets, which can be done on exchanges or through bilateral contracts. The exchanges where futures contracts are bought and sold play an important role in the pricing of agricultural commodities for end-users who pass on these prices to consumers.

### Derivative instruments

The main categories of derivative instruments used to hedge risks and to speculate on fluctuating prices in the commodity markets are the following:<sup>13</sup>

- ❑ **Commodity futures contracts, or commodity 'futures'**, are contracts containing an obligation for one party to sell, and for the other party to buy, a specific amount of commodity at a pre-determined price on a stipulated date in the future. The one selling the commodity gets a fee for guaranteeing the delivery. Futures contracts are standardised, i.e. have standard clauses that specify the quantity and quality of the underlying asset, the date of delivery and whether the delivery is in kind or in cash. Agricultural commodity futures are sold and bought on exchanges (see below). Futures are the derivatives used by hedgers and traditional speculators and have traditionally been used as a reference for commodity prices on spot markets and in derivative contracts. Futures contracts are similar to 'forward' contracts between farmers and end-users (see above). 'Forwards' are, however, not standardised nor traded on exchanges as futures, and therefore subject to more risks, such as non payment, for each of the contract holders. The risks of a forward contract can be hedged through a futures contract.
- ❑ **A swap** is derivative contract between two parties who agree to exchange payments (or 'cash flows') at agreed moments within a certain agreed period of time. In the case of a commodity swap, for instance, a predetermined fixed price of the underlying commodity is paid by one party in exchange for which the other party pays the (floating) spot price of the underlying commodity on the agreed days of payment (i.e. the price of the actual commodity on the 'spot' market on those days).

The fixed price is likely to be lower or higher than the floating price of the underlying commodity, so one of the parties will benefit. In a commodity swap, a swap dealer – often a service provided by a large bank – gets a fee for offering the swap and is usually one of the counterparties.

- ❑ **An option, or an option contract**, gives the buyer the right, but not the obligation, to buy ('call') or sell ('put') the underlying asset at, or within, a certain point in time at a predetermined price. The buyer who receives the (buying or selling) right has to pay a fee to the seller of the contract.

Each of the categories of derivatives has a variety of subcategories, which can include simple or very complex calculations based on different variables (e.g. price, date, currency) and different underlying commodities. Any change of the variable can have important consequences for the payment obligations under the contract, which makes derivatives risky. Many derivatives are designed to suit the special needs of the buyer, based on all kind of variables and underlying assets. It makes it easier to speculate on commodity derivatives when the delivery has to be done in cash and not in commodities.

Trading of derivatives occurs through two broad categories of derivatives markets: commodity exchanges and over-the-counter (OTC) trading.

### Commodity exchanges

A commodity exchange is a financial market where different groups of participants trade commodity-linked derivative contracts. On an exchange, derivatives trading is transparent in terms of prices and (risky) positions. The supply and demand among competing buy and sell orders for derivative contracts on the exchange is what determines the price at the time of the purchase or sale of the contract. Experts explain that, the closer to the time at which the contracts end, the less profit can be made, since the price agreed in the futures contract should converge with the one on the spot market.

The futures contracts for specific agricultural commodities are traded on exchanges, which are considered as references or benchmarks for commodity prices and prices for commodity futures contracts. They play an important role in the financialisation and price setting of commodities to be delivered to end-users who then mostly pass on these prices to consumers.

Exchanges are private companies that offer self-regulated venues for derivatives trading among members who have to make payments to become a member and who have proven their creditworthiness. The exchanges offer services such

as monitoring whether the rules are followed, managing the contracts and their value, and handling default of payments. In order to guarantee payments, exchanges clear the derivative contracts through a central clearing entity that becomes the buyer to each seller, and the seller to each buyer of a derivative contract. The clearing entity makes the payments at the end of a contract, also in case a party defaults. In return, buyers and sellers have to make upfront payments, considered as collateral, to the clearing entity. The clearing entity might be a department of the exchange, or an external clearing house operated for instance by a large investment bank such as J.P. Morgan.

The main futures markets for agricultural commodities are large private companies located in the United States. The Chicago Mercantile Exchange (CME) is part of the CME group<sup>14</sup> which itself is listed on the stock exchange. The CME serves as the benchmark for the price of derivatives of many commodities such as wheat, soybean and maize.<sup>15</sup> Exchanges for agricultural commodities derivatives are less active in the European Union (EU) and futures markets in the EU are more recent than in the US.<sup>16</sup> In the EU, the agricultural derivative contracts are traded on commodity exchanges of Euronext in London (cocoa, coffee, sugar, feed wheat) and in Paris (milling wheat, rapeseed, maize).<sup>17</sup> Euronext was merged with the New York Stock Exchange (NYSE), and the merged company is listed on the stock exchange.

### Over-the-counter (OTC) derivatives markets

The over-the-counter (OTC) markets refer to the enormous amount of derivatives trading that takes place outside transparent venues like exchanges. Over-the-counter means that derivatives are traded privately through bilateral contracts between two parties, mostly among institutional investors or speculators, or between a speculator and an 'intermediary'. The intermediary can be a dealer who offers and sells (very complex) derivatives for a fee, and is the counterparty to the derivative on his own account, i.e. on the account of a large bank he is working for.<sup>18</sup> OTC trades risk that the counterparty does not pay because the trades are not cleared, i.e. not guaranteed by a clearing house with collateral as is the case on commodity exchanges. Dealers engage in many derivatives trades in which they take on the risk, which makes non-payments possible. An extreme example is Lehman Brothers: the firm was a party to 134,000 derivative contracts of all kinds without sufficient collateral just before it collapsed in September 2008.<sup>19</sup>

The OTC markets are non-regulated and information about the trades is very limited, also for the participants.<sup>20</sup> As a result, the derivative contracts may be priced too high, may be manipulated, or may be priced too low by not taking all the risks into account and not having the costs of paying

collateral. The lack of transparency poses many problems to understanding the operation of the OTC derivatives markets, who the actors are and what their positions are, and what the effect of commodity OTC derivatives is on food commodity prices.

In December 2008, the value of the overall OTC derivatives markets worldwide was estimated to be \$517.8 trillion 'gross notional amount outstanding', i.e. according to the value of the underlying assets on which the millions of derivative contracts are based (which might include some of the same underlying assets). The total of the OTC commodity derivatives trading, covering not only agricultural commodity derivatives but also oil and metal derivatives, was valued at \$4.4 trillion gross notional amount outstanding in December 2008.<sup>21</sup>

### **Derivatives markets and their actors**

A variety of hedgers and different kinds of speculators are buying and selling derivatives for many reasons. For instance, speculators may want to sell their futures contract before the end date of the contract (the 'settlement date') to avoid the delivery of the actual commodity, and/or to make a profit or prevent a bigger loss. A speculator who sells the futures contract he holds at a higher price than the (price of the) original contract, will make a profit.

A speculator may want to avoid losses by buying derivative contracts which hold the opposite positions of the contracts he is already holding ('closing this position'). The so-called 'swap dealers' are important players on the OTC commodity market to that extend. Not only do they design and offer all kinds of commodity swaps suited to the needs of hedgers and speculators, for which they get a so-called 'brokerage' fee. Swap dealers act as counterparty in many of these swaps, and take on any price risks associated with the swap (see also below: commodity index swap). Swap dealers also buy and sell futures and options on commodity exchanges to hedge the risks of the OTC commodity derivatives deals made by others and to hedge the risks of swaps or other commodity related financial products they have sold themselves (see also below: commodity index related funds).<sup>22</sup> By buying futures and options on exchanges to hedge their OTC swaps, swap dealers are linking the OTC swap market with the exchange traded commodity futures markets, where prices for commodity contracts are set.<sup>23</sup> In addition, they are increasing the demand for futures on the exchanges. Furthermore, it means that many activities on the derivatives markets are a zero-sum-game.

The largest commodity swap dealers are part of the following large banks and investment banks that are active in many financial markets and activities:<sup>24</sup> Bank of America, Goldman Sachs, Citibank, Deutsche bank, HSBC,

Morgan Stanley and J.P. Morgan. They have the large capitalisation and creditworthiness to be counter-parties, and have the expertise to manage the market price risks that they take on.

Overall, a small number of financial conglomerates dominate derivatives trading and related services, and are strongly interconnected and interdependent by buying and selling (OTC) derivatives among themselves. Wall Street's largest derivatives dealers are Goldman Sachs, J.P. Morgan, Bank of America (BAC) that now owns Merrill Lynch, Citigroup and Morgan Stanley. They were party to 96% of the \$ 293 trillion in OTC derivatives trades made by the 25 US bank holdings by 31 December 2009.<sup>25</sup> Major European players in the derivatives markets are: Credit Suisse, Deutsche Bank, HSBC, Rabobank and UBS.

In 2009, the largest US banks earned at least \$28 billion in derivatives trading.<sup>26</sup> The aforementioned financial conglomerates are making profits out of commodity derivatives trading in different ways, among others by speculating as (swap) dealers, trading in their own account, designing and brokering derivatives for a fee, providing advisory services for a fee, operating exchanges and clearing houses for a fee, and offering commodity index related services (see below). In addition, they might profit from interests on loans they offer to speculators or hedgers.<sup>27</sup> The huge profits made from these derivatives activities make them promote these activities as well as pay high bonuses to staff and management.

### **The special role of investment based on commodity indexes**

A diverse group of financial companies such as Deutsche Bank, Goldman Sachs, Rabobank and many other commercial financial firms offer investment and speculation instruments that are based on commodity indexes.

#### **Commodity indexes**

A commodity index is a mathematically calculated value mostly based on the returns of exchange traded futures contracts of those commodities that are reflected in the index (although some indexes might be based on the price of physical commodities or on commodity swap returns). The value of futures of different kinds of commodities are combined in the indexes and have different weights, i.e. percentages, contributing to the total value of the index. The basket of varying commodities used for each index is composed by financial companies, such as Deutsche Bank, PIMCO, Goldman Sachs and others.

For instance, the Standard & Poor – Goldman Sachs Commodity Index (S&P GSCI) value is based on different commodities futures of which, agricultural commodities accounted for 12% of the total commodities included in the index and energy for 71%.<sup>28</sup>

The three most widely used commodity indexes, each composed differently, are the S&P GSCI, the Dow Jones – UBS Commodity Index and the Thomson Reuters Jefferies CRB Index. Additionally, several other indexes have gained popularity over the last few years, such as the Rogers International Commodity Index (RICI) and the Deutsche Bank Liquid Commodity Index (DBLCI).

The indexes are used for different investment instruments offered by those who introduced the indexes and a diverse group of commercial financial firms. These investment instruments allow speculators to benefit, or lose, from the value of the commodity index. Three commodity index investment instruments are described below: commodity index funds, commodity exchange traded funds (ETFs) and commodity index swaps.

The increasing investments in commodity index instruments have made the value of these investments grow more than tenfold in five years, from an estimated \$15 billion in 2003 to at least \$200 billion in mid-2008.<sup>29</sup> Commodity index investment instruments are purchased mainly by non-traditional speculators such as financial institutions, insurance companies, pension funds, foundations, hedge funds, and wealthy individuals or governments. At the end of June 2008, of the total of funds that invested in commodity indexes, approximately 24% (of the net notional value)<sup>30</sup> was held by index funds, 42% (of the net notional value) by institutional investors, 9% (of the net notional value) by Sovereign Wealth Funds, and 25% (of the net notional value) by other speculators and dealers.<sup>31</sup>

### **Investments in commodity index funds**

The value of the commodity index funds replicates the price movements of the index ('tracking'). Therefore, managers of commodity index funds buy the derivatives of a range of agricultural and non-agricultural commodities according to the composition of the particular index on which they are based. Regarding agricultural commodities, the index fund managers buy mostly futures contracts on exchanges, thus increasing the demand for agricultural commodity futures contracts on these exchanges.

Commodity index funds mostly use indexes that track those kind of exchange traded agricultural commodity futures that speculate on rising prices.<sup>32</sup> They constantly have to renew futures contracts that normally expire within a few months. This continuing demand has special effects on the agricultural commodity futures exchange as is also explained below.

Commodity index funds are like mutual funds and sell a fixed number of shares, mostly not on a stock exchange, to institutional investors. The money of these investors is used by fund managers to buy the derivatives according to the index. Commodity index funds are offered and operated, for a fee, by investment banks or hedge funds for instance. Since these index investment instruments are not too costly and are seen to be an easy way to invest in commodity markets, they have attracted a lot of speculators, especially institutional investors who want to diversify their investment portfolios and by fund managers of ETFs.

### **Commodity exchange traded funds (ETFs)**

The commodity exchange traded funds (ETFs) are offered and operated, for a fee, by banks and other financial firms, for example hedge funds, who create shares that can be bought and sold on the stock exchange. Commodity ETFs also allow retail investors to buy and sell ETF shares, as opposed to index funds which are only accessible for institutional investors.<sup>33</sup> Commodity index ETFs are index investment instruments that are constructed in such a way that the value of the ETF shares should reflect the value of the commodity index upon which they are based. Therefore, the managers of such ETFs buy, with the money of those who bought shares, a basket of commodity derivatives as reflected in the index, e.g. the S&P GSCI. The agricultural derivatives that are bought are agricultural commodity futures traded on exchanges.

Other commodity ETFs compose their own selected mix of commodity derivatives or are even composed by a single commodity. Such ETFs primarily buy futures of the commodities they selected for their fund but some also invest in other derivatives that are traded on exchanges. Moreover, they can also invest in commodity index funds. How many ETFs buy or sell derivatives depends on the number of investors buying their shares. Again, they have to invest in new derivatives before the expiry date of the derivatives they are investing in.

### **Commodity index swaps**

When it is not possible or desirable for speculators or index related fund managers to directly buy commodity futures on exchanges related to the indexes they want to invest in, they buy commodity index swaps. For instance, energy derivatives that are included in commodity indexes are often bought through commodity index swaps.

OTC commodity index swaps are sold, for a fee, by swap dealers who are themselves counter party in the swaps. The price of a commodity index swap itself is fixed, and based on the value of a particular commodity index on the day of purchase. After that day, the value of the swap will vary according to the changes of the particular commodity index.

These swaps may be sold back to the swap dealer at any time. The swap dealer will hedge the risks of having to buy back the swap at another price than he has sold it, by buying those commodity futures (or other derivatives) that are reflected in the particular index used in the swap. He will buy these commodity futures (or other derivatives) on exchanges in equivalent amounts as he sells commodity index swaps, thus increasing the demand for these commodity derivatives which are mostly futures in the case of agricultural commodities. As a result, when a commodity swap dealer buys back the swap, he sells the related futures (and derivatives) at the same time, and will have no losses, nor profits, as both the swap and the futures will have the same price.

## **The role of non-traditional speculators in the functioning of the agricultural commodity futures markets**

### **Massive growth of speculators in the financial commodity markets**

From the start of the millennium non-traditional speculators have increasingly considered it attractive to invest in commodities which are assumed not to have many links to movements in other markets in which they invest. Moreover, since the bursting of the dot com bubble at the end of 2001, the stock market, bonds, the housing market and related complex financial instruments had ceased to offer attractive returns. Non-traditional speculators are all kinds of short term and long-term institutional investors such as pension funds, hedge funds and sovereign wealth funds. They also include the above mentioned large banks who not only facilitate and promote commodity derivatives trading but also speculate with their own money as dealers and manage index related investment instruments that buy on futures markets.<sup>34</sup> As a result, non-traditional speculators and dealers have outnumbered the hedgers and traditional speculators on the derivatives markets, especially on the futures markets. For instance, the number of futures and options contracts outstanding on commodity exchanges worldwide increased more than fivefold between 2002 and 2008.<sup>35</sup>

### **The impact of excessive speculation**

#### **Higher food prices**

The increasing investment by speculators and dealers in the commodity derivatives markets has increased the demand for derivatives. As explained above, the commodity index related investment instruments have increased the demand in the agricultural commodity futures markets enormously. Indeed, non-traditional commodity speculators have been very interested in 'easy' commodity index related

investment products, such as commodity index funds. When the value of indexes increased, the commodity index funds managers had to increasingly buy agricultural commodity futures related to the indexes. On US markets, for instance, commodity index funds held around 42% of wheat futures contracts as of June 2008.<sup>36</sup> Sometimes the value of the indexes increased only due to increasing value of non-agricultural commodities in the index, such as energy (oil) commodities. In other words, investing in index related funds influences the supply and demand in the agricultural commodity futures market itself, sometimes even if the agricultural commodity futures' value did not increase. The increasing demand up to mid 2008, which was much higher than the supply of futures contracts, has contributed to the prices rises of the futures contracts. Moreover, the more the prices of futures increase, the more the commodity indexes increase, the more the commodity and financial markets are attractive for investors, the more is being invested in commodity derivatives and index instruments, thus creating a price bubble in commodities.

The resulting increase of the prices for exchange trade futures contracts influences the prices for the end-users because end-users use those futures to hedge. The prices of the futures contracts on the exchanges are used as the benchmark for commodity spot prices and futures markets for hedging contracts used by producers and end-users. The latter will pass on price increases on to consumers, resulting in higher food prices.

Indeed the excessive speculation in the financial commodity markets has seen a parallel increase in food prices. The increase between March 2003 and March 2008 of the agricultural commodities futures has been in parallel with the price increases during the same period for coffee with 167%, for soybean oil with 199% and for wheat with 314%.<sup>37</sup> Critical analysts associate the steep fall of the commodity prices in the second half of 2008 with the withdrawal of speculators' money from the financial commodity markets. In September 2008, Lehman Brothers went bankrupt after having been a player in the financial commodity markets. The resulting lack of confidence in big banks who were counterparties in many OTC derivatives, and the financial crisis in Autumn 2008, led to the withdrawal of huge amounts of money from the financial commodity markets. In addition, banks did not trust each other anymore, which resulted in a very disruptive lack of inter-bank lending and lending to all kind of companies.

#### **The risks of commodity index related investment products**

The presence of non-traditional speculators, who have only financial motives and are not interested in the commodities, has changed the character of the demand and supply in the futures and derivatives markets, de-linking them from the fundamentals of the physical commodities and make them

imitate the stock and bond markets. The level of the price of the futures and their underlying commodities are not of any concern to non-traditional speculators, as long as they can make a profit.

Another worrying characteristic of investing in index related instruments, is that index related fund managers only buy futures on the buying side ('long position') which expect higher prices, mimicking how indexes value futures. Index fund managers have to continuously buy new contracts while selling old futures contracts, which expire after a few months, in time so as to make a profit. This means that continuous or increasing investment in index funds continues or increases demand on agricultural futures markets. Although it is too complicated to explain in detail in this paper, differences have been observed between the price of agricultural commodity futures that are sold before the contracts expire and price of the many new futures contracts that need to be bought by the index related fund managers. Also, during the selling and re-buying of these futures contracts, abnormal differences between the price of the agricultural commodity futures and the spot price have occurred.<sup>38</sup> Such market phenomena disrupt the price discovery function of agricultural commodity futures markets.

All this has made it more difficult, costly and unpredictable for hedgers to use the futures markets for hedging purposes, which has made them at times reach a point that they refuse to make futures and forward contracts with producers.

The analysis that speculation has an influence on rising commodity prices for end-users, however, is not shared by all experts and the financial industry. They argue that many speculative contracts are being hedged by contracts that offset the risks, and markets always find the right price through demand and supply. They refer to the role of arbitrageurs – who are making profits out of differences between prices and markets – who are assumed to play an important role in bringing prices between two markets together. Others argue that the fundamentals changed because demand had grown for instance by higher food demand in China and higher demand for US maize for ethanol production, or because there was hoarding. However, an expert calculated that speculators investing in commodity index instruments held so many maize/'corn' futures in the first half of 2008 that they could have supplied the whole US ethanol industry for a year which would theoretically make the US the largest ethanol producer.<sup>39</sup>

## **Volatility**

The food price increases and recent volatility resemble what is defined by the US Commodity Exchange Act as 'excessive speculation': 'causing sudden or unreasonable fluctuations or unwarranted changes in the price of a contract commodity'.<sup>40</sup> The European Commission has argued that 'there seems to be an overlap between periods of high prices and increased volatility'.<sup>41</sup> Like others, the Food and Agriculture Organization of the United Nations (FAO) argues that volatility in itself is again attractive to investors because 'the wider and more unpredictable the price changes in a commodity are, the greater is the possibility of realizing large gains by speculating on future price movements of that commodity. Thus, volatility can attract significant speculative activity, which in turn can initiate a vicious cycle of destabilizing cash prices'.<sup>42</sup>

## **Deregulation and re-regulation of commodity markets**

The expansion of the commodity related speculative products and the massive investment therein, would not have been possible if regulation would have been dealing with the problems. In the US, the regulatory authority, the Commodity Futures Trading Commission (CFTC),<sup>43</sup> gradually decreased regulation for commodity exchanges while the commodity financial markets expanded. At the request of the financial industry, it weakened the limits imposed on how many derivative contracts could be held by speculative participants on the commodity exchanges. They exempted swap dealers from limits, because swap dealers were considered to be hedging, which facilitated a surge in speculative investment in commodity markets.<sup>44</sup> In addition, several commodity exchanges were allowed to open, which were only self-regulated and where large speculators such as pension funds, hedge funds and investment banks could buy and sell commodity futures contracts without limits on positions.<sup>45</sup> Also note that the US's huge OTC agricultural commodity trading was exempted from supervision of the CFTC.<sup>46</sup>

In the European Union, commodity derivatives – both trading and investment services and activities concerning these instruments – have so far been somewhat regulated, as they are included in the 'Markets in Financial Instruments Directive' (MiFID) that regulates financial markets instruments and the directive on 'Undertakings for Collective Investment in Transferable Securities' (UCITS), which regulates investment funds that are selling throughout the EU.

The rising food prices in 2008, which created hunger riots in many poor countries across the world, and the financial reform process that started after the financial crisis erupted, have started fierce debates about re-regulation of the financial commodity markets.

Since 2009, different initiatives have been underway attempting to re-regulate derivatives markets.

Many proposals for re-regulation focus on identifying the non-traditional speculators and imposing limits on the number of futures (or other derivatives) contracts these speculators on exchanges can hold, e.g. by restricting the exemptions of these limits even for those who are now exempted for hedging purposes. The purpose is to limit the ability of a single participant to influence the market<sup>47</sup> and to reduce the number of speculators in the commodity futures exchanges – which are the benchmark for prices for end-users and for commodity indexes on which many commodity investment instruments rely. In the first half of 2010, a fierce debate on these issues took place in the US Senate during proposals to introduce these limits through legislation. The European Parliament and the European Commission also made proposals in 2009 and 2010 to identify and limit the activities of speculators and legislative proposals are expected later in 2010. At the beginning of 2010, Mr Barnier, the new Commissioner for the EU's internal market affairs, responsible for regulating financial services, said: 'Speculation in basic foodstuffs is a scandal when there are a billion starving people in the world.' 'We must ensure markets contribute to sustainable growth. I am fighting for a fairer world and I want Europe to take the lead on that.'<sup>48</sup> In January 2010, President Obama introduced a proposal ('Volcker rule') that would prevent banks from trading with their own money on the commodity financial markets.<sup>49</sup>

Other re-regulation proposals relate to improving the transparency especially of the OTC market, and to limiting the risks, manipulation, fraud and default of payments. In addition, in 2009-2010, EU decision makers discussed better supervision and regulation of the managers of so-called 'alternative investments funds' which include hedge funds that are heavily involved in commodity speculation. Also, higher capital requirements to banks that lend to derivative traders are being discussed by regulators in 2010.<sup>50</sup>

Many of the discussions and political decision making in the US and EU on re-regulation of derivatives markets are frustrated by the fierce lobbying of the financial industry and the speculators who invest in the financial commodity markets. Also, governments fear that softer legislation in one country will result in the flight of the commodity financial industry to another country.

## Roles and responsibilities of selected companies

Discussion on how to reform the commodity futures market tends to focus on governmental and institutional regulation. However, the many risks and the lack of transparency, which makes it difficult to even monitor financial commodity activities, mean there is a huge responsibility for the speculators and financial firms themselves. So far, there is too little discussion about the 'corporate social responsibility' (CSR) of the companies themselves when effective regulation is absent or lacking.

For many years now CSR in business behaviour raises issues of how companies need to take responsibility for the environmental and social harms they cause. One issue that is included in CSR codes and initiatives is supply chain responsibility. There are several features of modern commodities futures markets which might complicate such CSR considerations.<sup>51</sup> For instance, buyers of a derivative contract, or the clearing house, have no idea of where the underlying commodity actually comes from, or indeed, under what conditions it has been produced.

When it comes to commodity derivatives trading, socially responsible investment (SRI) appears to be an underdeveloped concept.<sup>52</sup> CSR concerns regarding financial investment are integrated in SRI guidelines, principles and mechanisms. Broadly speaking, SRI is a common term covering a whole range of ethical, responsible, sustainable and any other investment process, which combines financial objectives with considerations related to environmental, social and governance (ESG) issues. The release of the *United Nations Principles for Responsible Investment (UNPRI)*, subscribed to by many large institutional investors, asset managers, and related financial organisations, shows the increasing acceptance of the idea that investors can and should not achieve their goals by investments that externalise their costs onto society as a whole, including financial instability.<sup>53</sup>

In general, industry CSR schemes for the financial sector do cover guidelines for responsible investment as well as for financing of food and agriculture. However, a combined and comprehensive scheme that integrates the issue of commodity speculation interacting with that of food prices and hunger is still absent. In addition, the stimulating role of the financial industry in food commodity speculation, through swap dealing and commodity index related investment instruments, is not yet being discussed.

## Conclusion and recommendations

The financialisation of the agricultural commodity markets is the result of increasing capital flows from 'non-traditional' investors in commodity derivatives, especially agricultural commodity futures, and related investment instruments, serviced by large financial firms. Non-traditional speculators, who are not interested in the commodities themselves, have increased the interdependence between commodity and financial markets. The increasing demand, and at times sudden withdrawal, by non-traditional speculators on the agricultural commodity futures markets is considered by many to have influenced demand and supply fundamentals, thus contributing to raising and falling food prices. Non-traditional speculators have so contributed to disrupt the traditional function of agricultural commodity futures markets to discover prices on the spot markets, and to be a reference for prices for futures contracts by which producers and especially end-users can protect themselves against risks.

In order to avoid that (excessive) speculation interacts with prices for food whose access is a fundamental human right, the following measures related to the financial agricultural commodity could be considered:

- ❑ Deregulation of agricultural commodity derivatives markets and futures exchanges are reversed after public discussions and through legislative initiatives that:
  - substantially improve transparency, for supervisors and the public, of the OTC derivatives trading and their actors,
  - impose limits on all excessive and non-traditional speculators,
- exclude the many risks of OTC commodity derivative trading as mentioned in this paper,
- resolve the remaining risks of commodity exchanges such as unregulated clearing entities,
- deal with the negative impacts of the composition of indexes and related investment instruments, and
- question the social usefulness of speculation in agricultural commodities.
- ❑ Special rules and instruments are introduced to prevent the domination of agricultural commodity derivatives markets and services by a small number of large banks that are highly interconnected and take many risks by trading with their own money. Their various functions in the agricultural commodity markets have allowed these few banks to make huge profits that encourage them even further to promote excessive speculation whose social usefulness is questionable.
- ❑ Responsible investment strategies are being developed and implemented by corporate and institutional speculators and financial firms active in the agricultural commodity derivatives and related funds, in order to prevent their investments and services from contributing to increases in food prices for the hungry and poor, and from neglecting financing and income for farmers.
- ❑ Alternative instruments for price setting and risk protection for producers and end-users, as well as for food production and trade, are further explored and developed, in order to guarantee prices that provide farmers with equitable incomes and poor consumers with food that is available at affordable prices.

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