



Challenges for Regulators

Financial Players in the (Food) Commodity Derivatives Markets

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By November 2012, the European Union was still in the process of deciding on the revisions it will make to the Markets in Financial Instruments Directive (MiFID). A thorough understanding of the dynamics of each of the particular markets is essential when deciding how to regulate them.

This briefing paper researches recent trends in one particular market that will be covered by MiFID for the first time: the agricultural commodity derivatives market. It is a financial market that has received increasing attention recently and is very dynamic.

What is at stake in the MiFID revision is the integrity and functioning of the (food) commodity derivatives market for hedging price risks and for price formation, as well as its impact on economies and societies of Europe and developing countries. Indeed, agricultural commodity exchanges are being used as benchmarks for agricultural prices in the EU and many parts of the world, including poor countries dependent on food imports or agricultural exports.

New trends and challenges

Regulators deciding on revisions to MiFID are facing new trends and challenges in the commodity derivatives business:

- ▣ New generations of commodity investment products, using commodity derivatives, which attract many more speculative investors;
- ▣ New risky and/or very short-term speculative strategies, including high frequency trading (even in agricultural commodity markets);
- ▣ A growing threat to the stability of the financial system by the increasing interconnectedness between players, strategies and products on the commodity markets and those on financial markets and the use of securities lending, which constitutes an underestimated systemic risk;
- ▣ The increasing difficulty of distinguishing between bona fide hedging positions and speculative positions, given that bona fide hedging companies also trade for speculative purposes and financial companies also increasingly own parts of the physical commodity chain;
- ▣ The lack of transparency of strategies used by commodity funds and hedge funds and other speculative traders in (OTC) commodity derivatives, whose complexity cuts across different classes of products and markets as well as borders.

These challenges will not only need to be tackled by the MiFID revision but also by also by important regulatory decisions that cover commodity derivatives:

- ❑ The revision of the Market Abuse Directive;
- ❑ New revisions of the EU directive on Units of Collective Instruments in Transferable Securities (UCITS), which regulates investment funds such as commodity ETFs;
- ❑ Regulatory changes to how individuals can invest in so-called packaged (commodity) investment funds (PRIPs);
- ❑ The new regulation of the production and use of (commodity) indices; and
- ❑ Rules on banks' trading books and risk assessment management of trading, included in EU bank reforms, and their new revision (under consideration by the Basel Committee on Banking Supervision since 2012).

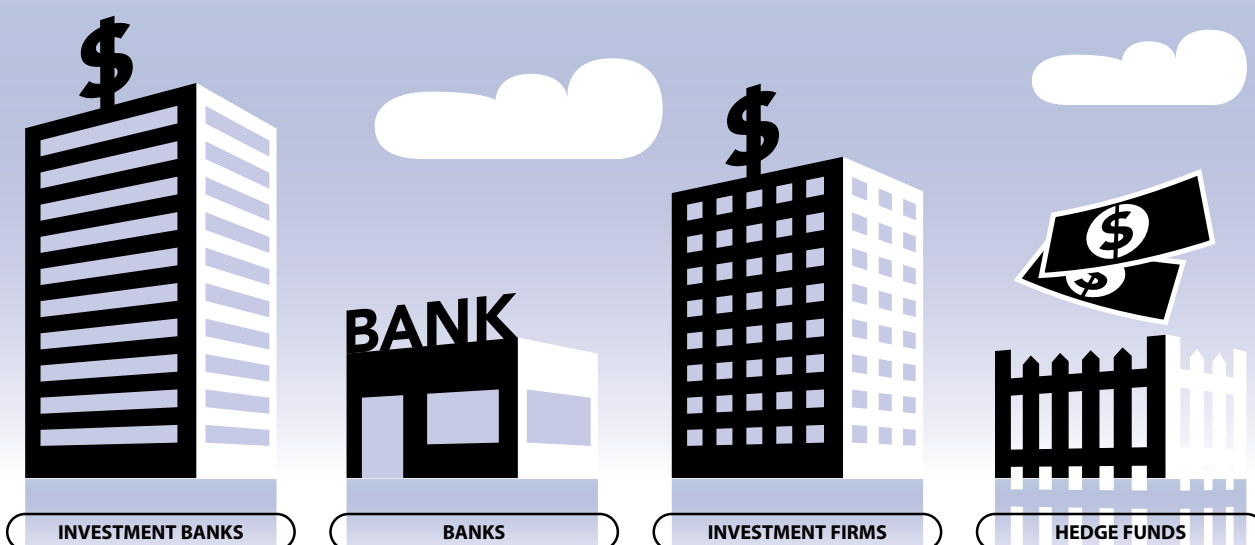
Focus of this briefing paper

This briefing paper complements earlier research reports by SOMO that examined the commodity derivatives markets and the financial players active in those markets.¹

It aims to expose risks and challenges facing regulators from new trends in investment products and strategies that affect the commodity derivatives markets. In particular, the paper examines the role of especially opaque financial players in commodity markets such as hedge funds and the commodity exchange traded funds (ETFs) who now own almost half of the commodity assets under management. The paper explains how the complex roles of these players involve risks not only for commodity exchanges and their function as price forming entities and benchmarks but also pose risks for the financial markets in general, which has so far been discussed very little. The paper concludes with proposals for how regulators can meet the challenges in a way that limits, if not eliminates, the risks.

While this paper aims to focus on food and other agricultural commodity derivatives (also called soft commodities) traded on exchanges and as OTC derivatives, information about this specific category of commodity exchanges is not always available. The trends and risks observed in non-agricultural commodity markets can provide lessons and warnings for the agricultural and food commodity derivatives markets.

Providers of financial commodity products



The EU regulatory revisions in the context of commodity derivatives markets

Continuous interest in financial commodity markets

Bank reforms enacted since the 2008 crisis have led banks to turn increasingly to financial market activity in order to generate profits. Since banks need to build up their capital buffers, commodity derivatives market activities are still an important source of income for them,² especially since lending and other banking activities that are now subject to more capital requirements are considered by banks to be too costly and therefore less profitable. The low rates of investment return on many assets since the economic crisis have also prompted many (institutional) investors to turn to the commodity markets. Commodities – either the physical commodity products or commodity derivatives – are a popular asset class, with financial advisors often recommending that investment portfolios hold a share of around 3-7% in commodities.

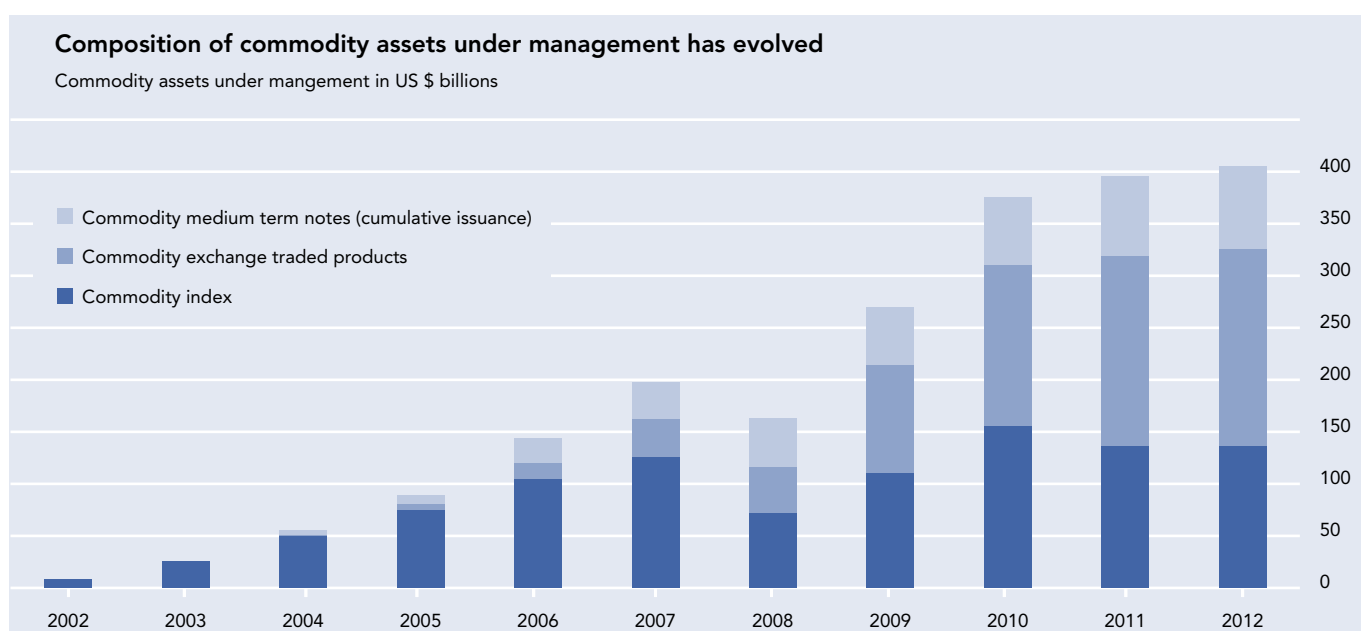
This trend had already been underway before the outbreak of the financial crisis, with (investment) banks and asset management companies offering commodity trading services and commodity investment funds or products. For these financial institutions, commodity financial markets have been very profitable. For instance, revenues at Morgan Stanley were around \$3 billion³ in 2008. Even after the financial crisis, the Goldman Sachs commodity unit had revenues of more than \$4.5 billion in 2009

while at JPMorgan revenues exceeded \$2.8 billion from 'commodities' made up more than a quarter of the bank's total "principal transactions" in 2011.⁴ Part of the revenues were the result of proprietary trading (banks trading for their own account) which has recently been limited by the banks or prohibited by some regulators due to their riskiness.

The composition of commodity assets has significantly evolved since 2008

As of mid-2012, commodity assets under management was estimated to be just above \$400 billion, which is double the amount in 2007, just before the crisis broke out.⁵

Since the crisis year of 2008, commodity assets under management have changed significantly in terms of composition. The most explosive growth in commodity assets came in those managed by commodity exchange traded products, which increased from less than \$50 billion in 2007 to circa \$185 billion by mid-2012 according to figures provided by the Bank of Canada.⁶ In addition, commodity medium-term notes increased from less than \$50 billion in 2007 to around \$75 billion by mid 2012. In contrast, assets under management in commodity index funds remained comparable in September 2012 to 2007 (around \$150 bn). See graph below.



Source: T. Lane, Financing commodity markets, Bank of Canada, [speech in Calgary] 25 September 2012, chart. 3: referring to Barclays as a source and "last observation: 2012"

According to data provided by ETF Securities, assets in all commodity exchange-traded products (ETPs, the majority of which are exchange traded commodity funds (ETFs)) reached a record of \$207 billion in the third quarter of 2012 – driven by investments in gold products and new stimulus packages by central banks.⁷ About a third of total commodity assets under management are index products, commodity index ETFs and commodity index funds (see below), which amounted to \$142 billion in September 2012.⁸ These numbers are only an approximation, as the current lack of transparency surrounding this market only allows to make estimates.

Commodity assets under management have been fluctuating in the last 18 months, given the sharp movements (volatility) in commodity prices. All kinds of investors withdrew from commodity markets when prices fell and losses were suffered (e.g. in 2011 and at the beginning 2012). Although commodity assets increased when commodity prices went up again mid-2012, investors in some commodity index products lost due to the need to roll-over commodity derivatives products.⁹

One also needs to bear in mind that the estimated volume of investment in commodity futures and options might have been higher if no position limits were in place as is currently the case on exchanges in for instance the US, Japan, Australia, Hong Kong, Singapore, China, India and South Africa.

Financial players and food commodity prices

High and volatile food prices have raised questions about what determine movements in commodities markets: the 'fundamentals' (i.e., the characteristics of the market regarding supply and demand, trading, storing and transport), or the financial players, more specifically those whose aim it is to make a profit from financial speculation (referred to as 'speculators' according to the US regulatory definition) in contrast to those engaged in bona fide hedging (i.e. protecting against the risks of higher or lower

prices of physical commodities by those whose core business is to produce, trade or process commodities). A hotly debated issue in this regard is whether 'speculators' play a role as providers of liquidity or whether they need to be limited, if not banned, because they undermine the hedging, price formation and benchmark function of the commodity exchanges and influence the price volatility so much that it harms producers, processors and poor consumers.

There is official recognition at the international level (G-20, UN) that financial players on commodity markets have an impact on prices and increase the level of volatility in derivatives markets. An increasing body of research¹⁰ using different research methodologies confirms the impact of financial players, although full academic evidence is not there, which can be related to the lack of data. More and more bona fide hedgers, market participants and advisors claim that inflows or outflows of money by financial players can have an important influence on prices as well as price volatility in commodity derivatives and spot markets. As one advisor with a focus on agricultural commodities put it: "When the large speculative funds and index funds are buying more aggressively than the commercial hedgers are willing to sell, the market must go up until supply and demand get back into balance. When large speculative funds and index funds are selling more aggressively than the commercials are buying, the market must go down until the supply and demand get back into balance."¹¹ In other words, "it means very little what anyone person thinks the fundamentals or technical are saying about a market. What really matters is what the large speculators, index funds and commercial hedgers think the technical and fundamentals are saying about the market."¹²

By November 2012, the first regulatory stages of the revision of MiFID have shown that in order to preserve the integrity of the commodity exchanges, EU regulators want to impose ex-ante mandatory position limits on financial players but not on bona fide hedgers, and perhaps not on OTC commodity derivatives trades. This regulatory response is a good start, but the details and outcome of the regulatory process needs to be assessed in line with the new trends and risks outlined in this briefing paper.

New risks from hedge funds owned by commodity traders and commodity hedge funds

Since the US deregulation of commodity markets in 2000, large investment banks have played an important role offering brokering and other fee-based services to hedging and speculative commodity traders, loans and structured finance for commodity trade, commodity investment products, and OTC commodity derivatives (swaps). Until recently they have been very active as proprietary traders speculating on commodity prices with their own money. In recent years, these large investment banks have also become increasingly active in the whole chain of physical commodity markets from owning mines and holding physical inventories to owning warehouses and providing storage to end-users. They have even become involved in creating supply chains by providing shipping. The consequences of these dual roles as financial and physical players have yet to be assessed and to be taken into account by regulators.

This paper exposes an even less noticed trend: the dual roles of companies that are (agricultural) commodity conglomerates who have increasingly started to own hedge funds that speculate/engage in financial deals in (agricultural) commodity derivatives markets. The managers of these hedge funds often have experience in physical commodity trading and/or in commodity derivatives trading.

The following examples explain how companies that are engaging in commodity derivatives trading for hedging of physical (agricultural) commodity prices, also have hedge funds that trade for speculative purposes in (agricultural) commodity derivatives markets.

It has to be noted, that hedge funds use leverage in addition to the assets mentioned below, to increase their profits, from 10 to 30 times their assets under management. This means they can have a considerable impact on the commodity markets as well as their lenders and the financial markets in which they are also active.

Hedge funds owned by agricultural commodity traders

□ Black River: a subsidiary of Cargill

Black River Asset Management LLC¹³ (Black River for short) is an independently managed subsidiary of Cargill, one of the largest food commodity agribusinesses in the world.

Black River is a hedge fund estimated to have \$6 billion in assets in October 2011. It had several subsidiaries and 12 offices in 10 countries by mid-2012.

It offers trading and investment services and products mainly related to commodity-related trading and investing, bonds and shares. It also provides several security and debt products related to emerging markets, including currencies and corporate credit trading. Black River uses different strategies such as “a sophisticated understanding of supply and demand across global commodity markets”¹⁴ and getting profits out of price differences between securities, derivatives and markets (‘arbitraging’ or ‘valuation of mispricings’). The hedge fund claims to capitalize on its relationship with Cargill by making use of its knowledge of commodity-related trading and investing. It also uses Cargill’s presence around the world. Moreover, Cargill invests in Black River alongside Black River employees and clients.

Cargill has a business unit that is called ‘Risk Management and Financial’ of which Black River is part. Under that unit, the ‘Cargill Risk Management’ division provides risk management to both Cargill business units and external customers. The latter include pension funds, hedge funds and endowment community. Similarly, producers are offered hedging products. Cargill offers hedging services and investment products especially through OTC commodity derivatives, including commodity index swaps, supported by substantial advice about commodity markets.

Cargill’s ‘Risk Management and Financial’ unit also covers ‘Cargill Trade & Structured Finance’, involved in various ways to finance physical commodity trade, which can include using physical commodities as collateral. ‘CarVal Investors’ is equally part of Cargill’s ‘Risk Management and Financial’ unit, and manages investments in four asset classes: loan portfolios, corporate securities, real estate and ‘special opportunities’.

□ Armajaro: hedge funds trading in agricultural commodity derivatives

Armajaro Asset Management LLP, which claims to have \$ 1.5 billion under management¹⁵, owns the following seven hedge funds¹⁶ of which four are engaged in trading in agricultural commodity derivatives:

- Armajaro Commodities Fund (Cayman Islands) uses different strategies to trade amongst others exchange traded futures and options of soft commodities (except cocoa), grains and livestock.¹⁷
- The CC+ Fund¹⁸ (Cayman Islands) focuses on coffee and cocoa traded on registered derivative exchanges and over-the-counter (OTC) derivatives contracts. The fund can be active in the physical markets.
- The CZAR+ Fund¹⁹ (Cayman Islands) trades in exchange traded futures, options and OTC derivatives of sugar, biofuels and biofuel feedstock based on dynamic trading strategies.
- The Armajaro STS Commodities Fund (Cayman Islands) trades only exchange traded commodity futures without any preference for a commodity sector to profit from longer term price trends.²⁰
- The AIMS Diversified Fund (Cayman Islands) allows investors to allocate their money at the same time in each of the other 6 funds managed by Armajaro Asset Management LLP.²¹

The non-agricultural commodity related hedge funds managed by Armajaro Asset Management LLP are Armajaro Emerging Markets Fund and Armajaro Global Financials Fund.²²

Armajaro Asset Management LLP, of which the above hedge funds are part of, is owned by Armajaro Holdings Ltd. Armajaro Holdings Ltd also owns:

- Armajaro Trading (London), which claims to be “one of the world’s largest traders in soft commodities” specialising in cocoa, coffee and sugar with presence in Africa, South America and Asia.
- Armajaro Derivatives Ltd is the risk management part of Armajaro Trading, specialising in OTC hedging products in order and providing commodity risk management services to clients.
- Armajaro Securities Ltd, provides a wide range of financial services and products that cover amongst others commodity derivatives, emission allowances, shares, bonds and foreign exchange markets to institutional clients and hedge funds.²⁶

In July 2010, Armajaro’s CC+fund bought so much of the cocoa futures contracts on the NYSE Liffe London cocoa exchange that the fund took delivery of almost all the available the contracts, representing 7% of the world’s physical supply.²⁷ This confronted many chocolate makers with a shortage of contracts for physical delivery and caused chaos on the markets. This resulted in the 32-year record high prices although Armajaro denies any involvement in manipulation. The chocolate makers protested against this lack of control over contract buying and threatened to leave

the London exchange.²⁸ If position limits had been in place, no manipulation, market chaos and resulting price volatility could have happened.²⁹ By the end of the year, Armajaro’s CC+fund had lost its bet on cocoa, but due to its hedging against loss and due to investments in coffee derivatives trading, the fund did not make a loss.³⁰

Hedge funds owned by all-commodity traders

□ Galena

Galena Asset Management BV and Galena Asset Management Ltd are both subsidiaries that are 100% owned by Trafigura³¹. Galena Asset Management Ltd (registered office in London) is the investment manager of seven commodity hedge funds with \$1.7 billion under management at the end of 2011. Trafigura itself has invested in the funds, alongside other investors. Interestingly, Galena only has commodity hedge funds that invest in those commodities that Trafigura is conducting business in (see below).

The seven highly specialised commodity hedge funds are³²:

- Galena Metals Fund: \$781 million assets under management in 2011 and \$203 million in managed accounts for Trafigura;
- Galena Energy Fund: \$9 million assets under management in 2011 and \$93 million in an energy strategy account managed for Trafigura;
- Galena Special Situations Fund: \$247 million assets under management in 2011;
- Galena Macro Fund: includes a \$100 million macro strategy account for Trafigura;
- Commodity Trade Finance Fund: \$21 million assets under management in 2011;
- Galena Malachite Fund: a long-only fund with \$247 million assets under management in 2011;
- Galena Azurite Fund: a long-only fund with \$58 million assets under management in 2011.

The website also mentions a Galena Commodity Feeder Fund, a Bank Capital Trade Finance Fund and a Bank Capital Trade Finance Fund.³³ The Commodity Trade Finance Fund and the Bank Capital Trade Finance Fund are possibly funds that buy securitized bank loans for commodity trade financing, which relieves the balance sheets of the banks so that they can in turn provide more credit to the commodity traders.³⁴

Galena’s funds seem to be very successful: the firm claims that it “has attracted a high profile investor group, and Galena is recognised as a market leader in its sector”.³⁵ Galena is continuously expanding and adding new financial products.

Galena's investments "are separated from the rest of the Group's trading activities; nonetheless, Galena benefits from its access to knowledge and analysis of the commodities markets".³⁶ Namely, Galena admits it has privileged access to Trafigura's market intelligence, internal information and expert analysis from Trafigura's physical trading.³⁷ Consequently, Galena's managers identify and capture opportunities that arise from fundamentals and momentum in both the physical and derivatives markets.³⁸

Trafigura sources, stores, ships and trades in crude oil and petroleum products, non-ferrous concentrates, refined metals and bulk commodities such as coal and iron ore. Trafigura claims to be "the world's third largest independent oil trader and the second largest independent trader in the non-ferrous concentrates market."³⁹ The 2011 consolidated accounts of the Trafigura group include derivatives held for trading purposes separated from derivatives "held for hedging physical trading positions"⁴⁰. The former included mostly commodity futures but also commodity swaps and "other derivatives". The trading aims to profit from price movements and price differences between markets and products⁴¹ which means speculation. While the notional amounts of all the derivatives for trading purposes was \$8,989 million by end September 2011, the fair value was minus \$226.9 million (and in 2010 the fair value was \$93.8 million) by end September 2011.⁴² In comparison, the 2011 total notional amounts of derivatives held for hedging physical trade was \$20,022 million (and the fair value was \$514 million. It is not clear in the consolidated accounts how much of these derivatives for speculative trading purposes can be attributed to Galena and which to Trafigura.

Speculative units by agricultural commodity traders

There are examples of how large commodity companies have their speculative trading services not in a separated hedge fund but another part of the overall business. For instance:

□ **Balarie Capital Management (BCP)**⁴³

BCP is a division of Archer Financial Services (AFS), a wholly owned subsidiary of ADM Investor Services, Inc. (ADMIS), a leading futures brokerage also offering online trading platforms. The parent company of ADMIS is Archer Daniels Midland (ADM), world leader in processing of soybeans, corn, wheat and cocoa and in producing bio-energy.

Balarie Capital Management offers diverse services and products to speculative investors not only in commodity derivatives but also in other financial

markets' products. It is specialising in 'managed futures' that simultaneously cover several market sectors such as currencies, energies, metals, short and long term interest rates, domestic and international stock indices. In addition, BCP delivers many products that support and execute speculation such as fundamental and technical research on commodity markets and related issues, execution and clearing of trades, offering trading platforms, and providing an overview and access to so-called commodity trade advisors (often hedge funds offering investment funds (partly) related to commodities).

→ **Risks for commodity markets:**

■ **Disfunctioning of commodity markets:**

The examples of hedge funds linked, owned by, or closely linked to commodity companies raise the issue of manipulation in commodity derivatives markets. Given the connection between the commodity hedge funds and the physical trading companies that own them, the former have privileged access to trading analysis and strategies in order to speculate for very high profits. This can lead to manipulation of commodity spot or derivatives markets and disruption of trading on physical and financial market.

- **Lack of transparency** about the hedge funds and financial services units belonging to physical (agricultural) commodity trading conglomerates will make it difficult for supervisors or regulators to determine if a position is for bona fide hedging or financial speculation, and to prevent manipulative behaviour from combined strategies in physical and financial derivatives markets.

→ **Risks to the financial markets**

- **Interconnectedness:** As these commodity conglomerates have hedge funds and divisions that invest in a range of other asset classes and financial markets, this leads to the increasing interconnectedness between the players in commodity markets and those in other financial markets.
- **Use of leverage:** Since hedge funds are using considerable leverage to multiply their profits, this exposes them also to significant losses when their bets go wrong. This will affect their lenders but also the other financial markets in which they are active. The practice of lending and re-lending the collateral that is used for hedge fund borrowing has been one of the problems that led to the credit crunch at the start of the financial crisis mid 2008. The lending of the collateral (margin) that is used in commodity derivatives trading is still an important problem that regulators have only just begun to deal with.⁴⁴

Lack of transparency about commodity hedge funds

There are some large hedge funds that invest in all kind of commodities markets, which are generally referred to as commodity hedge funds. They invest their own capital, those of their clients, and some also have funds in which institutional investors can invest. In addition, they use high levels of leverage to increase the impact of the assets under their management. Despite the political rhetoric in the wake of the financial crisis, hedge funds are still not very transparent. This situation will only be improved after AIFMD becomes operational from July 2013 onwards and if the MiFID revision provides reporting obligations without exemptions. Research to providing detailed insight into how much commodity hedge funds were investing in food and other agricultural commodity derivatives has therefore proved to be difficult.

Commodity hedge funds have different trading strategies ranging from trading in shares of commodity businesses to profiting from price moves in financial commodity markets by trading in commodity derivatives and/or trading in physical commodities.⁴⁵ Commodity hedge funds have been identified by market participants as highly speculative and being main contributors to price volatility on commodity derivatives markets.⁴⁶ Commodity hedge funds with more than \$30 million assets under management which were tracked by the Newedge Commodity Trading Index⁴⁷ made profits ranging between 44.2% in 2002 and 2.4% in 2008 at the height of the financial crisis. However, they lost 1.3% in 2011, largely because of high volatility in financial markets, with unexpected price falls and political as well as macro-economic events that could not be foreseen by analysing the fundamentals. This is an indication that non-fundamentals are playing an increasing role in commodity derivatives pricing. Consequently, a number of commodity hedge funds were considering withdrawing from commodity exchanges, or increasing their hedges (which can include speculative OTC commodity swaps). In the first half of 2012, when commodity prices were falling, many hedge funds were seen selling their futures contracts⁴⁸ and losses at commodity hedge funds were reported.

Given the lack of transparency of hedge funds, there is insufficient data on who and how much each of the commodity funds invests in food and other agricultural commodity derivatives. The following are examples of commodity hedge funds that we know invest at least partially in agricultural commodity derivatives:

□ **Blenheim Capital Management** was reported in March 2012 to be the largest commodity hedge fund with \$5 billion in assets, and is one of the largest futures trading managers.⁴⁹ It suffered significant losses in 2011 among others as a result of wrong bets on corn.⁵⁰

- **Schroder Alternative Solutions Commodity Fund** owned by Schroder Alternative Solutions had \$3.2 billion assets under management by beginning September 2012 (a hedge fund) of which 29% was in 'agriculture'.⁵¹
- **Transtrend** is a hedge fund fully owned by Robeco. Its Diverse Trend Programme had \$4.2 billion actual funds by the end of 2011 of which it invested 9% in agricultural derivatives and 8 % in energy derivatives (these derivatives were at least 90% bought on exchanges).⁵²
- **Merchant Commodity Fund** is a Singapore-based top commodity hedge fund whose assets shrunk from \$1.5 billion at the beginning of 2011 to less than \$500 million by beginning July 2012 after wrong bets on commodities such as sugar and vegetable oils.⁵³
- **Aliquot Agriculture Fund**⁵⁴ is owned by Castlestone Management and invests in derivatives of mostly grains (such as corn, wheat, soybean, rice) but also soft commodities (such as cocoa and coffee, cotton) and livestock (such as pork bellies). The agricultural commodity related derivatives the fund directly invests in are futures contracts, options, swaps and other financial instruments. The fund size was estimated to be \$7.5 million at the end of 2011.
- **Galtere Ltd** is a New York commodities-focused hedge fund that also invests in the equity, bond and currency markets. The fund was founded in 1997 with \$5 million; as of mid-2012 it was managing \$600 million.⁵⁵ Galtere's assets peaked in 2007 at \$2.4 billion but subsequently suffered significant losses as a result of wrong bets. Since 1999, the fund's returns have been on average 11% per year. By betting that maize prices would go up this year, the fund's returns increased by 9.3% by the end of August 2012 Black River Asset Management LLC, a hedge fund and subsidiary of Cargill (see above) invested \$60 million in Galtere in 2003.⁵⁶
- **Vermillion Asset Management, LLC**⁵⁷ is an investment manager with approximately \$2.2 billion of assets under management by 30 September 2012, and 55% owned by one of the largest hedge fund industry, the Carlyle Group. It offers collective investment instruments focused on commodities, including food and agricultural commodities, for which it invests and trades in physical commodities, futures and options traded on exchanges, and commodity-related shares. Vermillion has the capacity to make and take physical delivery, which is considered unique among the commodity hedge funds.
- **Henderson Agricultural Fund** (based in the Cayman Islands)⁵⁸ had \$127.14 million in assets under management in 2011.⁵⁹ The fund trades futures and options using arbitrage strategies between different exchanges (and time zones).
- **EMC Capital Management, Inc.** has assets under management exceeding \$175 million. Its portfolio

consists of 20 % agricultural commodities futures (including 8% grains) that it actively manages by trading around the world.⁶⁰

- ❑ **Man RMF Commodity Strategies** (based Cayman islands) is owned by the Man Group Plc and had \$21.7 million under management by end of August 2012 of which 9.2% was invested in the agricultural and livestock sector.⁶¹

Commodity hedge funds are increasingly using aggressive trading strategies e.g. including very short term strategies, such as high frequency trading (HFT), and those that aim to profit from volatility. One example of a fund using HFT in agricultural derivatives markets is the Cyril Dynamic Fund owned by John Locke Investments.⁶² An UNCTAD research report has exposed the HFT strategies used in commodity markets resulting in increasing volatility in commodities markets.⁶³ And more is expected to come: for example, a new fund planned to be launched with a capacity of \$1 billion is the Binnacle Commodity Volatility Fund holding mainly volatility positions and targeting 15% to 20% annualised returns.⁶⁴

There are some large commodity hedge funds of which it is not clear whether they invest in agricultural commodities. They include:

- ❑ **Clive Capital** is a \$3.3 billion London hedge fund that invests in oil, currencies and farm commodities. It lost 3% in July 2012.⁶⁵
- ❑ **BlueGold and BlueGold Capital Management LLP**, which soared 200% in 2008 on rising oil prices, closed in April 2012 after tumbling 34% last year.⁶⁶
- ❑ **Welton Global Directional Portfolio of Welton Investment Corp** had \$874 million assets under management by mid 2012 investing in more than 90 futures markets, including commodities.⁶⁷
- ❑ **The Compass EMP Funds**, which manages about \$1 billion of assets⁶⁸, has 2 hedge funds (Compass EMP Commodity Strategies Volatility Weighted Funds) that are based on the CEMP Commodity Volatility Weighted Index, one of which is a futures long only fund and the second has long/short hedge strategies. The third fund, the Compass EMP Commodity Long/Short Strategies Fund is designed to take advantage and profit during significant rising or declining market conditions.⁶⁹

→ Risks for commodity markets:

- **Non-transparency:** Hedge funds that undertake financial commodity speculation, some of which are based in secrecy jurisdictions, are little transparent about their strategies, positions and ultimate ownership, although they are considered to have highly speculative strategies. Lack of transparency disadvantages market participants, stakeholders, as well as trading venue operators and supervisors

or regulators who are responsible for safeguarding the integrity of the commodity derivatives markets.

- **Increased OTC agricultural commodity trading:** The agricultural commodity hedge funds use various commodity financial instruments such as futures contracts, options and OTC swaps. If more OTC swaps or other OTC commodity derivatives are being used by hedge funds, for instance to hedge the financial risks of speculation on exchanges, or by being the counterparty to ETFs in OTC commodity swaps (see below), this would go against the regulations promoted by the G-20 and the EU (MiFIR, the new Market in Financial Instruments Regulation) to reduce OTC derivatives trading so as to increase transparency.
- **Volatility of commodity prices:** Wrongly betting in the (agricultural) commodity derivatives markets can lead to significant losses for these hedge funds. This results in investors withdrawing their money from the hedge funds, whose managers then have to reduce their presence in commodity derivatives markets. This in turn increases the volatility on the commodity exchanges and other derivatives markets. The wrong bets in 2011 were often caused by surprise macro-economic events such as the Euro crisis, for which the hedge funds seem to have too little assessment instruments to include in their betting strategies.
- **More derivatives trading not based on fundamentals:** If commodity hedge funds betting in different commodities get it wrong in one commodity, or if they see huge profit opportunities in one particular commodity market, this might influence how they behave in other commodity markets. Hedge funds that increasingly use short-term profit strategies (on a daily basis) and high frequency trading will increase trading that is risky and makes profits from minor price differences. These strategies are completely unrelated to the fundamentals underlying the commodity sectors. In addition, the more volatile the markets are, the more it attracts speculators just trying to profit from price differentials, regardless of the fundamentals of the underlying commodities but often at the expense of bona fide hedgers.

→ Risks for financial markets:

- **Interconnectedness and systemic risk:** Hedge funds that invest in commodities are also often closely interconnected with other sectors of the financial markets in which they invest. This increases the risk of contagion from the derivatives markets to other financial markets as well as the interconnectedness and risks of contagion among the financial players on the commodity exchanges.

New trends and challenges from commodity ETFs

Since the outbreak of the financial crisis, the most explosive growth in commodity assets under management was in the area of commodity exchange traded products (ETPs) the majority of which are exchange traded funds (ETFs). From less than \$50 billion in assets under management in 2007 (up from \$16 billion in 2006), commodity ETPs reached around \$185 billion in mid-2012.⁷⁰ See graph below.

Commodity (index) ETFs are investment funds for individual or institutional or investors who buy a share of the fund on an exchange. When these investors sell their shares, they can earn a profit or lose money, depending on the value of the commodity or index the fund is tracking. This makes commodity index ETFs different from traditional commodity index funds, which are (mutual) funds mostly aimed at institutional investors, whose return depends on the value of the index they track (see below).

Most commodity ETFs (ca. 70%) are based on the value of precious metals, while part of the remaining commodity ETFs include agricultural commodity ETFs. Although the focus of this paper is on speculation in agricultural commodities, the research of this paper looked into the trends and risks involved in the whole range of commodity ETFs since EU legislation does not distinguish between agricultural and non-agricultural commodity derivatives and since trends are often replicated in agricultural ETFs.

New trends in commodity ETFs

Investors' growing enthusiasm for commodity ETFs in recent years has been largely a result of low rates of return on other investments since the economic crisis and the low profitability of basic banking services. This has spurred (investment) banks and various asset managers (hedge funds, investment management firms) to offer investment vehicles providing exposure to commodities, as a way to diversify, without investors having to buy directly on the commodity exchanges. After commodity investment funds were criticized for their high hidden costs at the expense of the investor (due to the 'roll-over' of commodity futures contracts) and the various high risks that were revealed (e.g. non-cleared swaps), asset managers have in recent years developed a new generation of commodity ETFs. Given the fierce competition to attract investors' money and the lucrative fees and spinoffs for those offering all kinds of commodity investment funds, we can expect new commodity investment products to continue to be introduced with ever more risky strategies. These strategies include the creation of new commodity indexes, the active management of commodity indexes and roll-over timing, as well as strategies to make profits on a daily basis and those based on algorithms and high frequency trading. Another trend is the creation of funds that are closely connected to large physical commodity traders who know the market but also operate on commodity exchanges.

Commodity-based ETFs: expansion and fluctuations



Source: T. Lane, Financing commodity markets, Bank of Canada, [speech in at Calgary] 25 September 2012, chart 5: referring to JP Morgan as source and "last observation: 14 September 2012"

The section below explains the different kinds of commodity ETFs on offer in the market, excluding ETFs based on shares of commodity firms. There are some aspects that apply to all of the ETFs and which result in similar risks not only for the commodity markets but also especially for financial markets as a whole, resulting in systemic risks. In order to avoid repetition, these general risks are described here.

→ **Risks for financial markets and commodity markets from the different kind of ETFs described below:**

- **Interconnectedness:** The fund managers of commodity ETFs can invest the money they receive from investors in a variety of derivatives (e.g. commodity derivatives, currency derivatives and credit risk derivatives) or different kinds of securities often not linked to commodities (e.g. governmental bonds, shares of companies including from commodity traders or processors/manufacturers, etc.). This means that the assets in commodity ETFs are often being traded in all four major financial market sectors (commodities, currencies, equities and interest rates). Commodity ETFs are often offered by the same dominant players in the financial and commodity markets. Also, investing in ETFs might be part of multi-layered strategies of large investors playing different parts of commodity markets at the same time (investing in OTC derivatives and in shares of commodity companies or ETFs thereof, structured commodity trade finance, lending of commodities as collateral, etc.). Commodity ETFs have an underestimated risk of interconnectedness between the players, products and strategies of commodity and financial markets. This results in systemic risk for financial markets but also for commodity markets, which become highly driven by financial market motives and events.
- **Increased correlation between price movements on commodity market and other financial markets:** Commodity ETFs have contributed to the trend in recent years of the growing correlation between derivative commodity prices and stock market prices, certainly compared with the fifty-year period prior to 2001⁷¹ and compared with commodities not traded on derivatives markets or commodities not included in indexes. This means that investing in commodity derivatives is becoming less of a protection against financial markets' movements and inflation as it used to be (or as it is still often claimed to be). This increased correlation is among others the result of the interconnectedness of players, products and strategies in the commodity markets.

- **More OTC commodity swaps and derivatives:** The rapid increase in commodity ETFs may also be leading to the use of more over-the-counter (OTC) commodity swaps as an instrument to hedge against ETF-related risks by ETF shareholders, ETF managers and the swap counterparties of ETFs. Such an increase goes against the G-20's attempt to reduce OTC commodity derivatives and bring more commodity derivatives trading onto exchanges.
- **Speculation in ETF shares:** Since ETF shares are traded on stock exchanges, they are subject to speculative strategies. For instance, hedge funds and investment banks can buy and sell huge amounts of derivatives that speculate that the price of an ETF will fall.⁷² This kind of speculation can influence synthetic ETF prices. If the bets go wrong, it can lead to huge losses on the part of the speculator. It can even expose the synthetic ETF itself to counter-party risks if the speculator is the swap counterparty (see below) of the same synthetic commodity ETF.
- **Risk of a 'run on the fund':** Since commodity prices can be volatile, (retail) investors might panic if prices plummet or if there is a severe financial crisis, and sell their shares en masse. This might result in fund managers having to sell many commodity (as well as other ETF) assets under management all at the same time. This selling could be seriously below cost or even not possible in times of severe crisis. Given the *interconnectedness* of these assets (see above), the panic selling of ETF shares when physical commodity prices are falling or the enthusiastic buying of ETF shares when commodity prices are increasing have an impact on related commodity (derivatives) markets and financial markets, as ETF managers have to sell and buy assets according to incoming or outflowing funds by investors.

The ever growing diversity of commodity ETFs

Commodity ETFs can have different assets, structures and strategies, which will be described below, which leads to differences in their performance.⁷³ Since this briefing paper is focused on the impact of financial players on the commodity derivatives markets, this overview does not include ETFs that invest in shares of commodity companies.

1. Physically backed ETFs

ETFs that own the physical commodities they track and buy or sell physical commodities in amounts according to investors' money inflow are known as physically backed ETFs. Investors' returns are based on the spot price of the commodity, rather than the price of the commodity futures, minus the costs. The costs involve the cost of warehousing/storage, insurance against theft, management and inventory fees. Because precious metals (especially gold) are less costly to store per volume, most physically backed ETFs used to be in precious metals (gold, silver, platinum). More recently, physically backed ETFs in aluminum, palladium, copper and other metals have been developed or are being considered. These ETFs are issued and managed by large investment banks that increasingly also own the warehouses.⁷⁴ For instance, Goldman Sachs owns 79% of the warehouses in Detroit that are approved by the London Metal Exchange.⁷⁵

→ Risks for the commodity markets:

- **Influencing prices in the physical commodity market:** Physically backed ETFs buy physical commodities, which are then stored and kept away from physical traders and industrial users, in theory waiting to be sold when the price increases. In practice, the amount of commodities under control by a group of ETFs or even by one ETF alone can be very large and during a long period. This leads to a concentrated holding of physical reserves of a particular commodity in a way that affects the physical prices (spot prices) of that commodity.⁷⁶ Worse yet, if ETF shares are sold in a panic because prices are dropping, then the massive selling of the physical commodities by the ETF could result in the price further plummeting. As a result, spot commodity prices can become driven by financial motives rather than by the supply and demand of the physical commodity or other fundamentals. Precious metals analysts say that ETF buying has become one of the most important drivers of prices in their markets.⁷⁷
- **Distortion of the physical commodity market:** There can (and have been) instances in which financial players' hoarding of physical commodity reserves have resulted in the insufficient release of these commodities from warehouses.⁷⁸
- **Influencing prices on commodity exchanges:** Artificial shortages of commodities on the spot markets can also increase prices on commodity exchanges. The more that futures prices increase, the more interest there might be in physically backed ETFs, which can then further buy up physical commodities, etc. Of course, the reverse also applies. This demonstrates how behaviour

of physically backed ETFs can exacerbate the effect of a commodity shortage beyond the scale of the fundamentals involved.

- **Conflict of interest:** The investment banks that issue the physically backed ETFs also often own the warehouses. Even if the release of commodities from the warehouses is regulated by the exchanges (e.g. the London Metal Exchange) and safeguards against manipulation exist⁷⁹, such manipulations can occur and result in increasing prices on the spot markets.⁸⁰ Given that the investment banks issuing the physically backed ETFs are also active on the (OTC) commodity derivatives markets, it might be unclear to supervisors how the strategies (e.g. shorting) used by different commodity funds might affect the prices on commodity derivatives and spot markets.

→ Risks for the financial system:

- **Impact on central banks' gold strategies?:** All the gold ETFs put together already own more gold than the major central banks.⁸¹ Given their dominance of the market, ETF activities can influence gold prices. This can frustrate the plans of central banks to sell or buy gold.
- **Too big to fail?:** Research on large commodity conglomerates by the Canadian central bank raised the question of whether large losses at these commodity conglomerates would impact global financial markets and the economy⁸² – for instance as a result of major wrong bets or complex speculative strategies on commodity markets.

2. Synthetic ETFs

ETFs that are not based on commodity spot prices or backed by physical commodities but instead follow ('track') the prices of commodity derivatives are often referred to as 'synthetic' ETFs.

2.1 Single commodity ETFs

ETFs that track the price of derivatives of a single commodity based on prices on a particular commodity exchange are known as 'single commodity ETFs'. EU regulators stipulate that ETFs that only track a narrow range of assets such as a single commodity are not sufficiently diversified. Therefore they must register as trusts, which is why they are called exchange-traded commodities (ETCs) rather than ETFs, both of which belong to the group of exchange traded products (ETPs).⁸³

→ Risks to the commodity markets

- **Increased number of commodity speculators:** Since more ETF funds attract more funds with which the fund managers can directly or indirectly buy commodity derivatives on the exchange(s), these exchanges are increasingly being dominated by speculative players rather than players engaged in bona fide hedging of price risks.
- **Influencing commodity derivatives prices on exchanges and spot prices:** When a single commodity ETF is successful, it can drive up the derivatives and spot prices of that commodity. Even JP Morgan has admitted this in various statements.⁸⁴

2.2 ETFs based on advice from commodity companies

A new trend that has been emerging is one where ETF providers set up commodity ETFs together with commodity conglomerates. For example, in 2005 Shell and ETF Securities launched a futures-backed ETF⁸⁵ in which ETF Securities bought all its futures contracts from Shell directly rather than via an exchange. In practice, this means that the ETF is financing Shell's derivatives trade. Another example is the close cooperation between Glencore and Credit Suisse. In 2009, Credit Suisse launched funds that are based on the Glencore Active Index Strategy (GAINS). This index tracks the movement of commodity prices based on the expectations of Glencore's 'senior traders' with respect to the price movement of 20 commodities. However, Glencore does not publish any up-to-date information and therefore it is not clear until six weeks later what the index was composed of.⁸⁶

→ Risk for commodity markets

- **Blurring of classes of traders:** The distinction between commodity price hedging and speculation by commodity producers or traders becomes blurred when commodity companies are selling their futures to speculative ETFs.
- **Circumventing position limits:** These ETFs might be a new strategy used by commodity conglomerates to finance their trade. It is difficult to know whether these kind of ETFs are a way for these conglomerates to place their derivatives contracts off balance, making it difficult for regulators to know the size of a company's derivatives contracts that are for bona fide hedging and those for speculating. This could undermine the position limits imposed by regulators on speculative positions by commodity traders that are not bona fide hedging.
- **Privileged access to information:** Some ETFs might have access to privileged information. This risk is real, as insider trading is not forbidden

on commodity derivatives markets given that players that hedge are also producers or end-users who know what is happening in the market.

- **Privileged access to information:** Some ETFs might have access to privileged information. This risk is real, as insider trading is not forbidden on commodity derivatives markets given that players that hedge are also producers or end-users who know what is happening in the market.

→ Risks for commodity and financial markets

- **Investors unaware of ETF's strategies:** Investors might not be aware that their money invested in ETFs is directly helping to finance commodity companies. They might be unaware of how much the ETF is linked with commodity companies. Also, participants and regulators in commodity derivatives exchanges might not be aware of how much (bona fide hedging or speculative) derivatives contracts a commodity conglomerate has.

2.3 Traditional commodity index ETFs

A commodity index ETF follows, or 'tracks', the price of a basket of commodities that are part of a commodity index. Traditionally, these commodity index ETFs track long established and often used indexes (e.g. the S&P GSCI or Standard & Poor's Goldman Sachs Commodity Index, the Dow Jones-UBS Commodity Index). Until recently, commodity index funds tended to have passive strategies – i.e., investors' returns were based on the price of the index minus the costs and fees for managing the futures and the fund. The assets of the fund are invested in futures of the commodities in the index they track or in related swaps (see below) as well as other assets (e.g. bonds) to the extent allowed by regulation. For example, the exchanges in Australia and the EU's UCITS regulation only allow an ETF to hold 10% of an asset class (including derivatives) and some investment in non-eligible assets. Some traditional commodity index funds can be large. DB PowerShares DB Agriculture ETF (ARCADBA), for instance, had a market capitalisation of \$2.04 billion on 19 September 2012.⁸⁷

→ Risks for commodity markets

- **Futures prices no longer based on fundamentals:** Commodity ETFs that hold futures must continue to buy or sell according to the amount of money flowing into or out of the fund. These in and outflows are not necessarily related to the fundamental characteristics of the indexed commodities but could instead be the result of growing risk aversion in the European bond market, for example (see above: interconnectedness). Retail investors in ETFs are often not knowledgeable enough about the commodity markets in which they invest

(and the information provided is often incomplete). As a result, they buy and sell ETF shares based on incomplete information about the fundamentals or commodity exchanges. Because commodity index funds are often buying long positions this can lead to constant and high demand for long contracts on the commodity derivatives exchanges, which is not in line with market fundamentals. Also, since traditional commodity index funds are rolling over their contracts at predetermined times, financial speculators are active on the commodity derivatives markets around these dates, whereby prices are once again influenced by non-fundamentals. In other words, the price formation function of commodity derivatives markets is being undermined.⁸⁸

- **Distortion of physical commodity delivery:** When the commodity index funds form a majority on the exchanges, since they are only buying long positions, the result is that end-users can have difficulty accessing delivery contracts. With no access to the reserves held by these funds, end-users end up paying premium prices for physical commodities.⁸⁹
- **Increasing correlation of commodity futures prices in indexes:** Given that commodity index ETFs have to track an index – that is, the fund must mirror the percentage of each commodity in the index – they need to constantly sell and buy commodities in order to maintain the right percentage of commodity futures. For example, if the price of oil increases, then the percentage of oil futures in the fund will exceed the percentage of oil in the index. In order to bring the fund back to the percentages of commodities in the index, the fund must buy futures of other commodities – for example, agricultural commodities – or sell its oil futures.
- **Increasing commodity price volatility:** Commodity ETFs add to the increasing amount of money that is used to speculate on commodity derivatives exchanges, which are used as price benchmarks. There is growing evidence that this speculative buying and selling contributes to price volatility and higher or lower prices than fundamentals would justify. This in turn harms bona fide hedgers (the more volatile the price, the higher the collateral to be paid) and consumers (price peaks can increase prices for basic food commodities, which can become too costly for the poor.)

→ Risks for financial markets

- **Potential losses:** The returns that retail investors earn on their investment in commodity ETFs may not be as high as the actual increases in commodity prices due to roll-over costs and risks and errors in index price management.⁹⁰ In addition, given that

commodity prices are very volatile, investors can be easily lured into investing in commodity ETFs by high commodity prices but may need their money at a time when prices are low. The fund might have problems returning the value of the commodity price index if the roll-overs and non-commodity assets provide lower returns than necessary.

- **Losses from lending ETF assets and collateral:** Funds can engage in the lending of the securities they hold, including securities received as collateral (margin) for the derivatives trade. Notwithstanding guarantees,⁹¹ this can result in the lender not being able to return the borrowed securities, since this collateral can be lent on further (re-hypothecation of margin)⁹², which would lead to losses suffered by the ETF and thus less return for investors.⁹³ Also, in combination with physical commodity players, financial market players can lend and re-lend collateral ('re-hypothecation') of derivatives contracts. Based on the bet that ETFs will continue to drive up derivatives prices higher than spot prices, this results in complex risks for many players if prices move in a different direction than the bets.⁹⁴

2.4 Synthetic commodity index ETFs with total return swaps

Synthetic commodity ETFs can invest (all) the money of the fund in other assets that are not linked to commodities, including bonds and company shares. They then engage in a total return swap in which (part of) the ETF assets are swapped with a counterparty (which could even be the investment bank offering the synthetic ETF). The swap counterparty must match the value of the commodity index the ETF is tracking. Under the EU's UCITS regulation, this swap can only cover 10% of the ETF assets. In order to protect itself against risks, the swap counterparty can buy some OTC derivatives or commodity futures on the exchanges in case the swap counterparty has to pay the fund at a time that the price of the commodity index goes up: it can then sell the futures at the time it needs to pay out the swap.

→ Risks for commodity markets

- **Volatile trading by financial counterparties:** Given the sometimes opaque and very active strategies of swap counterparties, the latter can engage in very short-term buying and selling of commodity futures according to their own strategies. This could have an impact on the volatility of commodity prices as well as the quality of the price forming function of commodity exchanges.
- **Increased use of OTC commodity derivatives:** The total return swaps conducted between ETFs and investment banks are OTC. The counterparty

might also buy OTC commodity derivatives to hedge their total return swap risks.

→ Risks for financial markets

- **Counterparty risk:** ETFs can be at risk of losing money if the swap counterparty cannot pay out the derivative contract. Such risks exist especially if the swap is OTC and not cleared (or protected) by a central counterparty. Counterparties are often hedge funds, some of whom may have incorrectly estimated the value of the commodity index and the amount of funds it has to swap, thereby losing money. Of course the opposite is also true, and they can make huge profits. If a hedge fund suffers large losses from swap obligations, this might affect the hedge fund's financial strategies and cash flow, its profitability or even survival. This in turn could influence how the hedge fund behaves in other financial markets on which it is active.
- **Losses from lending ETF assets and collateral:** (see above)

2.5 Actively managed commodity index ETFs

The discussions on the dangers of ETFs are focused on the increasing number of new ETFs that new untried strategies. For instance, some actively managed ETFs seek to outperform existing traditional indexes by up to 200 percentage points. Or they claim to outperform the *daily* performance of an existing commodity index (e.g. ProShares Ultra DJ-UBS Commodity Index).

These funds are actively managed, i.e. the fund managers intervene (sometimes daily) in:

- The weighting of the index;
- The roll-over period;
- The composition of the index.

ETF fund managers also use very new indexes with little track record. They also engage in swaps with hedge funds or investment banks, securities lending, etc.

By using smart management techniques, the ETFs hope to attract more investors who would like to speculate on commodity prices. This explains partly why commodity (index) ETFs have grown dramatically since 2009, as mentioned above.

→ Risks for commodity markets

- **Increasing number of commodity speculators:** The new, actively managed ETFs attract more investors to the commodity markets via an easy financial product, thus increasing the likelihood of fund managers or swap counterparties buying commodity futures on exchanges or OTC commodity

derivatives. These financial parties might provide more liquidity than is needed for hedging by commodity producers and end-users, and increase price volatility as is explained above.

- **New classes of commodity futures subject to speculative buying:** When new funds or indexes want to be innovative and diversify the commodities they are tracking, they will track another class of commodity futures not yet included in many other indexes. As a result, an increasing number of commodity exchanges are getting inflow from financial players who are buying and selling based on speculative financial strategies.

→ Risks for the financial sector:

- **Riskier speculation:** ETFs might be inclined to use untried risky strategies or replication of commodity prices. For instance, the new indexes used might not have good governance, as their regulation is still in the beginning stages.
- **Unreliable returns for investors:** The risky strategies might be less reliable than traditional commodity ETFs, which might affect the returns that investors receive. In addition, the management fees may be so high that investors receive less return on their investment than expected. The recent trend to decrease ETF fees might affect the governance and returns of a fund. If this results in growing distrust of ETFs, this could lead to mass withdrawals by investors, which would affect the ETF providers who are also active in other markets (see above: interconnectedness).
- **Counterparty risk by lending securities:** (see above)

2.6 Commodity ETFs with specific speculative strategies

Some commodity ETFs have explicit strategies that are actively speculative, such as:

- Using high frequency trading
- Using volatility arbitrage in the commodity futures markets; they are "uncorrelated to equity and commodity market price levels"⁹⁵ and can include high frequency trading.
- Short-term speculative strategies such as profitable returns in one day, 'turbo' or double speculative returns (if the price goes up, the return is double the profits). For example, the Ultra ProShares ETF "seeks a return that is 2x the return of an index or other benchmark (target) for a single day: the assets are commodity index swaps with some of the large investments banks."⁹⁶ The ProShares UltraShort DJ-AIG Commodity ETF "seeks daily investment results, before fees and expenses, that correspond to twice (200%) the inverse (opposite) of the daily performance of The Dow Jones-UBS Commodity IndexSM."⁹⁷

→ Risks for commodity markets:

- Increasing number of short-term commodity speculators: (see above)
- Futures prices no longer based on fundamentals: (see above)

→ Risks for financial markets:

- More risky short-term speculation: (see above)
- Unreliable returns for investors: (see above)

3. From passive to dynamic commodity index funds

In addition to the increasing number of commodity ETFs that are more actively managed and have more sort term speculative strategies, also the other financial commodity instruments that allow institutional investors and individuals to put their money in speculating on commodity prices have become more diverse, dynamic and more speculative.

Since money has been flowing out of the traditional commodity index funds after investors had costly negative experiences due to the fund strategies of passively tracking commodity indexes with high roll-over costs, fixed roll-over times and constant long only positions, commodity index fund issuers have been increasingly using active management strategies in new funds, to retain investors, such as:

- Using new commodity indexes with different mixes of commodities, tapping into commodity exchanges that were traditionally little used as price benchmarks for indexes; this also means that more futures are being bought on these newly tapped commodity exchanges;
- Active managing the weighing of the commodities tracked by the index to make more profits from those commodities whose prices go up on particular exchanges;
- Changing role-over dates: in order to avoid too much costs for investors from passively rolling over agricultural commodity futures contracts, the commodity index fund managers identify smart dates at which to roll-over the contracts;
- Adding the profits of other financial assets: in order to guarantee good returns, some commodity index funds also track the returns of other assets than commodity futures, such as returns from government bonds;
- Making profits out of lending securities that are collateral from the fund.

This dynamic management of commodity index funds might result in much more buying and selling for reasons not linked to the fundamentals of the underlying commodity, and raises many concerns over risks that are similar to the latest generation over ETFs that were described above.

It needs to be noticed that as is the case for traditional commodity index funds, a large part of the assets managed by the commodity index funds are composed of other securities than commodity derivatives.

4. A variety of more commodity speculative instruments

The spectrum of commodity investment instruments also exist of Commodity exchange traded notes (ETNs), or commodity certificates or related OTC financial products. The issuers of these instruments are active on the commodity exchanges or OTC derivatives market as well as other financial markets to manage the assets of these instruments. They can use these instruments to offset or hedge against the risks from other parts of their business.⁹⁸

An important additional kind of commodity ETNs are unsecured debt instruments without payment of interests but whose price is based on tracking a commodity (index). An example of a commodity ETN based on agricultural futures is Rogers International Commodity Agriculture ETN⁹⁹ that had a market capitalization of \$409.39 million on 19 September 2012. It tracks the Rogers International Commodity Index – Agriculture Total Return and invests 20 different futures contracts, especially corn, wheat and cotton.

The dynamic strategies they use can be:

- The use of innovative dynamic and exclusive indexes e.g. PowerShares DB Agriculture ETNs: “are based on a total return version of the Deutsche Bank Liquid Commodity Index – Optimum Yield Agriculture™ (the “Index”), which is designed to reflect the performance of certain corn, wheat, soybean and sugar futures contracts plus the returns from investing in 3 month United States Treasury bills.”¹⁰⁰
- Double or triple betting strategies, advertised as profitable within the very short term e.g. ABN AMRO Commodity Future Contracts Turbo Long Certificates, and ABN AMRO Commodity Future Contracts Turbo Short Certificates: the 50 kind of commodity turbo certificates include certificates that are based on agricultural commodities such as coffee, cocoa, wheat, corn, cotton, soybeans and sugar.¹⁰¹

Conclusion: challenges for regulators

The recent trend towards the creation of new commodity funds and the more dynamic and complex but risky use of commodity derivatives is motivated by the desire to attract more speculative money to the financial commodity markets business, or at least prevent outflows. With many investment instruments in other financial markets yielding small returns, speculative investors in search of high returns have especially been attracted to (commodity) ETFs. Fierce competition among ETF providers has even led to reductions in required fees. Banks are also being enticed to gain from lucrative commodity derivatives markets in order to strengthen their capital reserves at a time that their basic banking services are providing them with lower profits. However, money that speculates on commodity prices can easily flow out when commodity prices decrease, as we have seen in 2008 and in 2011. The sharp change in food commodity prices at since the end of June 2012 has further exposed the many risks attached to, and the concerns about, the commodity derivatives business. In 2011 and 2012,¹⁰² significant losses were suffered by hedge funds and commodity (index) ETFs/funds. These trends in the financial commodity business have significant consequences for regulators and supervisors of the commodity derivatives traded on exchanges or OTC.

EU regulators to adapt to new trends

Although not all European Union regulatory processes (MiFID II/MiFIR, MAD/MAR, UCITS) have been finalised, it is clear that mandatory ex-ante position limits will be imposed on financial players in EU-based commodity exchanges. It has become increasingly apparent that these financial players influence the volatility of commodity prices on exchanges and in spot markets.

The recent new complex and dynamic strategies of financial commodity players add to the need to protect the integrity of the commodity markets. Moreover, the more volatile the commodity derivatives markets become, the more attractive they are for those speculating on the volatility in these markets and for the short term. This would make commodity exchanges useless and expensive for bona fide hedging participants, for whom the commodity exchanges were created. It would also damage the commodity exchanges' role as important price benchmarks for commodity importing and exporting countries, and affecting food prices in the poorest countries.

Effective positions limits without loopholes

For position limits to be effective, however, loopholes must be avoided. Although this paper was not able to cover all the complex or structured commodity products and cross-product, cross-market or cross-border strategies by the various players in the commodity markets, it exposes some practices that regulators must strive to prevent:

- The new dynamic, complex and risky asset management strategies by commodity funds pose risks not only for commodity markets but also for financial markets in general (see below). In order to contain the volume and risks of the players using such strategies, position limits need to be set by regulators at strict and meaningful levels. Given that the new commodity index funds strategies are rolling over commodity derivatives contracts earlier than the delivery months, position limits need to be imposed each month throughout the duration of the contracts.
- Speculative positions can be hidden behind opaque transactions and the complex blurring of bona fide and speculative hedging. Nowadays, the risk of blurring of positions has grown because physical commodity traders often own hedge funds that trade for speculative purposes, and investment banks are frequently engaged in (or even own) physical commodity production, warehousing and trading. Regulators should therefore provide as little exemptions as possible from position limits and minimise the possibilities of avoiding regulation.
- As of November 2012, EU legislators have proposed that supervisors and trading venue operators be responsible for checking or controlling whether bona fide hedging positions are not actually financial speculation. Those responsible will need to have all the necessary resources to cooperate with the authorities/operators of physical commodity markets and other financial markets to ensure that their combined supervision can detect disorderly trading, manipulation and abuses on financial and spot markets. So far, the EU has not given enough attention to beefing up supervision to be as effective as the Commodity Futures Trade Commission (CFTC) of the US. Indeed, when government budgets are being cut everywhere in Europe, there is little willingness to pay for more costly supervision, even if this would pay off in the long run. An approach that bans those commodity products, funds or strategies that are too complex (e.g. in the UCITS review, new regulation of indices) would be another way to reduce costs and limit risks.

Tackling very short term trading

The new dynamic strategies by commodity funds increase the use of algorithms and short-term strategies, such as high frequency trading and strategies designed to make profits within one trading day. This has serious consequences for regulations, for reporting commodity trade on exchanges and other trading venues, and for supervision. For instance, imposing position limits based on net positions and requiring reporting to authorities on a daily basis, as the European Parliament has voted for on 26 October 2012, will not cover high frequency trading and other highly speculative trading strategies.

Necessity to limit OTC derivatives

OTC commodity derivatives' trading will very likely grow as commodity (index) funds and commodity hedge funds increasingly turn to complex, dynamic and risky strategies, for instance to hedge their complex risks or because of an increased use of total return swaps. To be in line with regulatory efforts to reduce OTC derivatives, and in order to avoid unexpected speculative influences on commodity derivatives exchanges, there is no reason position limits should not be imposed on OTC commodity derivatives trading. Even though some regulators find limiting OTC commodity derivatives difficult to impose or operationalise, it is necessary to avoid an opaque speculative commodity bubble. It is moreover an essential accompaniment to position limits on exchange traded funds or commodity futures and options.

Systemic risk from the commodity derivatives market

This paper has exposed how the majority of assets of commodity funds (index funds, ETFs) are invested in all kind of non-commodity securities, including as governmental bonds and shares, about which ETF critics have raised concern about the quality and liquidity. This is part of the significant interconnectedness between, on the one hand, the players, the products, the assets, trading venues and the strategies of the commodity derivatives business, and on the other hand, their counterparts in many other financial markets (bonds, currencies, shares, structured loans, etc.). Exacerbating this interconnectedness is the lending and re-lending practiced by managers of commodity funds of securities that serve as collateral for derivatives contracts of these funds (part of shadow banking).

This interconnectedness also means that the commodity derivatives markets pose a systemic risk for all financial markets across borders. This is a risk that has so far been underestimated. For instance, a swift withdrawal from or increase in financial commodity products, certainly in the case of a commodity bubble, can result in a sell-off or heavy buying in a whole range of other financial markets. When large losses are suffered and profits from commodity products dwindle, banks' will have failed in their strategies to boost their income and capital buffers through 'commodities'. Also, hedge funds can then go bust and investors will move their money around, making financial markets more volatile.

Better insights through aggregate and public reporting

The increasingly complex and opaque strategies of these commodity funds and their use of diverse markets point to the compelling need for meaningful, accessible and aggregate reporting across exchanges, markets and even across countries. Exemptions in reporting or leaving reporting to each of the exchanges rather than aggregate reporting by authorities at the national, regional (EU) or international (BIS, FSB) levels, give regulators and supervisors an insufficient overview of the situation in these markets. Market participants, academia and researchers, stakeholders and citizens should have access to all the necessary data through public aggregate reporting, in order to assess the impact of the commodity derivatives markets.

Increasing useful investments in agriculture

Finally, one can certainly question the economic and social usefulness of commodity funds that attract more money to speculate on commodity prices with ever riskier strategies. Given the challenges from climate change and demographic shifts facing the world, investments are sorely needed in the real economy for the transition to the sustainable production, transport and consumption of agricultural products. The call to ban food commodity (index) funds/ETFs should be taken up seriously by regulators. At the same time, there is an urgent need to create better opportunities for investing in sustainable food and commodity chains. Agricultural markets must be given additional means to protect themselves effectively from price volatility, for example by creating strategic stocks or by implementing effective agricultural production and consumption management policies.

Endnotes

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