

10 October 2007

**Second part of CEBS's technical advice to the European  
Commission on the review of *commodities business* under Article  
48 of Directive 2006/49/EC**

**Assessment of the prudential risks that arise from the conduct of  
*commodities business* and the activities of firms carrying out  
*commodities business***

**Background**

1. On 16 August 2006, the European Commission issued a Call for Advice (No. 6) asking CEBS to provide technical advice to assist the Commission services in carrying out their review of:
  - the current prudential supervisory practices for *commodities business* and firms carrying out *commodities business* (by December 2006) and
  - the prudential risks that arise from the conduct of *commodities business* (by April 2007). In a letter dated 20 March 2007, the Commission extended this deadline until September 2007.
2. The report referred to in the first bullet point was submitted to the European Commission on 22 December 2006 and posted on the CEBS website.
3. This report provides the risk assessment referred to in the second bullet point.
4. Annex I of this report contains a revised and more detailed description of the US commodities regime. The description of the US regime in the supervisory survey is based mainly on information available on the websites of the respective US authorities. At the meeting in December 2006, CEBS members raised concerns that, given the direct competition between EU and US *institutions*, a more in-depth understanding of the US commodities regime was crucial in order to identify possible implications of applying a stricter regime to EU banks and *commodity* firms and to take them into account when considering a future EU commodities regime. In response to these concerns, the US section has been completely revised based on further information collected in face to face meetings with relevant US authorities (e.g. the Commodities and Futures Commission – CFTC) and market participants (e.g. the Chicago Mercantile Exchange, FIMAT).

**Methodology**

5. To collect the information necessary to answer both parts of the Call for Advice, CEBS sent a detailed questionnaire to all CEBS members and observers and posted a detailed industry questionnaire on the CEBS website. In addition, information was collected on the prudential supervisory regimes in three third countries (U.S.A., Australia and Switzerland).

6. This report is based on the responses provided by 26 EU member states and three EEA members (Norway, Liechtenstein and Iceland) and 22 responses CEBS received from *institutions, commodity traders, brokers* etc. with regard to the industry questionnaire. It should be noted that this group should not necessarily be treated as a single entity, their views may sometimes conflict and/or not represent the views of other market participants. Eleven industry respondents requested confidential treatment of their responses. The other industry responses have been posted on the CEBS website under [http://www.c-ebs.org/Advice/CO\\_response.htm](http://www.c-ebs.org/Advice/CO_response.htm).
7. Within the framework of the Joint Protocol between CESR, CEBS and CEIOPS and the 3L3 Work Programme for 2006, CEBS has informed CESR and CEIOPS about its work in relation to this Call for Advice and keeps them posted on all its work. Furthermore, CESR has nominated an observer for the CFCB.
8. The main findings of this report were discussed on an on-going basis with industry experts designated by the CEBS Consultative Panel. In addition, the findings have been discussed with interested parties at a public hearing on 9 July 2007. The comments provided during the hearing and/or during the subsequent period for written comments have been included, where appropriate.

### **Executive summary**

9. At the market level the types of risk arising from *commodities business* and the types of risk in other financial markets (e.g. equity, FX, interest rate) are generally the same. Furthermore, these risks broadly exist across all types of products (underlyings). Where, special features, have been identified for specific products, these are set out in Annex III.
10. The analysis shows that markets for an underlying can be regionally subdivided and that cash and forward markets are not highly correlated, although not necessarily wholly independent. It is important to point out that there are market participants with "natural" long or short positions (such as producers or distributors of commodities) and other market participants with primarily speculative interests (such as *institutions* or traders). However, the extent of the risk to a market participant depends finally on its risk appetite and not on the existence or absence of "natural" positions.
11. In nearly all markets the majority of transactions are carried out *OTC* for varying reasons (e.g. greater flexibility, less burden on liquidity from the absence of *frequent margining requirements*). Therefore, despite the use of risk mitigation techniques, significant *CCR* remains and needs to be appropriately managed. Other relevant risks identified are market risk, operational risk, legal risk and liquidity risk.
12. From a prudential perspective systemic risk is the paramount concern. Systemic risk crystallizes through contagion which transmits via market participants' direct and indirect interdependencies. The perceived interconnections between the markets for commodities or exotic underlyings and the related industry, on the one hand, and the wider financial markets, on the other hand, can give rise to systemic risk concerns though their magnitude appears significantly smaller relative to the systemic risks posed by banks and *ISD* financial investment firms. In the commodities case studies examined in this report, systemic concerns were limited and contained.

13. There appears to be negligible direct contact between retail consumers and *commodity* firms, and market mechanisms seem to address any externalities that may arise. The potential for significant externalities lies primarily in price or supply failures in the physical market.
14. Part C focuses on the risks generated and the risk mitigation techniques reported to be employed by firms engaged in commodities activities and contrasts these with the risks addressed by the *CRD* prudential framework. The report identifies and describes the categories of risk that firms are exposed to (counterparty credit, market, credit, operational and liquidity risk) and notes that an individual firm's failure can have systemic consequences.
15. In examining firm-level risks, the report segments the market as follows:
  - producers and their trading affiliates;
  - distributors and industrial consumers;
  - *institutions* (credit institutions and investment firms);
  - hedge funds; and
  - mutual funds and pension funds
16. Within some of these market segments, the report examines instances of market failure including: Etlafic (concentration risk), Sumitomo (operational risk), Enron (operational risk) and Amaranth (liquidity risk).
17. It is concluded that, as a result of operating in the commodities sector credit institutions and investment firms are exposed to the full spectrum of prudential risks. Also, due to their high investment volumes and leverage, hedge funds can and do expose their counterparties to substantial *CCR* and consequently can have a significant influence on liquidity and prices in the specific segments of the commodities market they are investing in.
18. Pension funds are increasingly investing in *commodity* assets as an investment class in their own right, though typically limited to 5% or less of the portfolio. This is generally reported to be for portfolio diversification (i.e. risk reduction) purposes.
19. The following techniques were reported to be used by firms to mitigate or manage risks:

Credit and counterparty risk

Risk management:

- Exchanges, clearing houses
- Exposure limits
- Potential future exposure models
- Stress-testing focused on mitigating credit and *CCR*

Risk Mitigation:

- Central counterparty margining

Market risk

Risk management:

- VaR models
- Confidence intervals vary between 95-99% and holding periods between 1-20 days.
- Stress-testing

Risk Mitigation:

- Hedging
- Closure of positions

Operational risk management

- Managed qualitatively

- Bilateral margining
  - Master netting agreements
  - Collateral
  - *Parent company guarantees*
  - *Bank guarantees*
20. The reported industry consensus is that *CRD* capital requirements are not proportionate to the risks arising from *commodity* products. For example, the *CRD*'s large exposures and free deliveries regimes are criticised on the basis that they are inappropriate for *commodities business* where longer delivery/payment periods and the accumulation of larger exposures are the norm. Another major criticism is levelled at the requirement to use spot prices for calculating market risk charges on forward/future positions when applying the Standardised Method (Maturity Ladder Approach). These different shortcomings are set out in detail in Part C.
  21. Intra-group risks for *commodity* producers tend to be limited in practice as *commodity* or *exotic derivatives* are primarily used by producers and industrial consumers to hedge exposures. For most financial *institutions* the risks generated from trading in the *commodities derivatives market* are reportedly minor relative compared to the exposures in their wider trading portfolios. However, *institutions* are increasingly expanding their *commodity* trading activities with a commensurate increase in risk.
  22. Part D analyses the implications of applying the same rules to all "*commodity firms*" or of subjecting the different types of "*commodity firms*" to different regimes. As a first step, the analysis focuses on the existing regime and examines the implications of abolishing or perpetuating the existing exemptions in Art. 2 (1) lit. b, d, i and k of the *MiFID* and in Art. 48 of the *CAD*. As a second step, and based on the outcome of this analysis, certain aspects and conditions of a possible new regime are discussed. However, given the fact-finding character of the report no recommendations about a future regime are provided.
  23. The current regime is marked by three tiers of regulation. *Institutions* conducting *commodities business* have to apply all the requirements set out in the *MiFID* and the *CRD* to their business in this sector. Some investment firms are partially exempted from e.g. the capital requirements or the large exposure regime. While a third group is completely exempted from regulation. Any changes to the current regime will directly or indirectly affect all these firms.
  24. Given the variety of market participants, it may not be proportionate to extend the full scope of prudential requirements to all of them in particular in respect of physical production and its delivery. In relation to the risks arising from *commodities business* the methods for the calculation of capital requirements have some shortcomings as described in Part C which should be addressed in the future work. Any future consideration of the EU commodities regime will have to analyse whether the methods set out in the *CRD* are able adequately to reflect the risks arising from *commodities business* and whether and to what extent it is appropriate to exempt certain market participants from regulation even though they conduct the same business and enter into the same risks as regulated firms.

25. Annex I of the report contains a revised description of the regulatory treatment of commodities business in the US. The most striking differences to the current EU approach are:

- the US definition of commodities, unlike the MiFID, also comprises interest rate, equity and FX derivatives;
- the distinction between the responsibilities of the diverse authorities involved, and the co-operation amongst them, is a highly complex area which has repercussions when it comes to consolidated supervision; and
- OTC market participants in the US are, in contrast to the EU, widely unregulated. Although some market participants expect that the scope of the US regime will in the future also cover the OTC market, for the time being, this might well be one of the crucial areas when it comes to a level playing field.

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## Glossary

Expressions from the Glossary are written in *italic* letters  
in the main document

<i>Broker</i>	Person or firm which facilitates trades by matching buyers and sellers in the market (without being a <i>MTF</i> as defined in <i>MiFID</i> )
<i>CAD</i>	Capital Adequacy Directive (Directive 2006/49/EC)
<i>Cash market</i>	Within each market for a type of underlying the <i>cash market</i> is limited to spot contracts in the sense of Article 38 point 2 (a) of Commission Regulation 1287/2006
<i>CCR</i>	Counterparty credit risk, means the risk that a counterparty to a transaction will default before the final fulfilment of its obligations with respect to the transaction. This definition accounts for default by a counterparty before both the transaction's cash flows and the contracted deliveries are settled (as such including both <i>CCR</i> in the narrow sense as defined in Annex III, Part 1, point 1 of Directive 2006/48/EC, and settlement/delivery risk and free deliveries as treated in Annex II points 1 to 4 of the <i>CAD</i> )
<i>Central counterparty</i>	Means an entity that legally interposes itself between counterparties to contracts traded within one or more financial markets, becoming the buyer to every seller and the seller to every buyer (cf. Annex III point 2 of Directive 2006/48/EC)
<i>Commodities derivatives market</i>	Markets for commodity derivatives (if a market for a specific product is meant, then the product is mentioned) <i>Comment – this is not the definition of a closed position. That seems to have been deleted</i>
<i>Commodity</i>	Means any goods of a fungible nature that are capable of being delivered,

	including metals and their ores and alloys, agricultural products, and <i>energy</i> such as power (according to Article 2 paragraph 1 of the Commission Regulation 1287/2006 ( <i>MiFID</i> implementing regulation))
<i>Commodities business</i>	Means all commercial activities related to the contracts listed in Directive 2004/39/EC ( <i>MiFID</i> ), Annex I, Section C, points 5, 6, 7, 9 (as far as related to commodities) and 10
<i>Commodity market(s)</i>	Markets for physical commodities and commodity derivatives (if a market for a specific product is meant, then the product is mentioned)
<i>CRD</i>	Capital Requirements Directive (Directive 2006/48/EC and Directive 2006/49/EC)
<i>Energy</i>	Oil, gas, coal, power
<i>Exotic derivative</i>	Financial instruments listed in Annex I, Section C (10) of <i>MiFID</i> (derivatives with climate variables, freight rates, emission allowances or inflation rates or other official economic statistics as underlying)
<i>Financial position</i>	Means transactions to be settled in cash
<i>Forward transaction</i>	A forward transaction is identified as a contract which includes an obligation of at least one of the counterparties having a due date that is later than for spot contracts in the sense of Article 38 point 2 (a) of the Commission Regulation 1287/2006
<i>Frequent margining requirements</i>	Means daily or recurrent margining requirements during the term of a contract, typically required additionally to initial margins when contracting a master agreement or an individual transaction
<i>Futures</i>	Means standardised forward transactions that are traded on an exchange
<i>Institutions</i>	Credit institutions and investment firms as defined in the <i>CRD</i> and <i>MiFID</i>
<i>ISD</i>	Investment Services Directive (Directive 93/22/EEC)
<i>MiFID</i>	Directive 2004/39/EC
<i>MTF</i>	Multilateral trading facility as defined in

Art. 4 (15) of *MiFID*

*Open position*

Means any position not completely covered by offsetting positions

*OTC*

Over the counter (i.e. any transaction outside a regulated exchange)

*Physical position*

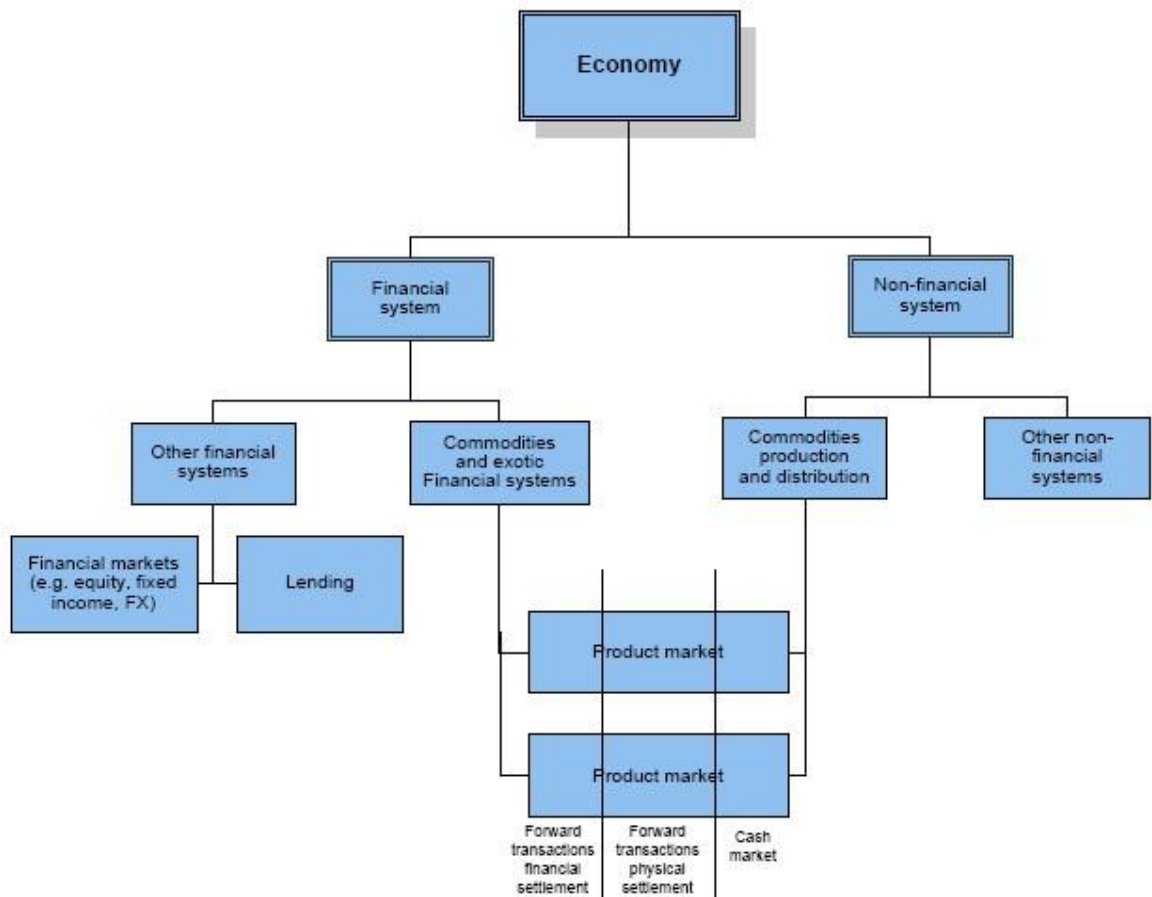
Means a transaction to be settled in physical form (i.e. by delivering the underlying)

**Assessment of the prudential risks that arise from the conduct of *commodities business* and the activities of firms carrying out *commodities business***

**Part A. Introduction**

26. This report identifies and assesses the risks arising from commodities firms and *commodities business*. The report also assesses the implications of various regulatory approaches to *commodities business*. However, it is a fact-finding exercise and, consequently, no legislative advice is given or recommendations made.
27. Systemic risk is the paramount concern. Systemic risk refers to the potential for an isolated incident (e.g. one firm’s failure) to impact the system. In its widest sense, the system refers to the whole economy which can be subdivided into systems at multiple levels of granularity as illustrated in the graph below. This report will examine the risks at various levels within this systemic hierarchy and the interdependencies between these systems/markets, beginning at the product/underlying level.

**Graph 1: Different levels of systems where risk can manifest itself**



28. It is important to note that the existence of systemic risk is a question of degree. It can be understood as a risk arising in a specific system (e.g. power market) and affecting only this system and being thus systemic for this particular system. But it can also be understood as spreading from one system to other systems or even affecting the whole economy. Therefore, there can be no expectation that this report will find systemic risk to be present or absent in absolute terms. However, it will try to provide an indication of the potential level of systemic risk.
29. The report identifies in Part B the risks arising from the conduct of *commodities business* and investigates their potential for systemic risk, including impacts on other *commodity markets*, the wider financial markets, the wider economy and consumers.
30. Part C employs the same methodology with regard to risks arising from the activities of firms in relation to *commodities business* and concludes with an assessment of the ways in which the respective risks are currently addressed by EU legislation.
31. Part D analyses the implications that various regulatory approaches for *commodities business* would have for certain categories of firms.
32. Following on from the first part of CEBS's technical advice on the review of *commodities business* under Article 48 of the *CAD*, Annex I contains a revised description of the US commodities regime.

## **Part B. Risks arising from *commodities markets***

### **I. Scope and definitions**

33. This Part focuses on the risks arising from the conduct of *commodities business* at the market level. Part C will extend the risk analysis to the firm level.
34. The assessment in this Part has been restricted to certain types of underlyings that were considered to be of relevance, because a significant volume of *commodities business* relating to this underlying exists in at least one market. Types of underlyings identified as relevant at present are power, oil, gas, coal, metals and precious metals, soft commodities (agricultural products like wheat, cocoa, hogs, orange juice, soy beans etc.), freight rates (limited to ocean-going vessels), climatic variables and CO<sub>2</sub> emission allowances.
35. The term 'position of a market participant' is used both for a relevant underlying currently held by this market participant and for claims or contingent claims against a counterparty with respect to a relevant underlying that have not yet been fulfilled (irrespective of whether the obligations of the counterparty are payment or delivery/acceptance).
36. Unless explicitly mentioned, most observations made in this Part regarding commonalities of risks and risk mitigation apply to all derivatives markets and are not specific to markets for commodities or exotic underlyings.
37. This Part concentrates on features and risks common to all markets. Particular features of the markets for each type of underlying as well as their specific aspects in respect of systemic risk, consumer-related externalities, observed impacts of market or regulatory failures and existing regulatory and market based mitigants for prudential risks, if any, are discussed in Annex III.

## II. Commonalities between markets

### 1. Distinction of markets and sub-markets

#### a. Sub-markets for a specific underlying because of localisation restrictions

38. Different markets for a specific underlying can be distinguished by localisation restrictions for this underlying (e.g. if power produced in Germany cannot be delivered in the UK or only to a limited extent, this is a localisation restriction for the underlying leading to two distinct markets). On the other hand, neither the location in which those underlyings are traded nor the kind of contracts used nor physical vs. financial settlement nor the time-lag until fulfilment of obligations (i.e. long, mid- or, short-term, or within the period accepted for the *cash market*) are by themselves sufficient to distinguish markets.

#### b. Sub-markets for a specific underlying defined by different types of term or settlement

39. For this report, within each market for a specific underlying a *cash market* is defined with respect to contracts where the obligations of both counterparties are to be fulfilled within the maximum period accepted in that market as immediate fulfilment without undue delay. Essentially a *cash market* is limited to spot contracts in the sense of Article 38 point 2 (a) of Commission Regulation 1287/2006. However, it is intentionally not called 'spot market' since this term has a different meaning in most commodities markets, e.g. in the power market this could extend to all contracts to be fulfilled on any day within the current month.

##### i. Physical vs. financial settlement of *forward transactions*

40. A common feature of most commodities markets is that *forward transactions* are neither exclusively limited to physically settled contracts nor to financially settled contracts. Moreover, physical settlement is no longer only a characteristic of *forward transactions* not closed on exchanges as was the case in some commodities markets. Although historically settlement of *forward transactions* on exchanges was typically restricted to financial settlement, some exchanges have changed their trading conditions to allow for physically settled *forward transactions* or by offering the service of pre-ordered immediate re-investment of gains from financial settlement of *forward transactions* into physically settled spot contracts, as such taking into account the typical needs of commodities markets. One reason for this development may be the competition from multilateral trading facilities (*MTFs*), since many *MTFs* offer contracts with mostly the same standardisation as exchange-traded contracts, but typically with physical settlement.
41. One consequence of the co-existence of comparable physically and financially settled *forward transactions* for the same underlying with the same due date is that there is a significant correlation between market prices for both types of transactions. Therefore no market allows for significant arbitrage between financially and physically settled *forward transactions*. Consequently, subdividing the forward markets into a market for financially settled and a market

for physically settled *forward transactions* does not seem to be appropriate. However, despite this general observation, sometimes differences in market prices could occur because of limitations on the delivery of a *commodity* or for other reasons.

*ii. Cash market vs. forward market price movements*

42. A common feature of most markets is the dependency of *cash market* prices on circumstances that are liable to change in the short-term (e.g. a change of weather could raise or lower the forecast power consumption at short notice). Additionally, for most underlyings seasonality can be observed. These factors which typically lead to higher volatility of *cash market* prices compared to those for *forward transactions*. Nevertheless, the market prices for *forward transactions* take into account the volatility of the *cash markets* and therefore expectations of average prices in the *cash market*.

*iii. Summary: Different types of term or settlement do not form independent markets*

43. In summary, although different reasons for market price movements allow for a differentiation between the *cash market* and the forward market for a certain underlying, most markets do not allow arbitrage between forward and *cash markets*. Even though effects like backwardation of forward market prices compared to *cash market* prices might allow arbitrage in the short term, the scope for arbitrage in the long-term market is minimal. However, the differences with respect to term and settlement of contracts do not fully justify treating those sub-markets as independent markets, since there is some correlation of positions in all sub-markets.

## **2. Market participants having 'natural' positions and other market participants**

### **a. 'Natural' positions as a special kind of *physical position***

44. A common feature of all markets is the existence of a certain kind of *physical position* called a 'natural' position. This is due to the very nature of commodities which are all produced (which includes mining), sold, delivered and finally used by industrial consumers or end users. Producers of a *commodity* have 'natural' long positions in this *commodity* whereas industrial consumers or distributors to end users have 'natural' short positions. Beyond commodities markets, such 'natural' long and short positions also exist with respect to freight rates and CO<sub>2</sub> emission allowances but also, in a figurative sense, with respect to climatic variables, where business depends on climate.
45. For all markets, changes in the total 'natural' long or short positions could have an impact on both market prices and market liquidity of the respective *cash market* (e.g. in the power market this could be caused by an unexpected shutdown of a power plant). Therefore in all markets derivative contracts (irrespective of physical or cash settlement) are used to hedge 'natural' positions against risks arising from such changes.

## **b. Relationship between “natural” positions and other physical or financial positions**

46. A further similarity is that actors in the derivative markets are not limited to those having complementary ‘natural’ positions. This implies that derivative contracts are not solely used for directly counter-balancing ‘natural’ positions. The turnover between a ‘natural’ long position and a corresponding ‘natural’ short position could be seen as one indicator amongst others of the liquidity available in a market. Both the turnover and size of the market compared to ‘natural’ positions differ in a significant manner from underlying to underlying and from market to market.
47. In general, for all markets market participants include companies having ‘natural’ positions in the type of underlyings, traders specialised in only this market or only some of the markets, and other market participants acting as intermediary counterparties in the market (including those acting as a *central counterparty*). In all markets, such counterparties include to some extent *institutions* on the one hand and other investors, even hedge funds, on the other hand. However, less liquid or less developed markets offer limited incentives for intermediary counterparties not having ‘natural’ positions to be active.
48. Depending on the underlying and the market, the opportunity to enter into *physical positions* is subject to more or less severe restrictions caused by circumstances of delivery. These restrictions limit the type of market participants able to enter into *physical positions* (e.g. private end users of commodities are typically not able to handle delivery business). On the other hand, entering into *financial positions* is not limited by the circumstances of delivery allowing certain market participants to enter into *commodity* positions which they would otherwise not be able to do.

## **3. Risks arising from positions in the markets, and mitigants**

### **a. Credit risk including CCR and free deliveries**

49. *CCR* is the cost of replacing a contract if the counterparty defaults. The replacement value fluctuates over time and is made up of current replacement and potential replacement costs and can be negative or positive. *CCR* is mitigated for transactions which are cleared by central counterparties. The importance of *CCR* for the counterparty depends on the size of the position (in particular in relation to its own portfolio), the credit quality of the counterparty and the potential to replace the deal in the case of a default and the available risk mitigants.
50. Credit risk arises when *commodity* producers or distributors deliver products to customers and receive the price later (free deliveries). This is typical of some *commodity markets*, for example the power market. Furthermore *commodity market* related credit risk arises if credit institutions lend to *commodity* firms or finance *commodity*-related investments (e.g. hedge funds’ activities in the *commodity market*).



i. Significant volume of *OTC* trading

51. Another common feature of all markets is the significant volume of *OTC* trading even where exchanges or *MTFs* are available. This is partly due to historical reasons as trading has developed in the absence of exchanges. Today some market participants retain a preference for *OTC* trading because of the greater flexibility, including not being limited to certain standardised contracts. For other market participants, the preference for *OTC* trading may be explained by additional burdens like the membership requirements of exchanges<sup>1</sup> or even the lesser requirements of *MTFs*. Some insight into the volume can be gained from the reported size of the *OTC* markets in commodities:

Product	Country	OTC markets
		Annual Turnover
Coal	Germany	60,000,000 – 80,000,000 Metric Tons (MT)
Power	Germany	6,900 TWh (this compares with 483.3 TWh total power consumption in 2003)
	Netherlands	€26bn (25 % cleared)
	Portugal	Initiated on 3 July 2006. The turnover until 19 October was about €22m
	Norway	2005: 1,370 TWh, voluntary cleared through a clearing house
Emission	Germany	859,000,000 EUA
	Norway	2005: 14.7m MT, voluntary cleared through a clearing house
Oil	UK	Very substantial, no detailed figures available
Non-precious metals	UK	US\$4,500 billion p.a., 0% cleared
Freight rates/ship freight	Norway	2005: Tanker: 174 m MT; Dry: 38.2m MT; Bunkers: 0.4m MT
Milling Wheat	France	Worldwide production: 618 MT, Europe: 138 MT, France : 35 MT
Corn	France	Worldwide market: 693 MT, Europe: 72 MT, France: 16 MT
Rapeseed	France	Worldwide: 46 MT, Europe: 15 MT, France: 4.5 MT

<sup>1</sup> These often include basic prudential requirements or requirements for risk mitigation by collateralisation and/or clearing through a central counterparty which typically includes *frequent margining* requirements.

*ii. Reasons for abstaining from mitigating CCR by frequent margining requirements (clearing etc.)*

52. Most<sup>2</sup> exchange-traded contracts are subject to clearing by a *central counterparty*, which typically includes the use of *frequent margining requirements* and therefore eliminates *CCR*. For contracts closed outside of exchanges, some markets show a limited use of clearing, exposing these transactions to *CCR*. One reason is the typical limitation of clearing opportunities to standardised contracts.
53. Another reason is the limited willingness or ability of some market participants to cope with *frequent margining requirements* by *central counterparties* or as part of bilateral agreements (e.g. ISDA or EFET credit support annexes). For some market participants the primary reason for not entering into *frequent margining requirements* is to try to avoid the costs caused by liquidity reductions; others may simply not be able to cope with *frequent margining requirements* because of their low capitalisation.

*iii. Ways of mitigating CCR beyond frequent margining requirements*

54. Market participants trying to avoid a reduction of liquidity from *frequent margining requirements* need to find ways of mitigating *CCR* that do not include them. Typically bilateral agreements used for this purpose require less frequent re-margining, or even only initial margining, by providing collateral and/or guarantees on a reciprocal basis; some bilateral agreements do not require any collateralisation unless a material adverse change in the creditworthiness of the counterparty has occurred and/or internal limits are exceeded.
55. Alternative ways of reducing *CCR* without any collateralisation requirements include the use of master agreements with netting agreements and/or entering into contracts only with counterparties which have a certain creditworthiness (as an individual, company or as a subsidiary of a group) that is trusted by 'the market'.
56. Requiring a minimum rating by a rating agency is another if only limited possibility, since such ratings are often not available for smaller companies. To some extent, limited mostly because of development costs, some market participants (e.g. some credit institutions) are using internal rating systems for assessing *CCR*, typically for assessing the creditworthiness of a counterparty but sometimes also for estimating loss given default. A few have even developed models for estimating effective exposure at future dates (as required for applying the internal models method for *CCR* in Annex III Part 6 of Directive 2006/48/EC).
57. A common feature of most commodities markets is a delayed date for financial settlement of delivered commodities (e.g. the EFET Master Agreement used in power and gas markets requires payment of one month's deliveries to be made on the 20th of the following month). While for the supplier such free deliveries

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<sup>2</sup> At least one exchange, the LME is known for as not requiring clearing that includes *frequent margining* requirements. This means that customers can build up unpaid variation margins (as can firms with the LCH, although they have to cover it with guarantees). Clearly customers with a poor rating will be fully margined but one of the LME's selling points is the ability to offer credit to customers on its business. However, LME traded contracts where both counterparties are LCH clearnet members are cleared by LCH clearnet.

are an additional source of *CCR*, for the receiver such commodities could serve as collateral if a netting agreement is in force.

*iv. Summary: CCR not mitigated for a significant volume of positions*

58. In summary, it can be noted for all markets that, notwithstanding the above mentioned ways of reducing *CCR*, for a significant volume of positions *CCR* is not completely mitigated and this highlights the need for effective risk management.

*v. Differences in the impacts of failures of market participants*

59. Reported episodes in different markets indicate that the extent of the realisation of *CCR* depends on certain additional factors. One common feature is that the realisation of *CCR* is lower where the defaulted counterparty acts exclusively as an intermediary counterparty (like the Enron group in European *energy* markets). Although in most cases market prices are impacted by the reduction of liquidity available in the market (especially insofar as the number of turnovers between a 'natural' long position and a corresponding 'natural' short position is reduced by one; cf. paragraph 46 above), there is no additional impact with respect to 'natural' positions, since in this case total 'natural' long and short positions remain unchanged.
60. This is different in the case of the default of a market participant which has 'natural' positions, where changes in total 'natural' positions could have an additional impact on market price movements. This impact could nevertheless be limited with respect to extent or duration if other market participants are able to make good these 'natural' positions (e.g. 'natural' short positions in the case of the default of a power supplier for private consumers) or to compensate for these 'natural' positions (e.g. in case of default of a market participant which is a producer, i.e. having long 'natural' positions in a certain underlying, another market participant could raise its production of this underlying), or if other market participants are able to reduce their complementary (offsetting) 'natural' positions because of exchangeability of underlyings (see below on interdependencies between markets and underlyings).

**b. Market risk**

61. Market risk in commodities markets is the risk of suffering losses from adverse movements in the level or volatility of the market prices of commodities. An unavoidable source of market risk is having natural long or short positions, i.e. being a producer or distributor.
62. Market liquidity risk manifests itself when a firm is unable to conclude a transaction in a particular instrument at all or near the current market price due to a lack of liquidity.

*i. Factors influencing market risk*

63. The extent of market risk depends amongst other factors on the volatility of market prices and on the availability of complementary positions to allow closure of positions. On an individual level, the extent of market risk depends

on the risk appetite of the market participant. According to some industry respondents the possibility of hedging natural positions is limited since markets are incomplete. As a result there will always exist a certain degree of basis risk and residual risk.

*ii. Reasons for not mitigating market risk by closing positions*

64. One obstacle to closing a position can be the structure of the position, since the type of market participants able and willing to offer an exactly complementary position could be limited for various reasons. One common reason is the standardisation of contracts on trading venues like exchanges or *MTFs* (e.g. in power markets only whole year delivery periods are traded in the long-term, single quarters and single months are traded in the mid term, single days are traded in the short-term and single hours typically are traded in the *cash market*, while single quarter-hours are not traded on trading venues at all). Not all market participants are willing to enter into positions deviating from standardised contracts with published prices, since they are less flexible. Another reason for difficulties in completely closing a position could be non-linearity of the instrument used with respect to price changes (e.g. in the case of options).
65. Beyond the obstacles mentioned above, there are other reasons for maintaining *open* positions e.g. a lack of counterparties willing or able to enter into offsetting positions (market liquidity risk).

*iii. Managing market risk*

66. For the management of market risk firms employ methods with different levels of sophistication. A method for the assessment of market risk common to all markets is the use of value at risk models, though the sophistication of those models, probability level, data history used and other details vary between market participants. The effectiveness of such strategies depends on the appropriateness of the assessments and models.

**c. Other relevant risks**

67. All market participants are exposed to operational risk. Operational risk is the risk of unexpected losses arising from deficiencies in a firm's management information, support and control systems and procedures. Where physical settlement is to occur there is additional potential for the manifestation of operational risk, e.g. with respect to forecasting demand for a certain *commodity* (e.g. quarterly-hours based 'time-tables' for projected consumption of power), pre-arranging transport capacity and arranging delivery (e.g. notification of input and out-take of power). Another important source of operational risk is force majeure (e.g. sudden unavailability of power plants or transport capacity, problems during delivery etc.). Currently the trend is to deal with these issues through policies and procedures, i.e. a qualitative approach. In the case of integrated companies pursuing other business activities beyond trading e.g. production/supply activities, these business activities form another source of operational risk.
68. Legal risk, which is a component of operational risk, is particularly important for *OTC* transactions. In the absence of standardised exchange rules, and in

particular for non-cleared transactions it is very important that one can rely on the legal enforceability of the contracts. Although some effort is made to mitigate this risk by the use of standardised master agreements (e.g. by ISDA or EFET), adaptation to local conditions (e.g. because of differences between jurisdictions) and to the particular needs and circumstances of counterparties can still be necessary. This can lead to a non-negligible degree of uncertainty about protection against legal risks which is especially relevant in the case of (close-out) netting agreements. However, nearly all respondents to the survey reported using standardised contracts (e.g. from ISDA or EFET) to mitigate legal risk.

69. Another risk which should be taken into account is liquidity risk which comes in two forms: funding liquidity risk and market liquidity risk. The latter is dealt with above in the context of market risk. Funding liquidity risk is defined as the inability to obtain funds to meet cash flow obligations. It arises in relation to large positions, regardless of whether the positions are in equities, interest rates, foreign exchange or commodities. A good example of funding liquidity risk in the commodities markets was the 1993 near bankruptcy of Metallgesellschaft as a consequence of its forward oil trades. Whatever markets firms conduct their business on, if they deal with large positions, they should have appropriate processes in place to measure and manage this type of risk.

### **III. Systemic risks and risk mitigants**

#### **1. Systemic risk**

##### **a. Introduction**

70. Systemic risk is crystallized through contagion which is a function of the transmission mechanism. Transmission media are a market participant's direct interdependencies (with owners, counterparties, lenders and providers of guarantees and collateral) and indirect interdependencies (e.g. price effects, availability of underlyings).
71. Inter-market correlations are a further element in determining the extent of the impact on systemic risk.

##### **b. Interdependencies**

- i. Interdependencies between trading markets and production and supply*
72. One reason for interdependencies between markets for different types of underlyings are 'physical' interdependencies, i.e. interdependencies between the different underlyings themselves. One example of such interdependencies is exchangeability for the same purpose (e.g. coal, natural gas and oil are exchangeable to a certain degree for use in the chemical industry or for producing power, although limited by the respective technical equipment available). Another kind is directional transformability in the sense that one type of underlying is used up in the production of another type of underlying (e.g. natural gas and coal are used up for producing power or for heating furnaces for smelting ores; power is used up for producing many other commodities etc.). A more general kind of interdependency is a directional opportunity cost-relationship in the sense that a certain underlying is related to certain needs of production, distribution or consumption of another underlying

(e.g. when generating power by using coal this provides for freight delivery opportunities for coal, for CO<sub>2</sub> emission allowances and also for insurance against temperature-related volatility of the demand for power. The respective opportunity costs depend on freight rates, allotment of CO<sub>2</sub> emission allowances and on climatic variables.)

73. Some interdependencies between markets have historical roots. One example is the correlation of certain 'natural' positions in different types of underlyings via artificial price correlation (e.g. in many European countries the gas price is, due to historical reasons, deterministically linked via price formulae to oil and sometimes additionally to coal, both for gas import prices from producing countries and for distribution prices to customers).
74. Other interdependencies are caused by market participants being active in diverse markets, for different reasons. For the same reasons that cause the 'physical' interdependencies of markets as described in section II.1.b, specialised companies that have 'natural' positions had and (to a lesser extent) still have a demand for intermediary counterparties that are active in all markets relevant to the company and provide it with a one-stop service. Thus the specialised company is able to avoid entering diverse markets beyond the market on which it has 'natural' positions, as well as the respective risks. This again is partially historically rooted, and was caused by barriers to entry in non-liberalised markets. Reciprocally, some (mostly larger) companies or groups of companies that have 'natural' positions have decided from the outset to enter all markets relevant to their business instead of relying on an intermediary counterparty providing a one-stop service. Both cases have led to a significant level of integration and concentration of participants in different markets (both for the same and for different underlyings). This is especially relevant in the case of market participants which are part of a wider group and which mitigate their own risks with respect to all kinds of *commodity* underlyings by transferring those risks to the parent company via profit and loss transfer agreements.
75. In the opinion of some industry respondents, it is unlikely that one participant in the *energy* trading market could cause the collapse of the *energy* industry, i.e. the production and distribution of *energy* commodities, despite this industry's dependence on the respective commodities markets via its 'natural' positions. There were several notable bankruptcies in recent years involving key players in the *energy* markets but the impact on the industry overall has been limited (e.g. Enron, Transworld Oil, Gatt Oil). This limited impact could result from different circumstances e.g. if other market participants were able to take over the 'natural' positions of the defaulted market participant (e.g. 'natural' short positions in the case of the default of a power supplier for private consumers) or were able to compensate these 'natural' positions (e.g. in case of the default of a market participant which was a producer, i.e. having long 'natural' positions in a certain underlying, another market participant could raise its production capacity for this underlying in the mid-term or even the short-term), or if other market participants were able to reduce their complementary 'natural' positions in the mid-term or even in the short-term because of exchangeability of underlyings (see below on interdependencies between markets and underlyings).
76. However, market prices have risen and losses have occurred (e.g. one market participant noted that after Enron collapsed on 30 November 2001, German

power prices and volatilities sharply spiked, then calmed down two months later). Therefore, the impact on the *energy* industry was considerable and was one reason amongst others for higher power prices for a period of a few months.

*ii. Interdependencies between commodities derivatives markets and the wider financial markets*

77. None of the industry respondents to the CEBS questionnaire have a business (at least when viewed from the group level) that is restricted to *commodity* or *exotic derivatives* trading. Either they also conduct<sup>3</sup> traditional<sup>4</sup> financial business and/or in addition to their *commodity* or *exotic derivatives* business have operations in the physical *commodity market* e.g. the parent company is engaged in the production or supply of commodities. Of 21 market participants that responded, 12 (57%) are part of a larger group active in the physical production or supply of commodities (the rest are part of a wider financial group). One respondent is jointly owned by a financial and an *energy* firm.
78. There are three direct types of exposures through which systemic contagion can be transmitted from commodities markets to the wider financial system:
- credit risk exposures – through credit institutions lending and providing collateral and guarantees to *commodity market* participants;
  - *CCR* exposures; and
  - equity risk exposures – as a result of *institutions* having an ownership interest in *commodity* firms. Additionally parent companies often also take over the credit risk of their subsidiaries credit risk exposures through e.g. parent company guarantees.
79. These reported group relationships appear to be prevalent throughout the *commodity* sector, although there are some exceptions; for instance, Nord Pool has members in the power derivatives market trading on own account without any ownership connection to the wider power or financial sectors (such as owners of water power-based power plants having “natural” long positions which are not dependent on other producers but only on the volume of water stemming from snow that has fallen in the winter).
80. *Commodity* producers, industrial consumers and distributors to end users use the derivatives markets (as direct market participants or via subsidiaries) to manage their naturally long or short positions; this includes hedging as well as position taking. Subsequently, some of them provide risk management and profit optimisation services to the clients of their physical *commodities business*, either by acting for them on the market or supporting them in the initial phase of their market activities (e.g. portfolio management, investment advice, technical support). Some have developed into fully fledged traders – taking proprietary risk and providing market liquidity. Some *commodity* traders are owned by parents that are active in different *commodity markets*.
81. The systemic risk that arises from these cross-sector ownership relationships will depend on the size of the equity investments in the trading subsidiary

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<sup>3</sup> Normally as part of a group

<sup>4</sup> i.e. also trade in *ISD* financial instruments

relative to the parent company's balance sheet and to the extent of parent company's guarantees for the subsidiary's commitments.

82. Often a counterparty of a market participant will look to the parent company to meet its obligations. As market participants are aware of the dependence of other market participants on their parent companies, they generally do not rely on the creditworthiness of the subsidiary when deciding whether to conduct business with them. Instead, other market participants consider the financial condition and reputation of the parent company and the larger group a market participant belongs to. Depending on their own creditworthiness, some counterparties require guarantees for the commitments of the subsidiary from the parent company.
83. No detailed information has been provided on the size of the parent company's equity investments relative to its balance sheet or on the prevalence and extent of parent company guarantees. However, some idea of the risks posed by *commodity* trading affiliates to their parent company producers/distributors can be obtained by examining the size of the trading business relative to the production/supply business and the trading strategies employed.
84. Consistent with the evolution of the *commodity* or *exotic derivatives* business, the producers/distributors use their trading affiliates to close the 'natural' long or short positions arising from their business on the respective markets. However, no data was provided which would show whether business activity related to the 'natural' positions of the group is separated from risky trading activity, or to what extent positions additional to the 'natural' positions of the group are entered into. It is therefore difficult to assess the level of systemic risk posed by trading subsidiaries to parent companies operating in the industries related to certain commodities.
85. In conclusion there are significant mechanisms/relationships in place between the markets for commodities or exotic underlyings and the related industry on the one hand and the wider financial markets on the other hand. This gives rise to systemic risk concerns though these may depend on the size of the markets for commodities and *exotic derivatives* relative to either the wider financial market or the related industry.
86. The next section examines the level and effectiveness of risk mitigation techniques in practice which is relevant to determining the level of the systemic risk

## **2. Risk mitigants at market level**

87. At market level systemic risk is directly or indirectly mitigated through the activities of:
  - clearing houses;
  - financial regulators; and
  - physical commodity regulators
  - a. Clearing houses**
88. The margining systems employed by clearing houses acting as *central counterparties* substantially mitigate the *CCR* exposures of the *central counterparty* and, as a result, the clearing members, although as a side-effect,



raise considerable funding liquidity risks for clearing members. Since the membership conditions of exchanges typically require the clearing of contracts closed on the exchange, systemic risk posed by `on-exchange` market activity is substantially mitigated with respect to *CCR*. However, exchanges do not and are not intended to mitigate the portion of systemic risk that is caused by the impacts of reduced liquidity, as a result of default of a market participant, on market prices and on minimum liquidation periods. The same holds true for transactions closed outside exchanges but also cleared by *central counterparties*.

#### **b. Financial regulators**

89. All but five of the thirty supervisory respondents stated that under their current prudential supervisory provisions credit institutions or investment companies carrying out *commodities business* are subject to supervision according to the *ISD* and/or *CAD/BCD*. However, these provisions were usually neither specially issued with regard to the *commodity* sector nor do they focus on commodities firms or *commodities business*, and they apply to commodities firms only as far as they carry out activities addressed by the *ISD*.
90. Thirteen countries have additional or alternative prudential national legislation in place governing firms active in the *commodity (and exotic) derivatives* sector<sup>5</sup>. For a more comprehensive description of regulatory mitigants, see the answer to Section C (i) of the Call for Advice No. 6 that CEBS has submitted to the Commission last December.

#### **c. Physical commodity regulators**

91. Similar to supervisors in the financial markets, physical commodity regulators (PCR) oversee parts of the *energy* markets in all Member States and EEA countries. Annex VI gives an overview of the PCRs in the different countries and detailed descriptions of their tasks.
92. In most countries the scope of PCR supervision comprises national power and gas markets whereas oil, coal and fuel are generally not supervised (with some exceptions). Furthermore, in some countries heat supply is also within the tasks of the PCR.
93. PCRs are not carrying out supervision in the sense of financial market supervision and in particular no form of prudential supervision. Their tasks are mainly related to ensuring competition and sufficient supply in the national *energy* markets. The major objective of PCR supervision in all countries is the control of independence and impartiality in the operation of the transmission network, in particular control of grid access and conditions and the authorisation of grid tariffs in the respective national *energy* sectors. In addition, in some countries PCRs are also responsible for development of the infrastructure (e.g. authorisation of the construction of power plants and their initial start-up), efficiency improvement and protection of customers' interests.

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<sup>5</sup> Austria, Denmark, Estonia, France, Germany, Hungary, Ireland, the Netherlands, Norway, Slovenia, Spain, Sweden and the UK

#### **IV. Consumer-related externalities**

94. This section discusses the extent to which the failure of a *commodity market* could impose costs on consumers (e.g. households and small businesses). Firstly we shall consider the impact on consumers as financial counterparties (e.g. investors) and secondly as end users of the *commodity* product (e.g. power supply customers) or of products in which the *commodity* is used.

##### **1. Consumers as financial counterparties**

95. Based on market information and industry responses, in most *commodity markets* there is very little direct private client participation or instances of smaller, less-sophisticated customers acting as direct counterparties to the main market participants. Wholesale traders are typically of considerable size and are sophisticated market participants facing fewer information asymmetries. Only one respondent to the industry questionnaire said that it deals with retail clients in the base metals market, while two indicated that they deal with retail clients in the precious metals market. *Institutions* responding to the survey on commodities activities reported that they do not deal with retail clients.
96. Indirect retail involvement through *institutions*, on the other hand, may be growing, and this is an area that could pose additional risk to retail participants, in particular that products may be missold. That type of risk is best addressed through conduct of business type regimes rather than prudential requirements.
97. Retail risks can be mitigated if the consumer is risk-aware. Retail investor involvement is, to some extent, being driven by a greater demand for structured notes that are tied to commodities markets (e.g., precious metals such as gold). According to some participants, much of this demand is from high net worth individuals who tend to be more sophisticated thereby tending to have a greater appreciation of the risks.
98. Retail risks are not directly generated by the *commodity market* and wholesale traders, but rather by retail intermediaries selling these kinds of investment products. These intermediaries tend to hedge themselves with cleared exchange contracts so it is less likely that they would be infected by contagion risk following the failure of a *commodity* firm in the wholesale sector. As a result the retail consumer is also partially protected from wholesale market failures.
99. Overall, there appears to be negligible direct contact between private clients and *commodity* firms. Furthermore, there are market mechanisms addressing any externalities that may arise. For example, clients of *commodity* firms limit their credit exposure or request collateral from the firm as a way of limiting their losses.

##### **2. End consumers**

100. There is potential for significant externalities in the event of price or supply failures in the physical market. However, in practice the failure of a financial market participant should not have an impact on the immediate supply of commodities in the physical market (the supply of which is fixed). There may of

course be longer-term adjustments in supply or demand as the failure of the financial player may impact price signals.

## **Part C. Risks arising from the activities of firms carrying out *commodities business***

101. The number of responses to the questionnaire from the *commodity* industry was limited which should be taken into consideration when reading this Part. However, the responses permit a broad understanding of the issues discussed in this chapter.

### **I. Activities carried out and risks arising from those activities**

#### **1. Introduction**

102. The participants in the *commodities derivatives markets* are primarily producers (with their trading affiliates), distributors, traders and industrial consumers; credit institutions, investment firms and funds are also active.

103. As described in Part B II, the most relevant risks in the commodities markets are *CCR* and market risk and in the case of physical delivery credit risk. However, operational, liquidity and other risks can also have a systemic impact.

#### **2. Producers and their trading affiliates**

104. The main activity carried out by commodities producers is the operation of a physical *commodities business* e.g. production of power, oil, gas, or soft *commodities*. As a consequence producers are naturally long in their products and are exposed to changes in prices (market risk). They use the derivatives market to sell their future production capacity and for proprietary trading.

105. The building of *commodity* production facilities normally requires large up-front infrastructure investments e.g. power plants and oil platforms and refineries. Before the project finance can be raised it will normally be a requirement that future prices are fixed which can be achieved through e.g. an off-take contract or through resort to the derivatives market.

106. The relationship between producers and their trading affiliates is key to understanding the risks posed by their activities. It is important to note there is no common structure of producer/trading affiliate relationships. The graphs in Annex II describe these relationships and associated risks at a very high level; on a more detailed level they can be broken down to at least the following cases:

1. both (producer and trading affiliate) are separate legal entities under the same parent company;
2. the trading affiliate is a subsidiary of a parent producing company;
3. a group entity acts as agent for one or more other companies within the group; and
4. no separation, i.e. all functions are in a single legal entity.

107. The balance sheets of these categories of entities tend to be structured differently (e.g. producers tend to have much higher concentrations of fixed assets than trading affiliates, traders and institutions) which leads to different risk profiles.
108. In addition, some organisations have created (an) integrated business unit(s) across legal entities. The relevant corporate structure and organization will depend on the interaction of a number of complex considerations, including legal, tax and regulatory issues. Some regulatory or licensing requirements may drive a particular structure for a specific *commodity*. For example, in the context of the UK, the Financial Services Authority has a general *energy* regime and specific oil markets regime, the latter currently excluding gas and power activities. This could result in trading activity being conducted in a number of separate legal entities.
109. The tasks of trading affiliates can differ but normally comprise management of supply and demand, i.e. the optimisation of a group's assets by securing optimal supply and off-take, and engagement in controlled trading around assets and supply positions. Part of the trading activity is the provision of hedging and risk management expertise. Furthermore, trading affiliates can also engage in proprietary trading as part of their activities.
110. Depending on the chosen structure, the distribution of risk capital/economic capital between producers and trading affiliates can differ as well. For example trading affiliates might not have a significant amount of own funds on their balance sheet because the funds are needed in the "producing" (parent) company. However, in such cases producers (or holding companies if applicable) would assign risk capital to the trading affiliate. The risk-bearing potential of the trading affiliate would then depend on its own funds and the assigned risk capital. However, for external counterparties, the credit quality of such an entity would depend on the "certainty" of the assigned risk capital, i.e. the legal certainty that the risk capital in a situation where losses occur would be provided to the trading affiliate.

### **3. Distributors and industrial consumers**

111. Distributors are intermediaries in the physical market that buy from *commodity* producers to sell/distribute to end users such as small to medium size industrial clients. The balance of supply and demand is more difficult in *commodity markets* due to their tendency to exhibit greater inelasticities of supply and demand; this is especially true regarding supply in the power and gas markets due to the difficulties of storage. To manage the price risks arising from supply and demand imbalances, and also for proprietary trading, distributors turn to the *commodities derivatives market*.
112. This description also applies to institutional consumers of commodities such as chemical companies, aluminium companies or other large-scale consumers of *commodity* products. Characteristically these firms consume commodities on a large scale and so receive commodities directly from the producers rather than through distributors and, for the same reasons, use *commodity* and *exotic derivatives* to manage price risk.

## Case Study: Etlafic France SA

113. Concentration risk is one of the risks that distributors can find themselves exposed to and the Etlafic case study provides some insight into how this can be manifested. Etlafic was a merchant and trading company operating in the sugar and coffee markets. It acted as intermediary between commodities sellers and buyers and arranged financing and delivery of goods. Most of its contracts were settled by physical delivery. In 1996, the company was granted an "Entreprise d'Investissement" (Investment Firm) agreement to operate on the MATIF (Marché A Terme International de France), the French financial futures exchange.
114. In 1998 one of its cargo boats containing sugar was stopped in a harbour in Algeria and the sugar could not be sold. This incident triggered cash flow difficulties which led to the company's failure. The French authorities concluded that this was due to the combination of a liquidity shortage caused by insufficient own funds and concentration risk arising from a narrow customer portfolio.

### 4. *Institutions* (credit institutions and investment firms)

115. As mentioned above, *institutions* play an increasing role in the *commodities derivatives markets*. The different activities of credit institutions and investment firms in the commodities markets are:
- Lending (including provision of collateral and guarantees): one of the main activities of credit institutions is to provide money to other market participants. Consequently, credit institutions also lend to the commodities sector. However, it is important to note, that for most credit institutions the lending to this sector is normally only a small part of their overall lending business. Lending specifically related to commodities comprises:
    - a) "normal" business financing of commodities firms or distributors;
    - b) specialised lending, e.g. financing of power plants, mines etc. (risks: credit risk, but related to the specific *commodity* sector); and
    - c) lending to hedge funds with significant *commodity*-related investments.
  - Structured products - here the *institution* is selling expert know-how in financial products, creating fee income without necessarily running market or counterparty risks.
  - Providing trading services for clients.
  - Trading: credit institutions and investment firms carry out different types of trading activities:
    - a) proprietary trading (including investments in hedge funds), i.e. speculation on market prices or market price parameters. Trading intent is based on a speculative view of the future and the firm is exposed to market risk and counterparty risk; and
    - b) arbitrage - here the trading intent is to take advantage of price differences between different markets/products/maturities etc. As result the firm is exposed to counterparty and, to a limited extent, market risks.

116. Anecdotal evidence suggests that the number of credit institutions and investment firms with a significant presence in the commodities sector is growing. The size of *commodity* portfolios are still small relative to other traditional trading business (fixed income, equities, FX), and also relative to the overall business of these credit institutions. However, it is also suggested that credit institutions are slowly but persistently including commodities in their portfolios for diversification purposes.
117. The activities of *institutions* in the *commodity* sector expose them to the full spectrum of risks just like their activities in other sectors. The Sumitomo case study provides one example where operational risk crystallised, resulting in losses at the company level and damage to the market's reputation.

### **Case study: Sumitomo Corporation**

118. In this case Yasuo Hamanaka, an employee of Sumitomo Corporation, manipulated copper prices on the London Metal Exchange (LME) and incurred substantial losses from unauthorised trading on and off-exchange. The manipulation involved physical as well as derivative positions and Hamanaka was dubbed "Mr. Five Per Cent" for the proportion of the copper market he allegedly controlled. Hamanaka was able to disguise his activities and losses because he headed the division and had trade confirmations sent directly to him, bypassing the back office. Trading through a wide variety of *brokers* and intermediaries he was able to hide his true exposure from the market, the exchange and his employers.
119. After his activities were discovered in 1996, there was significant market dislocation that damaged the reputation of the market for some years. With copper prices declining, most contracts were honoured, although there were some *brokers* that may have suffered losses. The scandal ended up costing Sumitomo US\$ 2.6bn – making it the largest ever rogue trading scandal (by contrast Nick Leeson, who brought about the collapse of Barings Bank, ran up losses of "only" US\$ 1.4bn). Hamanaka was jailed in 1998 after pleading guilty to charges of fraud and forgery.
120. The implications and ramifications were widespread and considerable. The review conducted by the SIB, the UK regulatory body, published in December 1996 recommended a number of changes to LME rules and procedures: encompassing the regulation of metals trading, the governance of the exchange, customer trading practices and the sharing of information. As part of its regulatory housecleaning, LME in turn investigated the activities of a number of its member firms and imposed several record fines. The development of the LME's position reporting and lending regimes is directly attributable to this post-Sumitomo response. The SFA and the CFTC investigated a number of firms through whom Sumitomo had dealt who were not LME members. Various lawsuits were brought (which in some cases are still pending) by aggrieved parties who had incurred market losses against those who had allegedly contributed to the manipulation by knowingly financing the Sumitomo positions.
121. At firm level better internal controls and risk management systems which have evolved since then, in some cases as a direct result of deficiencies highlighted in this case, may be effective in mitigating such operational risks.

### **Case Study: Enron Corporation**

122. The Enron Corporation case study provides additional insight into the risks that can arise from *commodity* traders and in particular the international impacts of the collapse of a globally active *commodity* trading company. Enron's downfall was the result of corporate governance deficiencies and a lack of internal controls. Therefore the lessons to be drawn from this case for risk mitigation through capital requirements are limited.
123. Enron Corporation was an *energy* trading company which filed for bankruptcy in the US in late 2001 after the discovery of accounting fraud; some of Enron's profits were false, generated by deals with off-balance sheet special purpose entities which it controlled.
124. Enron's European activities included *energy* trading and production businesses which Enron was forced to liquidate or sell. The departure of Enron from the European *energy* markets, followed by many other US *energy* traders has left significantly less liquidity in the *energy* market with trading volumes in some markets halved in 2002 as compared with 2001. Whilst others have picked up some of Enron's UK market share, the absolute size of the market is smaller as a result of Enron's collapse.
125. Enron had three regulated entities in the UK, two of which (Enron Metals Brokers Limited and Enron Europe Finance and Trading Limited) were wound up because there were no business prospects for these entities. A third entity, Enron Metals Ltd., was sold as a going concern. This was possible because its counterparties continued to trade with it despite the crisis, relying on its ring-fenced regulatory capital, the ability to manage its intra-group exposures, its continuing good standing in the eyes of the London clearing house (LCH) and the perceived value of its assets.

### **Case study: Bank of Montreal**

126. Bank of Montreal, Canada's fourth biggest bank, is reported to have suffered the biggest trading loss in Canadian history by recording in May 2007 pre-tax losses of C\$680 (\$618 million) from trading natural gas, compared with an April 2007 forecast of C\$350 million to C\$450 million. The trading loss represents about half of the Bank's earnings in a quarter.
127. The bank said that the losses were bigger than it originally forecast after it adopted a different pricing model to better assess the value of its natural gas option contracts. The revision also reflects "increased concerns" about the reliability of quotes.
128. The bank's CEO is reported as having told analysts that "these losses...were the result of a decision that didn't adequately recognise the vulnerability of the portfolio to change in market volatility... In the aftermath of Hurricane Katrina, the volatility in the natural gas market increased significantly and natural gas prices increased as well. Clients wanted to lock in prices and the bank increased its book of business related to this market. As the bank's energy trading business continued to grow, so did our position in out-of-the-money natural gas options. At the same time, while natural gas positions continued to decline, the market became increasingly illiquid, and volatility dropped to historic lows. As a result, we have a large portfolio with significant mark to market losses."

## 5. Hedge funds

129. Hedge funds are an ill-defined asset class; according to a survey carried out by IOSCO, none of the jurisdictions responding reported a legal definition. But the features which distinguish hedge funds are generally accepted to be:

- they tend to be unregulated collective investment schemes – but share this characteristic with, for example, some occupational pension schemes;
- they make extensive use of derivatives – but share this characteristic with banks, insurance and securities companies;
- they use shorting techniques – as do others;
- they use extensive leverage – again not a characteristic unique to them;
- they often employ single investment strategies;
- as a result hedge funds are running large market risk positions;
- they tend to seek investment opportunities widely across the market, looking not only at established markets in equities and bonds (and their derivatives), but also at commodities, and at more esoteric investment opportunities: catastrophe insurance contracts, film finance and other non-mainstream asset classes. In that, of course, they are again not unique: banks, insurance companies and securities firms all pursue these opportunities; and
- hedge fund strategies can have a significant impact on underlying *commodity* prices.

130. Hedge funds have grown in size and influence on the public securities and private investment markets but also in the commodities markets. Hedge funds are regarded as very active traders on international financial markets. In selected markets such as the market for credit derivatives (58%), emerging markets bonds (45%) and leveraged loans (45%) they account for a high proportion of market activity. The cases of Amaranth at the end of 2006 and Red Kite in January 2007 highlighted that single funds may also have a dominant role in the *commodity markets*.

131. Due to high investment volumes and leverage, some hedge funds can have extremely large positions and consequently can have a significant influence on liquidity and prices in the specific segment of the market they are invested in. In addition, this effect can be amplified by the particular features of specific markets (see Annex III).

132. However, all the problems related to hedge funds which have been described above are not problems which are specifically related to commodities markets but rather problems which arise generally in the context of hedge fund business. Therefore, these problems can only be solved by general solutions and not by specific rules tailored to the commodities markets. Further issues in relation to hedge funds are set out in Annex V.

### Case study: Amaranth Advisors LLC



133. Amaranth Advisors LLC is a hedge fund manager that suffered \$6 billion in losses, losing up to 65% of its value as a result of *energy* market losses in September 2006. While this case did not involve an outright failure, the substantial losses had implications for European *commodity* firms and counterparties.
134. Amaranth suffered its losses as a result of pursuing a single strategy of taking highly leveraged risk positions on natural gas *futures*. One of the key trades was a 'calendar spread' by which it went long in Nymex natural gas *futures* for delivery in March and shorted *futures* for delivery in April. Essentially, it was relying on the tendency for gas prices to rise during the winter months and fall in March. However, the spread between March and April 2007 gas *futures* more than halved in September 2006 resulting in losses.
135. What is not readily obvious from this case are the liquidity risks that crystallised, massively exacerbating the market risk exposures. The fund's founder and chief executive is reported as attributing the key reason for the losses as illiquidity: "despite our best efforts, we were unable to close out the exposures in the public market"<sup>6</sup>.
136. Among the findings of an US government-commissioned report into the Amaranth collapse is the conclusion, that excessive speculation in natural gas derivatives contracts held by Amaranth caused consumers to incur more than \$ 18bn in added costs to heat their homes during the winter of 2006-2007.

## 6. Mutual funds and pension funds

137. The degree to which pension funds invest in commodities varies significantly between countries. Two large Dutch pension funds have invested heavily in commodities for reasons of diversification and yield opportunities. Before investing in these instruments they have built in-house *commodity* expertise. ABP (Dutch civil service and education) has US\$226 billion of AUM of which 2.7% is currently invested in commodities<sup>7</sup>. The Dutch government gave ABP the freedom to look after its own investments over a decade ago and the pension scheme is seen as innovative. Most recently they were named the 'European Private Equity Firm of the Decade' by Financial News. Similarly the Dutch healthcare pension fund, PGGM has \$89 billion of AUM, 5% of which is invested in commodities<sup>8</sup>.
138. In the UK, Hermes, manager of the UK's largest pension fund with about £34bn under management, launched a commodities fund into which it invested £1bn of its clients' money. This was the largest single allocation to commodities by a UK pension fund and created one of the largest *commodity* funds. J Sainsbury, the UK supermarket chain, has announced plans to invest about 5% of its £3.2bn (\$5.5bn, €4.6bn) fund in commodities.
139. Outside Great Britain and the Netherlands, there are a number of US pension funds with significant investments, such as CALPERS (The California Public Employees' Retirement System), which has \$207bn of AUM, of which currently around 3% is invested in commodities.

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<sup>7</sup> www.abp.nl - as of 31 December 2005 (\$/€ 1.1820)

<sup>8</sup> www.pggm.nl - as of 31 December 2005 (\$/€1.1820)

## II. Risk management practices, including risk mitigants

### 1. Credit and CCR

140. Practices for managing credit and CCR are described in Part B III. However, not all of these practices are accessible to all market participants because of the necessity of fulfilling accessibility criteria e.g. becoming a clearing member.

141. However, because most OTC derivatives are settled bilaterally, CCR is often the most significant risk facing derivative market participants. Of those that responded to the CEBS questionnaire the following risk management and mitigation practices were reported in relation to commodity exposures:

Credit and counterparty risk	Market risk	Operational risk management
<p>Risk management:</p> <ul style="list-style-type: none"><li>• Exchanges, clearing houses</li><li>• Exposure limits</li><li>• Potential future exposure models</li><li>• Stress-testing focused on mitigating credit and CCR</li></ul>	<p>Risk management:</p> <ul style="list-style-type: none"><li>• VaR models</li><li>• Confidence intervals vary between 95-99% and holding periods between 1-20 days.</li><li>• Stress-testing</li></ul>	<ul style="list-style-type: none"><li>• Managed qualitatively</li></ul>
<p>Risk Mitigation:</p> <ul style="list-style-type: none"><li>• Central counterparty margining</li><li>• Bilateral margining</li><li>• Master netting agreements</li><li>• Collateral</li><li>• Parent company guarantees</li><li>• Bank guarantees</li></ul>	<p>Risk Mitigation:</p> <ul style="list-style-type: none"><li>• Hedging</li><li>• Closure of positions</li></ul>	

### 2. Market risk

142. Most industry respondents use Value-at-Risk (VaR) models, including historic simulation, variance/covariance and Monte Carlo simulation, where expressed confidence intervals vary between 95-99% and holding periods between 1-20 days. Some firms conduct stress-testing and some employ additional sensitivity measurement methods.

### 3. Operational risk

143. The industry responses regarding operational risk suggest that this is mostly managed qualitatively.

### **III. Differences between the risks described in I above and risks addressed by the prudential regime set out in the CRD**

#### **1. Risks addressed by the CRD**

144. The *CRD* requires prudent provisioning to mitigate the prudential risks mentioned above. Through explicit minimum capital requirements it attempts to mitigate market, credit and operational risks. Annex IV of the *CAD* provides standardised methods for the calculation of capital requirements for *commodity* risk. It also attempts to mitigate illiquid asset risk by requiring liquidity adjustments to the value of assets deemed to be illiquid. There is no prudential capital charge to cover funding liquidity risk; however the *CRD* provides for high level systems and controls requirements to mitigate that risk.
145. Minimum capital requirements do not explicitly cover e.g. the following risks:
- wider concentration risks e.g. regional or sector concentrations;
  - political risk;
  - reputation risk; and
  - general economic risk.
146. However, the Pillar 2 regime is designed so that, where relevant, these risks are captured and where appropriate, capital add-ons may be applied. It should be noted that the Pillar 2 regime does not see capital as the solution to all risks. Rather adequate capital provisioning should be supplemented by e.g. the embedding of robust risk monitoring and management techniques throughout a firm.

#### **2. Shortcomings of the prudential requirements**

147. Of those industry respondents that expressed a view, there is a unanimous opinion that *CRD* capital requirements are not proportionate to the risks arising from *commodity* products.
148. The section below sets out the specific features of the *commodities business* and describes the shortcomings of prudential requirements in this context. However, it does not address the general question of whether prudential requirements should be applied to *commodity* traders at all.

##### **a. Seasonality**

149. Seasonality means “natural” cycles which affect the prices of commodities and commodities derivatives. This is determined through the “supply side” (e.g. harvest cycles for agricultural products) and through the “demand side” (e.g. fluctuating demand for oil, gas and power during the hot and cold seasons).
150. On a yearly view, seasonality is a “normal” fluctuation and as a consequence a natural part of the volatility. If one looks at fluctuations in short time spans, as for example daily changes of prices, the share of seasonality in daily volatility can only be determined quite vaguely. Exceptions are, for example, if the change from winter to summer happens in a very short period of time.
151. A problem in relation to the capital requirement calculation arises if spot prices or other floating prices are used to determine the risk of forward positions. The reason is that at times of high seasonal prices the spot price is high but the

forward price is low, because it already takes into account the natural future fluctuation. In times of low seasonal prices the opposite is the case. This leads to an unjustified overestimation or underestimation of risk if spot prices are generally used for all products and instruments. This approach might be applicable to some extent for goods which are storable like metals or oil, for example, but for power which cannot be stored (and gas to some extent as storage is very difficult) it is not possible to sell quantities that will have to be generated in future on the spot markets today.

### **b. Volatility**

152. The volatility of non-storable commodities in particular is special. Through the limited flexibility on the supply side, as well as sometimes large fluctuations on the demand side, short-term disturbances occur which cause high price fluctuations (in particular for power and gas). Therefore, the short-term volatility of a lot of commodities is very high, but flattens out significantly with an increasing time horizon. The major part is not at risk because it has already been sold or procured.
153. As a consequence, it would not be risk-sensitive to use spot volatility generally for the calculation of capital requirements.

### **c. Price calculation**

154. In financial markets spot and forward markets are directly linked and therefore highly correlated. In general, the fair forward price is the sum of the spot price and the "cost of carry". This connection is ensured through the unlimited possibility of "cash and carry arbitrage". The only cost which arises is the interest rate on the invested capital. However, for "storable commodities" this reflects only the upper limit of the price because a "cash and carry arbitrage" causes additional storage costs. Therefore it is plausible that this additional cost called "convenience yield" has to be deducted from the "fair price". The "convenience yield" can be seen as market expectations in relation to the future availability of the *commodity* or in other words, market participants are prepared to pay a premium for immediate availability of a *commodity*. For non-storable goods such as power (and to some extent gas as well) spot and forward prices are largely unrelated since different supply and demand conditions or expectations affect the spot price and forward price.

### **d. Perceived shortcomings of the Standard Method for Market Risk for power [Maturity Ladder Approach (MLA)]**

155. The Maturity Ladder Approach (MLA) in Annex IV of the *CAD* requires a market risk charge based on the spot price to be generated for all *commodity* positions, whether spot or forward. However, as described above, in particular for non-storable commodities, spot and forward prices have a very low or even no immediate correlation. Therefore the use of spot prices for settlement or delivery the next day(s) for *forward transactions* that have a later settlement date/delivery period does not appropriately reflect the risk inherent in these transactions. The use of the spot price leads to a significantly biased capital charge which is also extremely volatile.

### **e. Peculiarities of credit exposures in *commodities markets***

156. High-volume credit exposures caused by free deliveries (as defined in Annex II, point 2 of the *CAD*) arise as a consequence of the practices in some *commodity markets* and are therefore for competitive reasons not avoidable. Examples of those practices are:
- In contrast to financial markets where the usual settlement period (i.e. period between delivery and payment) is 3 days, the settlement period for *commodity* products is usually much longer. For example, for coal it is sometimes more than three months.
  - In the power and gas markets, consumption is measured and charged at the end of a period (normally monthly) and customers have a period allowed for payment (usually at least 20 days).
157. Also pre-settlement risks caused by *CCR* exposures can be significant. In particular this is caused by the combination of entering into long-term contracts with high volumes. Such large positions are susceptible even to small price changes.
158. Complete coverage contracts are structured *commodity* contracts completely covering the demand of industrial consumers (aluminium smelters, steel mills etc.) and municipalities. These contracts usually refer to large quantities. In addition these contracts typically have a term of several years which can cause significant *CCR* exposures if prices increase or decrease. However, the liberalisation of the commodities markets has led to a decreasing demand for such long-term complete-coverage contracts.
159. As explained above, large credit exposures arise because of market practices when carrying out *commodities business*. They arise not from lending but from providing goods to customers in large quantities and charging for them later. Therefore, it needs to be considered whether the large exposure rules which have primarily been tailored for credit institutions and investment firms taking into account the practices in financial markets are equally suited for *commodities business*.
160. *CAD* Annex II, point 2 provides for the treatment of free deliveries of commodities as regular exposures until the 4th business day after the contractual due date for payment. The requirement of deducting free deliveries from own funds from the 5th business day after the contractual due date for payment seems to be overly conservative and could be replaced by a continued treatment as exposures, which would be appropriate even for reflecting the occurrence of past due or the default of the obligor.
161. A criticism by industry levelled at the *CRD* large exposures and free deliveries regime is that it is inappropriate for *commodities businesses* as *commodity markets* (where underlyings are often required for immediate consumption) are fundamentally different from markets where the underlyings are financial instruments (i.e. where consumption/payment is deferred). This would be manifest in both longer delivery/payment periods and the accumulation of larger exposures.
162. The industry responses claim that amendments to the current regime would be necessary to take into account the special features described above. The application of the current framework would otherwise result in an

overestimation of risk and disproportionate capital requirements as well as inappropriate provisions with regard to the conduct of business.

**f. Reporting requirements for ancillary agricultural physical commodities business**

163. One industry respondent raised the issue of reporting requirements for small amounts of physical *commodities*. These appear to be disproportionately burdensome for local credit institutions (mostly co-operatives) that traditionally undertake *commodities business* as an ancillary business. This business is tailored to the needs of their agricultural clients and encompasses heating and fuel oil, seeds, fodder and fertilisers and other materials. Current regulation requires these items to be included in the monthly risk reporting. Therefore a monthly physical inventory of these items is necessary. The respondent claims that in relation to the size of these positions which are below 250,000 EUR, monthly reporting requirements are overly burdensome.

**IV. Consumer-related externalities**

164. The *commodity* and *exotic derivatives* markets are generally not end-user markets and consumers do not seem to be a direct counterparty in *commodity* and *exotic derivatives* trading. The trading volumes and values imply that these markets are dominated by professional market participants. However, if *commodity* or *exotic derivatives* are used in investment funds and the investment fund is exposed to heavy losses as a result of losses from trading in *commodity* or *exotic derivatives*, this would affect the consumer. Therefore, risks posed to consumers through investment funds or structured products are best mitigated through conduct of business regimes to ensure the products are appropriate to the consumer and the consumer makes an informed decision.
165. *Institutions* may also embed *commodity* or *exotic derivatives* within structured products that may be sold to consumers as low risk products. However, using *commodity* or *exotic derivatives* related to high market risk could easily be of high risk for the consumer.

**V. Interdependencies with the other business carried out by the firm (intra-group risk)**

166. The activities of groups with a subsidiary that is trading *commodity* or *exotic derivatives* often extend to include other businesses. This is also true, even though less extensively, of single entities trading *commodity* or *exotic derivatives*.

## **Part D. Assessment of the possible implications of regulatory changes**

### **I. Introduction**

167. This Part considers a range of options for the regulatory treatment of *commodities business/commodities* firms. As a first step the effects of continuing or discontinuing the exemptions under *CRD* and *MiFID* are assessed (even though the *ISD* is still in force, its exemptions will be disregarded for the purposes of this report). In a second step some considerations with regard to a tailor-made framework for *commodities business/firms* are discussed. Commodities derivatives for the purpose of this Part mean derivative instruments listed in Annex I, Section C (5), (6), (7), (9)<sup>9</sup> and (10) of the *MiFID*.

168. The assessment comprises the following categories of firms:

**Category A:** Firms subject to the provisions of the *ISD* or Directives 2000/12/EC or 93/06/EEC and not exempted under these Directives and subject to *MiFID* or *CRD* and not exempted under these Directives either, i.e. credit institutions and investment firms which do not fall under any of the categories B to D below.

**Category B:** Firms that become subject to EU legislation for the first time as a consequence of the extension of the *MiFID* to include *commodities business* and that cannot make use of any of the exemptions within *MiFID*.

These are firms providing investment services or activities in financial instruments that are listed in Section C of Annex I of the *MiFID* and which had not been listed in the Annex to the *ISD*, especially commodities derivatives. Firms in Category B are investment firms according to Art. 4 (1) (1) of the *MiFID*. Besides, according to Art. 3 (1) (b) in connection with Art. 2 of the *CAD* they are, in principle, also subject to the *CRD*. However, for the time being, some of these firms may be exempted from the capital requirements according to Art. 48 (1) of the *CAD*, see category D below.

**Category C:** Firms exempted under Article 2, paragraph 1, b), d), i) or k) of the *MiFID* (see Annex IV).

These are firms which:

- provide investment services exclusively for undertakings belonging to the same group and/or to the clients of their main business on an ancillary basis to their main business;
- deal exclusively on own account without being market makers; or
- deal primarily on own account in commodities and/or financial instruments (including commodities and *exotic derivatives*) .

**Category D:** Firms generally subject to the *CRD* but exempted from the capital regime under Art. 48 (1) of the *CAD*.

These are firms whose main business consists exclusively of the provision of investment services or activities in relation to the financial instruments set out

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<sup>9</sup> To the extent that the asset underlying the financial contract is a commodity.

in points 5, 6, 7, 9 and 10 of Section C of Annex I to Directive 2004/39/EC and to whom Directive 93/22/EEC did not apply on 31 December 2006.

Please note that the firms in this category are a subset of category B. Both categories refer to firms that became subject to regulation due to the broadened definition of financial instruments in the *MiFID* compared with the *ISD*. Although the scope of category B is wider as it comprises firms which have a main business not exclusively related to *commodity* or *exotic derivatives*. Thus, a part of the main business carried out by these firms does not fall under the *MiFID* definition of *commodity* or *exotic derivatives* e.g. the main business of a firm is not primarily dealing on own account and not restricted to *commodity* derivatives but also includes, for example, *commodity* contracts for commercial purposes or spot contracts.

## II. Scope and application of the current framework

169. In this Part the impact of the following scenarios on each of the categories of firms listed above will be discussed:

**Scenario 1:** the existing exemptions in Art. 2 (1) of the *MiFID* and in Art. 48 of the *CAD* are abolished;

**Scenario 2:** only the exemptions in Art. 2 (1) of the *MiFID* are perpetuated

**Scenario 3:** only the exemption in Art. 48 (1) of the *CAD* is perpetuated

**Scenario 4:** all exemptions are perpetuated

The effects of each scenario on each category of firms can be summed up as shown in this table<sup>10</sup>:

**Table 1: Overview of different scenarios**

	<b>Scenario 1</b>	<b>Scenario 2</b>	<b>Scenario 3</b>	<b>Scenario 4</b>
	No exemptions remain	Only the exemptions in Art. 2 (1) of the <i>MiFID</i> are perpetuated	Only the exemption in Art. 48 (1) of the <i>CAD</i> is perpetuated	All exemptions are perpetuated
<b>Category A</b>	-	-	-	-
<b>Category B but not D</b>	+	+	-	-
<b>Category C</b>	++	-	++	-
<b>Category D</b>	+	+	-	-

(- = no impact; += impact; ++= high impact)

<sup>10</sup> See Annex III for a detailed overview



## **1. Abolition of the exemptions**

170. In this scenario, the temporary exemption of Art. 48 (1) of the *CAD* expires and the exemptions in Article 2 (1) b), d), i) and k) of the *MiFID* are repealed.

### **a. Regulatory impact**

171. The regulatory framework for firms in Category A would not change. These firms do not benefit from the exemptions; therefore the abolition of the exemptions would have no relevance to them.

172. There would be an impact on firms in Categories B and D. As investment firms they are already subject to the requirements of the *MiFID*, and, in principle, also the *CRD*. However, as pointed out above some of the firms in category B belong to category D and are currently exempted from the capital requirements of the *CRD*. With the expiry of Art. 48 (1) of the *CAD* they would have to comply with these requirements.

173. The highest impact would be on firms in Category C. For the time being, the *MiFID* does not apply to these firms. Thus, they are not investment firms according to the *MiFID* and, as the *CRD* definition of "investment firms" refers to Art. 4 (1) of the *MiFID* the *CRD* is also not applicable. With the abolition of all exemptions they would become subject to financial regulation according to both *MiFID* and *CRD*.

### **b. Practical impact and consequences**

174. Applying the same rules to all four categories would create a level playing field in the sense that all firms providing investment services in commodities derivatives would be subject to the same regulatory framework. These firms would profit from the European passport and could provide their investment services in all Member States.

175. The application of the *MiFID* to the currently unregulated<sup>11</sup> firms in category C would subject them, inter alia, to authorisation and organisational requirements and the provisions with regard to conduct of business.

176. The need to comply with the organisational requirements and the provisions on conduct of business may require the implementation of new processes or restructuring measures, causing additional costs. Further costs will derive from the application and authorisation process.

177. The application of the *CRD* capital requirements to firms in categories B, C and D may also cause additional costs, as those minimum capital requirements could be potentially higher than the firms' current own funds (e.g. since producers and some distributors own significant fixed assets application of *CRD* would result in significant capital requirements for these fixed assets that tend to be debt financed). In a group context regulatory capital requirements may constrain the allocation of capital that the group itself considers to be efficient. Besides, according to some industry respondents, risk mitigation techniques currently in use might not be recognised and so allowed to lower the capital

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<sup>11</sup> With regard to financial regulation.

requirements. Administrative costs could be caused by the implementation of the new regime, through reporting requirements etc.

178. The increase in costs could reduce the margins of the firms or increase customer prices or both. According to some industry respondents some firms may no longer be able to operate profitably and have to exit the market.
179. Alternatively other firms may choose to restructure their businesses and hive off regulated activities or relocate trading operations to non- or less-regulated markets. The application of the same rules to all firms in categories A to D might remove this consequence within the EEA. However, with regard to competitors outside the EEA the higher costs would still be a competitive factor.
180. Higher costs and the movements and market exits described might have detrimental effects on market liquidity by diminishing the amount of free capital at firms' disposal and the number of market participants.
181. However, according to some industry respondents regulation might also serve as a "quality stamp" giving regulated firms a competitive edge against non-regulated firms. Regulated firms might also be seen as less prone to systemic risk thus enhancing financial stability.

## **2. Perpetuation of the *MiFID* exemptions and expiration of the *CAD* exemption**

182. In this scenario the exemptions in Article 2 (1) (b), (d), (i) and (k) of the *MiFID* would be perpetuated whereas the exemption from the capital requirements in Art. 48 (1) of the *CAD* would expire.

### **a. Regulatory impact**

183. For the same reasons as in scenario 1 the firms in category A and firms in category B which are not in category D would not be affected.
184. The firms in category D would become subject to the capital requirements of the *CRD*.
185. For the firms in category C, on the other hand, the regulatory situation would also remain unchanged. As the *MiFID* would still not be applicable to these firms, they would continue to be outside the scope of financial regulation and the expiry of Article 48 (1) of the *CAD* would have no relevance to them.

### **b. Practical impact and consequences**

186. A different treatment would apply to the different categories of firms. However, the current three tiers of regulatory intensity would be reduced to two layers. The firms currently completely exempted from financial regulation would continue to be exempted. The firms subject to the *MiFID* would all have to apply the same rules, including the capital requirements of the *CRD*.
187. With regard to costs and other practical implications for the firms in category D the considerations under D.II.1.b apply.

### **3. Repeal of the *MiFID* exemptions and continuation of the *CAD* exemption**

188. In this scenario the exemptions in Art. 2 (1) (b), (d), (i) and (k) of the *MiFID* are repealed whereas Art. 48 (1) of the *CAD* is perpetuated.

#### **a. Regulatory impact**

189. For the reasons already described above, this scenario would have no impact on firms in category A.

190. This scenario would also have no impact on firms in categories B and D. As they are subject to the *MiFID*, the repeal of the exemptions in Art. 2 (1) of the *MiFID* would not be relevant to them. On the other hand, because of the perpetuation of Art. 48 (1) of the *CAD*, firms in category D will remain exempted from the capital requirements in the *CRD*.

191. This scenario would, however, have a significant impact on the firms in Category C as they would become subject to the *MiFID* and would have to comply with its requirements (authorisation, organisational requirements, and conduct of business). Furthermore, as a consequence of the application of *MiFID*, they would become subject to the *CRD* and would, unless Art. 48 (1) of the *CAD* is applicable, have to comply, *inter alia*, with the *CRD* capital requirements.

#### **b. Practical impact and consequences**

192. As in scenario 2 different treatments would continue to apply to the different categories of firms. Again the current three tiers of regulatory intensity would be reduced to two tiers. But in this case the overall level of regulatory intensity would increase as all categories of firms would be subject to financial regulation.

193. However, it has to be noted that the current Art. 48 (1) of the *CAD* has been designed as a transitional exemption and applies only to firms to whom Directive 93/22/EEC did not apply on 31 December 2006. If this exemption is continued it would have to be assessed whether this distinction is appropriate.

194. With regard to costs and other practical implications for the firms in category C, the considerations under D.II.1.b apply.

### **4. Perpetuation of the exemptions**

195. In this scenario all relevant exemptions will be perpetuated.

#### **a. Regulatory impact**

196. This scenario would have no impact on any of the firms in Categories A to D.

197. Firms in Category A would still have to apply *MiFID* and *CRD*.

198. Firms in Category B and D would still be subject to the *MiFID* and firms in category D would remain exempted from the capital requirements of the *CRD*.

199. Firms in Category C would still not be subject to regulation.

## **b. Practical impact and consequences**

200. This scenario would perpetuate the current regulatory framework including the three different tiers of regulatory intensity. As the framework would not change, no additional costs or other implications would arise. However, a level playing field would not be achieved.
201. Also in this scenario the wording of Art. 48 (1) of the *CAD* would have to be checked to decide whether the scope of the exemption is still appropriate.

## **5. Summary**

202. As seen above, *institutions* in category A would not be directly affected by any of the scenarios described. However, indirect impacts may result from any changes in the regulatory framework for the other categories. In fact, apart from scenario 4 that would basically perpetuate the current regime, at least one of the other categories of firms would have to comply with the same strict rules as the *institutions* in category A.
203. From the point of view of the firms in categories B, C and D that are currently benefiting from one of the exemptions any change to the current regulatory framework would potentially cause higher costs, additional administrative burdens and the like. The imposition of these stricter rules would only be justified if the need for financial regulation was evident.

## **III. Possible new regimes**

204. If none of the approaches discussed above is deemed suitable then three consequential questions arise:
1. Should the *MiFID/CRD* be amended to take into account the particular features of *commodities business*?
  2. Whether or not this happens, what should be the scope of the application of *MiFID/CRD* (full, partial, no application)?
  3. Should there be (additional) tailored requirements?

### **1. Amend *MiFID/CRD*?**

205. Some of the provisions of *MiFID/CRD* may not appropriately address the risks generated by *commodities business*. For example:
- the use of spot prices to calculate market risk charges for forward positions (maturity ladder approach);
  - deduction from own funds of delayed settlement legs of free deliveries; and
  - limited recognition of risk mitigation techniques under less sophisticated approaches.
- (For further details see Part C.III.2.)
206. *MiFID/CRD* should be reviewed to identify such potential deficiencies and to decide whether remedial amendments are necessary. It is discussed in point 2 to whom an amended or unamended *MiFID/CRD* might be applied.

## **2. Scope of application**

### **a. Basic considerations**

207. Regulation, including both capital and qualitative requirements (internal control, compliance, organisational requirements, disclosure requirements) can have a positive impact on market confidence. But regulation can also have a detrimental effect, especially if direct competitors (domestic and cross-border) of the regulated firms are treated differently. Traditional reasons for regulation include the impact the conduct or failure of a certain business can have on the financial stability of a market and the necessity to protect customers.
208. The analysis in Parts B and C shows that the conduct of *commodities business* has at least the potential to raise systemic risk concerns. With regard to consumer protection, on the other hand, the assessment provides little evidence of a particular need for regulation.

### **b. Considerations with regard to potential regimes**

209. As described in Part B, the types of risks arising from the trading of commodities derivatives are not significantly different from the risks arising from the trading of other financial instruments. However, they vary in magnitude across products due to e.g. larger volumes of free deliveries, greater basis risk and higher price volatility.
210. The credit institutions and investment firms in category A are subject to the *MiFID* and the *CRD*. This includes their activities in the commodities sector. *Institutions* would therefore potentially benefit from any amendment to the current provisions to take into account *commodity*-specific considerations.
211. These considerations also hold true for firms in categories B, C and D. As their only difference to firms in category A lies in their specialisation either in dealing with certain kinds of financial instruments, or dealing (mainly) on own account or for a limited circle of beneficiaries there may be some reasons to regulate these firms in basically the same way.
212. On the other hand, there may be benefit in a new regime that takes into account the specialisation of firms in categories B, C and D. Such a new regime could include specific rules where appropriate to address the risks arising from the business of the firms in categories B, C and D, and possibly to distinguish between the three.

## **3. Parameters for a “tailor-made regime”**

213. The overarching concern of this report is systemic risk, therefore, the parameters for the scope and the content of the regime should be the risks taken by the firm, and the possible risks it may generate for other market participants (contagion effects); see Part B, section III above. In this regard, the following items could be taken into account:
- a) type of underlyings dealt in (oil, gas, power, metals, soft commodities, freight etc.);
  - b) type of firms (*institutions*, producers and their trading affiliates, traders, distributors etc.);

- c) nature of the transactions (transaction on a regulated market/*MTF/OTC*; cleared or non-cleared);
- d) type of counterparty (*institutions*, producers and their trading affiliates, trader, distributor, private consumer etc.);
- e) particular features of *commodity* or *exotic derivatives*;
- f) risk mitigants; and
- g) group structures and internal dependencies/obligations.

#### **4. Considerations with regard to particular requirements**

- 214. Regulatory requirements could encompass authorisation (including fit and proper test for managers), organisational requirements, provisions regarding conduct of business, prudential rules (capital requirements [initial/minimum], LE regime) but also provisions concerning qualified participations and disclosure.
- 215. Authorisation and a fit and proper test for managers are thresholds for the conduct of business especially in areas of systemic relevance or where a particular know how or experience is required for the proper conduct of business as well as to protect customers. Authorisation requirements are especially appropriate for all firms dealing not only on their own account but providing investment services for third parties. Organisational requirements and requirements concerning the conduct of business ensure that business is carried out in a professional manner, that basic requirements of internal governance are met and that risks are adequately managed. These requirements are especially suited to take into account aspects of proportionality and to tie the requirements to the size of the firm, the business volume, the counterparties etc.
- 216. Disclosure requirements strengthen market discipline and encourage market participants to improve their risk management.
- 217. Prudential requirements, like minimum capital requirements, aim to safeguard financial stability by ensuring a risk-adequate capitalisation of firms. Considerations with regard to the imposition of prudential requirements are again the systemic relevance of failures, competitive aspects if regulated and unregulated firms conduct the same business in the same market and the question whether the risks could be or are already otherwise mitigated (organisational requirements etc.). The imposition of prudential requirements needs to be proportionate to the risks and in accordance with the objectives of prudential regulation.

## **Annexes**

<b>ANNEX I</b>	Regulation of commodities business in the United States
<b>ANNEX II</b>	Commodities markets overview
<b>ANNEX III</b>	Specificities of product markets
<b>ANNEX IV</b>	Overview of possible amendments to the framework
<b>ANNEX V</b>	Hedge funds
<b>ANNEX VI</b>	Physical commodity regulators
<b>ANNEX VII</b>	Industry questionnaire, summaries of questions 2 to 11

### **Excel spreadsheets**

<b>ANNEX VIII</b>	Overview of responses
<b>ANNEX IX</b>	Industry questionnaire, summary of question 1
<b>ANNEX X</b>	Supervisory questionnaire, summary of question 7
<b>ANNEX XI</b>	Supervisory questionnaire, summaries of questions 5, ,6, 7.1, 7.2, 7.3 and 8 to 12