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IMPACT ASSESSMENT

Accompanying document to the

Proposal for a

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on OTC derivatives, central counterparties and trade repositories

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1. INTRODUCTION

The financial crisis has brought over-the-counter (OTC) derivatives to the forefront of regulatory attention. The near-collapse of Bear Sterns in March 2008, the default of Lehman Brothers on 15 September 2008 and the bail-out of AIG the following day highlighted the shortcomings in the functioning of the OTC derivatives market. Within that market, regulators devoted particular attention to the role that credit default swaps (CDS) played during the crisis.¹

Since October 2008 the Commission has been working actively to tackle the shortcomings that the crisis brought to light. In order to do so, the Commission followed a two-pronged approach:

- in the short term it focused on the CDS market and obtained a commitment from the major dealers in the market to start clearing European-referenced CDS transactions on a central counterparty (CCP) by the end of July 2009. This process led to important results.²
- In the medium term it focused on an in-depth review of derivatives markets. In the Communication of 4 March 2009,³ the Commission committed to deliver, on the basis of a report on derivatives and other complex structured products, appropriate initiatives to increase transparency and to address financial stability concerns:
 - On 3 July 2009 the Commission adopted a first Communication⁴ that examined the role played by derivatives in the financial crisis, looked at the benefits and risks of derivatives markets, and assessed how the identified risks can be reduced.⁵
 - On 20 October, the Commission adopted a second Communication⁶ that set out the future policy actions the Commission intended to propose to increase transparency, reduce counterparty and operational risk, enhance market integrity and oversight in derivatives markets. It also announced that the Commission would come forward with legislative proposals in 2010.

¹ For example, the report of the High Level Group chaired by Jacques de Larosière, published in February 2009, highlighted the risks associated with the rapid explosion of the use of credit derivatives and stressed the need to address the lack of transparency in the market. To this end, the report recommended action to simplify and standardise OTC derivatives and to introduce CCP clearing. The report is available at http://ec.europa.eu/internal_market/finances/docs/de_larosiere_report_en.pdf (see p.25).

² See section 3.3.2. for further details.

³ “Driving European Recovery” - COM(2009) 114. The document is available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0114:FIN:EN:PDF>.

⁴ “Ensuring efficient, safe and sound derivatives markets” - COM(2009) 332. The document is available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0332:FIN:EN:PDF>.

⁵ The Communication is accompanied by a Staff Working Paper, which contains an overview of (i) derivatives markets and (ii) OTC derivative market segments, as well as an assessment of the effectiveness of current measures to reduce risks, notably as regards CDS. The document is available at http://ec.europa.eu/internal_market/docs/derivatives/report_en.pdf.

⁶ “Ensuring efficient, safe and sound derivatives markets: Future policy actions” - COM(2009) 563. Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0563:FIN:EN:PDF>.

Furthermore, in the context of the Commission's work on the food supply chain, the Commission published on 28 October 2009 a Communication⁷ that announces legislative proposals to improve the oversight and overall transparency of agricultural commodities derivatives markets. In particular, the Communication announces i) the extension of appropriate transparency and reporting requirements (including position reporting by categories of traders) to all agricultural commodity derivatives, including those traded OTC; and ii) the Commission's intention to assess the possibility of enabling regulators to set position limits to counter disproportionate price movements or concentrations of speculative positions.

This impact assessment report accompanies part of the proposals announced by the Commission,⁸ namely those that look at increasing transparency and reducing counterparty and operational risk principally through the use of post-trading market infrastructure (i.e. CCPs and trade repositories). The remaining proposals will be tackled in other legislative initiatives and will therefore not be examined in this report.

⁷ “A better functioning food supply chain in Europe” - COM(2009) 591. The document is available at http://ec.europa.eu/economy_finance/publications/publication16061_en.pdf.

⁸ See Annex 2 for a full overview of the foreseen Commission proposals.

2. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

2.1. Lead DG

The Directorate-General for Internal market and Services (hereinafter: DG MARKT) is the Lead DG of this process.

2.2. Political mandate and basis in the work programme

At the EU level, as detailed in the introduction of this report, a number of reports and Commission Communications set out the Commission's main priorities in the area of derivatives and already provided some insight into the more detailed actions that the Commission intends to undertake.

The Council also outlined, on several occasions, its views on this particular topic. On 19 June 2009 the European Council called *“for further progress to be made in the regulation of financial markets, notably on [...] the transparency and stability of derivatives markets.”* Furthermore, in the ECOFIN roadmap adopted on 20 October 2009 as an annex to its conclusions on strengthening EU financial stability arrangements,⁹ the Council calls for *“[i]ncreasing the safety for “over the counter” derivatives markets, by the clearing of standardized OTC derivative contracts through central counterparties and, if not, higher capital requirements; [and] the reporting of non-standardized derivative contracts to trade repositories.”* Finally, the Council outlined more detailed views on the topic in its Conclusions of 2 December 2009.¹⁰

The European Parliament also expressed its views on the topic of derivatives. During the June 2010 plenary session, the European Parliament adopted a Resolution that *“[w]elcomes the Commission’s initiative for better regulation of derivatives, and in particular OTC derivatives with a view to reducing the impact of the risks in the OTC derivatives markets for the stability of financial markets as a whole, and backs the calls for legal standardisation of derivatives contracts [...], the use of trade repositories and centralised data storage, [and] the use and strengthening of central clearing houses [...]”*.¹¹

The EU initiatives are part of the international effort to increase the stability of the financial system in general, and the OTC derivatives market in particular. The foundations for a coordinated approach on this issue were laid down at the 2 April 2009 G20 summit in London, where the leaders of the G20 agreed to promote the standardisation and resilience of credit derivatives markets, in particular through the establishment of central clearing counterparties subject to effective regulation and supervision.¹² This commitment was confirmed and spelt out in further detail at the

⁹ http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressdata/en/ecofin/110617.pdf. See p. 15.

¹⁰ See Annex 3 for details.

¹¹ “Report on derivatives markets: future policy actions” (henceforth “Langen report”). The report is available at <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2010-0187+0+DOC+PDF+V0//EN>.

¹² Declaration on strengthening the financial system. The document is available at <http://www.londonsummit.gov.uk/resources/en/PDF/annex-strengthening-fin-sysm>. See p.3.

26 September 2009 summit in Pittsburgh. In particular, the statement of the leaders of the G20 says that “[a]ll standardized OTC derivative contracts should be [...] cleared through central counterparties by end-2012 at the latest. OTC derivative contracts should be reported to trade repositories. [...]”¹³

The importance of an internationally coordinated approach cannot be overstated. Given the global nature of the OTC derivatives market, the lack of internationally coordinated action would only lead to regulatory arbitrage. This would severely curtail the effectiveness of measures to increase the safety of the financial system in any individual jurisdiction. The need of a coordinated approach has been recognised by the G20¹⁴ as well as by the Council¹⁵ and the European Parliament.¹⁶

In accordance with what announced in the second Communication and following the political mandate given by the Council, the preparation of a legislative proposal on the derivatives market was included in the Commission's work programme for 2010.¹⁷

2.3. Impact assessment and opinion of the Impact Assessment Board

Work on the Impact Assessment started in January 2010 with the first meeting of the Steering group on 9 February 2010, followed by 3 further meetings, the last one taking place on 12 May 2010. The following Directorates General (DGs) and Commission services participated in the meetings: Agriculture and Rural Development, Climate Action, Competition, Economic and Monetary Affairs, Energy, Industry and Entrepreneurship, Legal Services, Secretariat General, and Trade.

The report was sent to the Impact Assessment Board on 19 May 2010. The Board discussed the report on its hearing on 16 June 2010. Following the hearing, changes were made to the Impact Assessment in order to reflect the Board's comments.

2.4. Consultation of interested parties

Since October 2008 the Commission has been engaged in almost continuous, extensive consultation with representatives from the great majority of stakeholders. The interaction has taken the form of bilateral and multilateral meetings, two written public consultations and a public conference. Through this process the Commission has obtained a wealth of information about the functioning of the derivatives market and its various segments, as well as views on the issues to be solved and how to solve them. An important part of this information has already been used in the preparation of the two aforementioned Communications.

¹³ <http://www.pittsburghsummit.gov/mediacenter/129639.htm>. See third bullet of paragraph 13.

¹⁴ See paragraph 12 of the aforementioned Pittsburgh Summit statement.

¹⁵ See paragraph 2 of the aforementioned Council conclusions of 2 December 2009.

¹⁶ See recital U of the Langen report.

¹⁷ http://ec.europa.eu/atwork/programmes/docs/cwp2010_en.pdf.

2.4.1. *External expertise*

In line with the two-pronged approach described in the introduction, the Commission's attention was initially focused solely on the CDS market. In order to facilitate the monitoring of the major dealers' commitment in this area, the Commission created a group, the Derivatives Working Group (DWG), that included representatives from all the financial institutions that signed the commitment,¹⁸ from market infrastructures and other service providers that had developed / were developing solutions for the CDS market (CCPs, trade repositories), from other market participants, from relevant European (ECB, CESR, CEBS and CEIOPS)¹⁹ and national (AMF, BaFin and FSA)²⁰ authorities, as well as the relevant Commission services. In addition to the formal meetings of the DWG, the Commission held separate, ad-hoc bilateral and multilateral meetings with a large number of stakeholders in the CDS market.

The work surrounding derivatives in general had a less formal structure. Most of the information was gathered through ad-hoc bilateral and multilateral meetings with the various stakeholders. Only one formal group, the Member States Working Group on Derivatives and Market Infrastructures, was created at the end of 2009. The group is mainly constituted from experts representing Member States. The ECB, CEBS and CESR also participate in its meetings. The group's objective is to advise the Commission on the forthcoming legislative proposal.

The Commission has also gained valuable information by actively participating in various international fora, in particular the OTC Derivatives Regulators Group and Basel's Risk Management and Modelling Group. The Commission has recently also gained observe status on the steering committee of the joint CPSS-IOSCO²¹ working group that is currently reviewing the recommendations for CCPs and preparing recommendations for trade repositories. In addition, the Commission has engaged in frequent dialogue with non-EU authorities, in particular US authorities (the CFTC, the SEC,²² the Federal Reserve and the US Congress).

2.4.2. *Stakeholder consultations*

In parallel with the publication of the first Communication, DG MARKT launched a first public consultation²³ on 3 July 2009 (it was closed on 31 August 2009) and a second one²⁴ on 14 June 2010 (it was closed on 10 July 2010). Stakeholders were informed about the availability of the two public consultations on the website of DG

¹⁸ The letter of commitment and the list of signatories of the letter can be found on DG MARKT's website at http://ec.europa.eu/internal_market/financial-markets/derivatives/index_en.htm#cds.

¹⁹ Respectively the European Central Bank, the Committee of European Securities Regulators, the Committee of European Banking Supervisors, and Committee of European Insurance and Occupational Pensions Supervisors.

²⁰ Respectively the Autorité des marchés financiers, Bundesanstalt für Finanzdienstleistungsaufsicht and the Financial Services Authority.

²¹ Respectively the Committee on Payment and Settlement Systems and the International Organisation of Securities Commissions.

²² Respectively the Commodity Futures Trading Commission and the Securities and Exchange Commission.

²³ See http://ec.europa.eu/internal_market/consultations/2009/derivatives_en.htm.

²⁴ See http://ec.europa.eu/internal_market/consultations/2010/derivatives_en.htm.

MARKT through the publication of a Commission press release²⁵ and frequently asked questions²⁶ respectively, and through electronic mail, either directly or indirectly (through their associations).

The Commission services received 111 and 210 responses respectively. Those that had been authorised for publication have been consequently published on the respective consultation websites.²⁷ The summary of responses including an introductory analysis of the first public consultation is available on DG MARKT's website²⁸ and is annexed to this report (see Annex 4). A summary of responses to the second public consultation is annexed to this report (see Annex 5). The two consultations followed the standards as set out in the Part III of the Impact Assessment Guidelines of 15 January 2009.

All contributions have been thoroughly examined and relevant information contained in them has been taken into account throughout the text of this report.

2.4.3. *Public conference*

The first consultation period was closed by a public conference organised by DG MARKT and held in Brussels, on 25 September 2009.²⁹ Three panels of academics, industry representatives and regulators, coming from the EU and the US, presented their views on the need (or lack thereof) to reform the OTC derivatives market. The conference by and large confirmed the views obtained through the first public consultation.

²⁵ See <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1083&format=HTML&aged=0&language=EN&guiLanguage=en>.

²⁶ See <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/10/256&format=HTML&aged=0&language=EN&guiLanguage=en>.

²⁷ See http://circa.europa.eu/Public/irc/markt/markt_consultations/library?l=/financial_services/derivatives_derivatives&vm=detailed&sb=Title and http://circa.europa.eu/Public/irc/markt/markt_consultations/library?l=/financial_services/infrastructures&vm=detailed&sb=Title respectively.

²⁸ See http://ec.europa.eu/internal_market/consultations/docs/2009/derivatives/summaryderivcons_en.pdf.

²⁹ The conference's recordings and documents are available on DG MARKT's website at http://ec.europa.eu/internal_market/financial-markets/derivatives/index_en.htm#conference.

3. PROBLEM DEFINITION

This section looks at the three main problems related to the functioning of the OTC derivatives market that were already identified in the October 2009 Commission Communication. They are i) the lack of transparency on positions and exposures, ii) insufficient mitigation of counterparty credit risk, and iii) insufficient mitigation of operational risks.

3.1. Problems related to the functioning of the OTC derivatives market

3.1.1. *Overview of derivatives and the derivatives market*³⁰

Derivatives are an important building block of modern finance. In essence they are financial contracts that facilitate the trading and redistribution of risks.³¹ They owe their name to the fact that their value is derived from an underlying (e.g. the price of a share of a publicly traded company). Since they redistribute risk, they can be used either to insure (hedge)³² oneself against a particular risk or, conversely, to take on risk (invest or speculate).³³ They can also be used to arbitrage between different markets.

Derivatives can range from those that have fully standardised parameters, such as notional value or maturity, to those that are fully tailored to the specific needs of a particular user. The type of derivative usually also determines how a derivative is traded: fully standardised derivatives are typically traded on organised trading venues, i.e. derivatives exchanges, while customised (or bespoke) derivatives are traded bilaterally, i.e. off-exchange or, as commonly called, over-the-counter (OTC). The most common types of derivatives traded on an exchange are futures and options. Conversely, the most common types of OTC derivatives are swaps, forwards and (exotic) options.

The use of derivatives has grown exponentially over the last decade. Most of this growth was driven by OTC transactions (see Figure 1). At the end of December 2009, the size of the OTC derivatives market by notional value equalled to approximately \$615 trillion, a 12% increase with respect to the end of 2008. However, this was still 10% lower than the peak reached in June 2008.

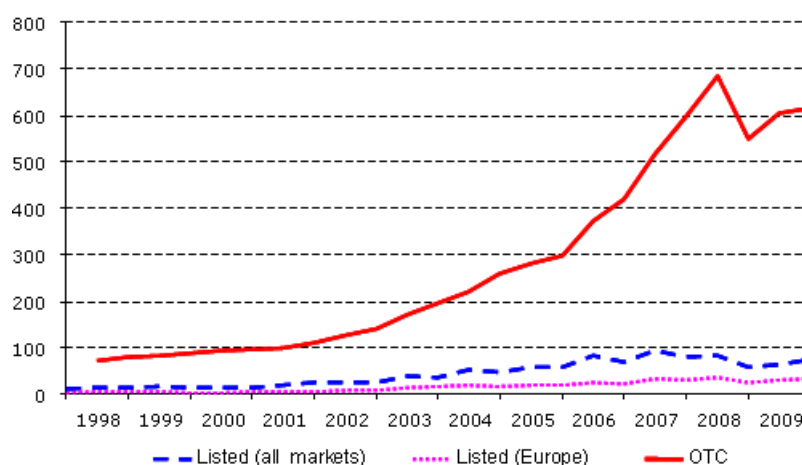
³⁰ A more detailed description of derivatives and their use, as well as of derivatives markets can be found in Annex 6.

³¹ From those not willing to hold it to those who are.

³² For example, companies use derivatives to cover the risk of a price increase in the raw materials they use in their production, to protect themselves from adverse currency movements and, more in general, to better plan their future needs. Farmers use them to protect themselves from the risk of a fall in the price of their crops or to protect themselves against poor harvests caused by drought or frost.

³³ Hedging and speculation are often two faces of the same coin: in most cases, little or no hedging would be possible without the existence of speculators.

Figure 1: The size of derivatives markets: on- and off-exchange³⁴ (\$ trn)



Note: The figure shows the notional amounts outstanding in on- vs. off-exchange market segments in USD trillions in 1998-2009. On-exchange data shows outstanding amounts worldwide and in Europe (no similar geographic breakdown exists in OTC data).

Source: BIS.

While notional amounts provide a measure of market size and a reference from which contractual payments are determined in derivatives markets, they do correspond to amounts truly at risk. Gross market values³⁵ provide some measure of the financial risk from OTC derivatives. At the end of 2009, the total gross market value stood at \$21.6 trillion, one third lower than at the peak reached a year earlier.³⁶ The corresponding credit exposure³⁷ was \$3.52 trillion, about 22% lower than the peak reached a year earlier.³⁸

OTC derivatives are generally divided into five broad segments: foreign exchange derivatives, interest rate derivatives, equity derivatives, commodity derivatives and credit derivatives (credit default swaps are the most important type of contract in this segment). As can be seen in Figure 2, interest rate derivatives are by far the largest segment, followed by foreign exchange derivatives and credit derivatives.³⁹ In April 2007, the EU accounted for 63% of the interest rates derivatives market and 54% of the foreign exchange derivatives market.⁴⁰ In comparison, the US accounts for 24% and 15%, respectively.

³⁴ Please note that, as indicated previously, the OTC market does not fully benefit from the netting effects provided by a CCP. This means that the size of the market is somewhat inflated, since offsetting trades are not netted out.

³⁵ The sum of the replacement values of all open contracts that are either in a current gain or loss position at current market prices.

³⁶ Since gross market value depends on market prices, the fall it registered is a direct reflection of the reduction in market prices from the "panic" levels of end 2008.

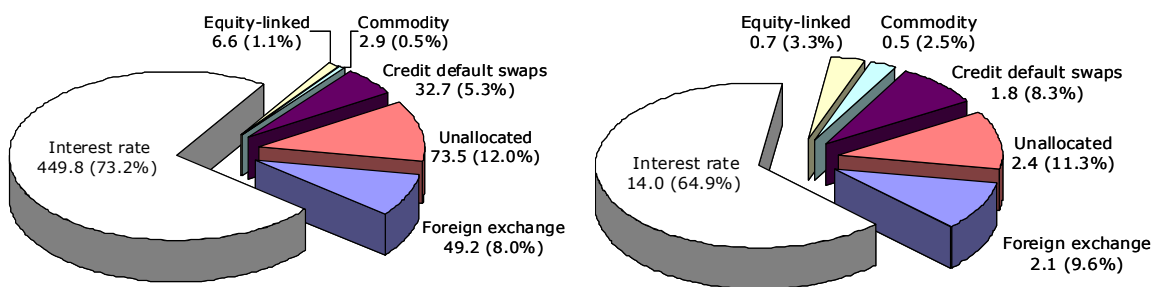
³⁷ Defined by the BIS as the gross value of contracts that have a positive market value after taking account of legally enforceable bilateral netting agreements.

³⁸ The logic explained in footnote 44 applies here as well.

³⁹ See Chapter 3 of the aforementioned Commission Staff Working Paper for more details, including the risk characteristics, on each segment.

⁴⁰ BIS(2009), Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity in 2007 – Statistical Annex Tables. <http://www.bis.org/publ/rpfx07a.pdf>. See p.127 and 129.

Figure 2: OTC derivative market segments notional amounts outstanding (left) and gross market values (right); \$ trillion (% of total), December 2009



Source: BIS

3.1.2. The role of derivatives in the financial crisis

Many views have been put forward as to the role played by derivatives, and in particular OTC derivatives, in the financial crisis. As the Commission stated in the two aforementioned Communications on derivatives markets, derivatives were not the cause of the crisis. However, the Commission is also of the view that OTC derivatives, in particular certain types of CDS, played an important role in the crisis. The crisis clearly demonstrated how the improper use of derivatives⁴¹ can risk turning them into “financial weapons of mass destruction”, as Warren Buffet has dubbed them.⁴² Indeed, the crisis has shown that - in certain situations - the combined effect of the very characteristics that make derivatives (in particular leverage) and the OTC derivatives market (high level of customisation, lack of transparency, high market concentration, high interconnection of large market participants, and lack of regulation) so attractive can have devastating consequences for the financial system. The example of AIG is highly illustrative in this respect (see Box in section 3.1.4. for details).

While not causing the crisis, the OTC derivatives market contributed to the spreading of the crisis beyond its point of origin (the US sub-prime mortgages⁴³ market) and to magnifying it into a full-blown global financial crisis that almost brought the financial system, and with it the global economy, to its knees. The channel through which the initial shock from the sub-prime market spread to the OTC derivatives market was provided by CDS contracts (in particular those that were used to insure their buyers from losses in the sub-prime market). Once the shock reached the OTC derivatives market it rapidly spread throughout the system using the complex web of interconnections that characterise this market.⁴⁴ The high level of concentration in the market did the rest.⁴⁵

⁴¹ For example, the excessive accumulation of leverage through the use of derivatives.

⁴² See Berkshire Hathaway shareholder letter for financial year 2002, p.15. Available at <http://www.berkshirehathaway.com/letters/2002pdf.pdf>.

⁴³ A sub-prime mortgage is a type of mortgage that is normally made out to borrowers with a lower credit capability, i.e. borrowers considered as having a larger-than-average risk of defaulting on the loan. Due to the higher risk involved, the interest rate on subprime mortgages is higher than that of a conventional mortgage.

⁴⁴ Moody's has claimed that trade replacements have proven to be a strong indirect contagion channel in the crisis (no estimates of the costs were provided). Several market participants that had Lehman Brothers as a counterpart incurred significant losses in novating their trades (see section 7.1.1. for an explanation on

3.1.3. *Problem 1: Lack of transparency on OTC derivatives positions and exposures*

3.1.3.1. Background

By its very nature, the OTC derivatives market is opaque. This is because OTC derivatives are privately negotiated contracts and consequently any information concerning any one of them is usually only available to the contracting parties.

In addressing the issue of availability of information, it is important to make a distinction between information available to regulators, to market participants and to the general public. The law usually gives regulators the right to request from the entities they regulate any kind of information (including exposures to single counterparties and positions in particular types of contracts) they need to carry out their responsibilities, while giving, at the same time, regulated entities the obligation to provide this information.

Information available to the public is usually much more limited (to aggregate data because individual information is extremely sensitive). However, this does not mean that there is no publicly available information on OTC derivatives at all. There are actually a number of sources that publish aggregate information, with different levels of geographical and product coverage and different levels of detail.⁴⁶

Market participants are somewhere in between the regulators and the public as on top of the publicly available information they also know their positions with respect to the other market participants.

3.1.3.2. The issues

While regulators can obtain detailed information about the individual positions of the entities they regulate, they lack a full and clear picture of the market as a whole. There are two aspects to this issue. First, regulators literally do not know the exact size of any of the segments of the OTC derivatives market as none of the sources mentioned earlier provides a comprehensive picture of the various segments of the OTC derivatives market. The only one that comes close to full coverage of a market segment is the Warehouse Trust, which contains information on almost all outstanding CDS contracts.⁴⁷ Regulators could not gain a full picture by piecing together the data from the various sources either, as the data published by those sources are not comparable.⁴⁸

novation) from Lehman to other market participants in the days preceding and following Lehman's default failure. See A. Yavorsky, "Credit Default Swaps: Market, Systemic and Individual Firm Risks in Practice", Moody's, October 2008.

⁴⁵ Bear Sterns is a good example of how lethal the combination of high market concentration and high level of interconnectedness can be. Its bail-out was deemed necessary because US authorities feared the contagion that would result from its failure. In other words, Bear Sterns was deemed to be "too-interconnected-to-fail".

⁴⁶ See <http://www.isda.org/statistics/otc.htm> for a (non-exhaustive) list of available sources.

⁴⁷ According to the information provided by the Warehouse Trust, the percentage of all outstanding CDS contracts registered in its trade repository is in the "high 90s".

⁴⁸ Even surveys with similar market coverage lead to different results due to different samples and methodologies used.

Second, the regulators usually do not know the detailed breakdown of the positions of the counterparties of the entities they regulate. Since the OTC derivatives market is global, a regulator would inevitably need to seek at least part of this information outside of its jurisdiction, usually with a third-country regulator. The actual amount of information and the timeliness with which the regulator would be able to obtain it would, in such case, depend on a series of factors, among which the existence of an enforceable information sharing agreement with the third-country regulator and the type of information usually collected by the latter regulator. Alternatively, the regulators might find this information in a trade repository, provided that one exists. However, this solution may not be without its problems as well. Due to data privacy issues, for example, the trade repository may not be able to provide the data to the regulators, or it may not maintain all the information that regulators may need (in the case of the one existing trade repository at the time of the crisis, the Trade Warehouse, the second problem was partially present).⁴⁹

The problem of market participants is almost identical to the one of regulators. As stated earlier, a market participant in principle always knows its own exposure to its counterparties. What it does not know, however, is what the exposure of any of its counterparties is to other market participants including, most importantly, its other counterparties. In other words, a market participant knows the direct, but not the indirect exposure that is created when it enters into an OTC derivative contract.

3.1.3.3. The practical consequences

The lack of transparency on positions has two practical implications for regulators. First, it does not allow regulators to understand how big, compared to the market as a whole, the risks building up on the balance sheets of the entities it regulates are. Second, it does not allow them to gain a clear picture of the interconnectedness of the positions of those entities. This can prevent regulators from a timely detection of risks building up both at individual institutions and in the system as a whole. It can also prevent them from accurately assessing the consequences of a default of a market participant and therefore from responding in an appropriate manner should such a default occur (as it happened in Lehman's case). In short, it prevents them from doing their job properly.

The practical implications for market participants are also two. First, as the counterparties to an OTC derivative contract know only the direct exposures to one another, the collateral set aside to secure the exposure is by definition inadequate as it is calculated using incomplete information. Second, as the financial crisis clearly demonstrated, in distressed market conditions the lack of transparency on positions can generate mistrust among market participants and lead to a drying up of liquidity in the market.

⁴⁹ According to information provided by the dealers, a number of contracts they reported to the Trade Warehouse lacked the information on the counterparty because of confidentiality clauses.

3.1.4. Problem 2: Insufficient mitigation of counterparty credit risk

3.1.4.1. Background

Derivative contracts bind counterparties together for the duration of the contract. The duration varies depending on product type and market segment, ranging from a few days to several decades. Throughout the lifetime of a contract, counterparties build up claims against each other, as the rights and obligations contained in the contract evolve as a function of its underlying. This gives rise to counterparty credit risk, i.e. the risk that a counterparty may not honour its obligations under the contract when they become due.

Clearing is the function by which this risk is managed over time. It can be carried out centrally (i.e. through a CCP) or bilaterally. Although both types of clearing are used in the OTC derivatives space, bilateral clearing is the most used form of the two.

The provision of collateral on the basis of a bilateral collateral agreement⁵⁰ is the most frequently used method to mitigate counterparty credit risk in the OTC derivatives space. According to the results of the 2010 ISDA Margin Survey,⁵¹ in 2009, almost 172000 collateral agreements⁵² were in place, covering 70% of OTC derivatives trades. The survey further estimates that approximately \$3.2 trillion of collateral was used in connection with OTC derivatives transactions, covering 69% of credit exposure.⁵³ Finally, the survey reports that the dominant form of collateral was cash (82% of collateral received and 82% of collateral delivered), with government securities a distant second (10% and 14% respectively). As can be seen from Figures 3a and 3b, all the above items have recorded significant growth over the last few years.

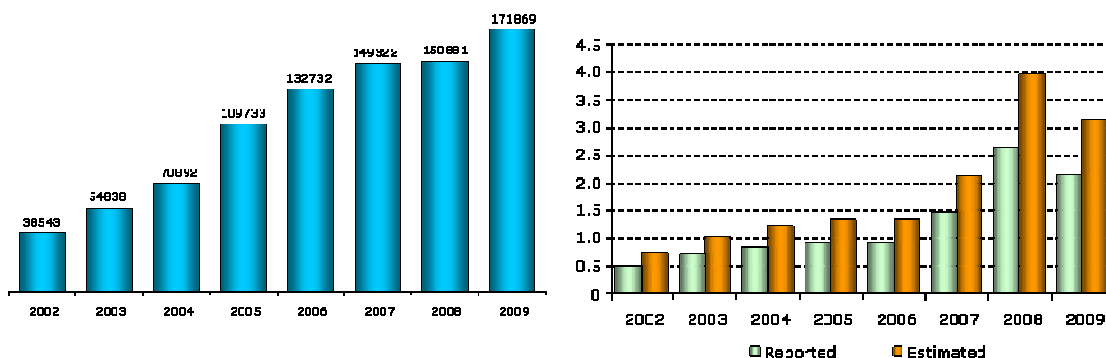
⁵⁰ A bilateral collateral agreement is an agreement that defines the terms or rules under which collateral is posted or transferred between counterparties to an OTC derivative contract. These terms can include thresholds, minimum transfer amounts, eligible types of collateral, haircuts applicable to eligible non-cash collateral and rules for the settlement of disputes arising over valuation of derivative positions. For more details on the structure of collateral agreements see, for example, *OTC Derivatives: Settlement Procedures and Counterparty Risk Management*, BIS, September 1998.

⁵¹ Available at http://www.isda.org/c_and_a/pdf/ISDA-Margin-Survey-2010.pdf.

⁵² The majority of them (92%) were ISDA credit support agreements, known as Credit Support Annexes (CSAs). Non-ISDA documents include, among others, bespoke margin agreements and jurisdiction-specific agreements such as French AFB and German Rahmenvertrag.

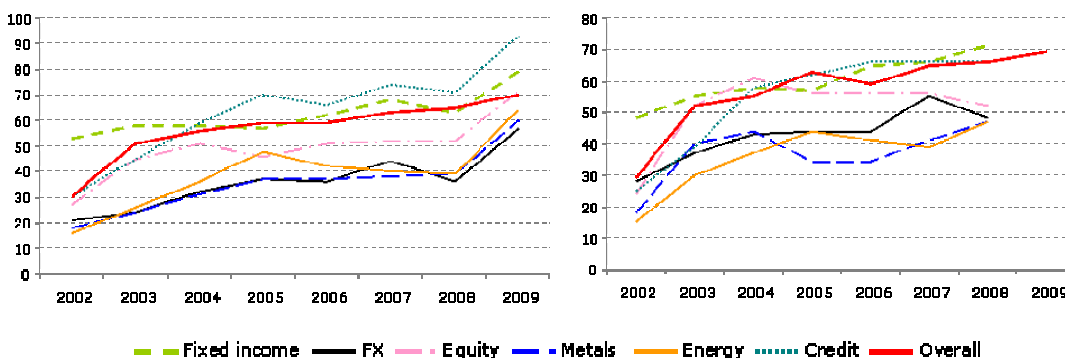
⁵³ As stated in the Commission Staff Working Paper, the Commission could not judge the solidity of the data provided in the survey, as no information was available about the methodology that had been used for calculating the numbers. A recent ECB study ("*Credit Default Swaps and Counterparty Risk*", August 2009; see p. 48-50) lists several reasons why the actual level of collateralisation of exposures is probably lower than what reported in the 2009 survey and estimates the level of collateralisation in the CDS market at 44%.

Figure 3a: Number of outstanding bilateral collateral agreements (left) and amount of collateral used in connection with bilaterally cleared OTC derivatives transactions (in \$ trillion) (right)



Source: ISDA

Figure 3b: Percentage of OTC derivatives trades covered by a bilateral collateral agreement (left) and percentage of credit exposure covered by collateral (right)



Note: The 2010 ISDA Margin Survey does not provide a breakdown per asset class of the percentage of credit exposure covered by collateral. Furthermore, due to changes in the methodology, the overall number for 2009 is not directly comparable with the one reported for 2008.

Source: ISDA

3.1.4.2. The issues

Overall, collateral is only an effective insurance against credit exposure if (i) exposure is calculated frequently and accurately; (ii) it is effectively exchanged in a timely manner; (iii) it offers a comprehensive coverage against overall potential counterparty credit exposure; and iv) it is legally enforceable in the event of the counterparty's default. Bilateral clearing is associated with a number of potential weaknesses in at least three of these aspects.

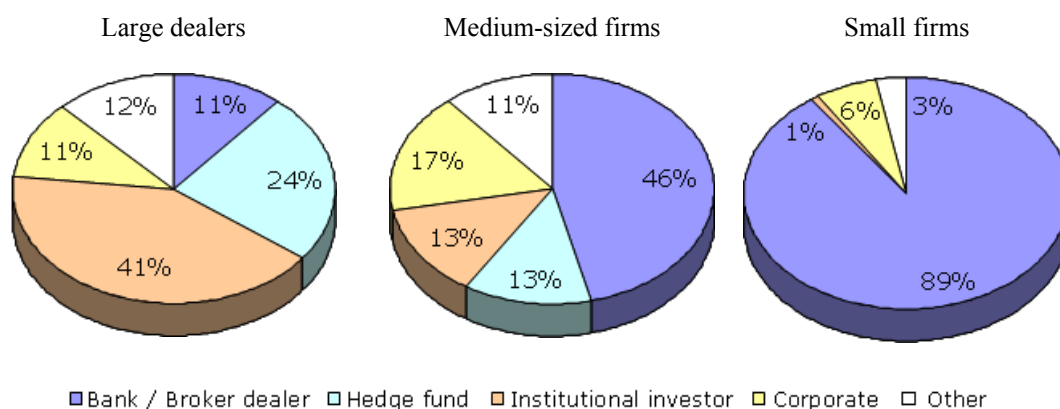
First, while daily valuation and (close-to-daily) exchange of collateral is the norm for the major dealers, the frequency falls substantially as one moves down to second and

third tier institutions. Weekly and even monthly valuation and exchange of collateral continues to be an existing market practice.⁵⁴

Second, bilateral clearing fundamentally relies on each party's own assessments of the current value of and the risk associated with a particular OTC derivative or a portfolio of such derivatives. The assessment depends on the quality of the risk model used (the crisis has revealed that risk models used by banks were less robust than previously thought), on the information that is fed into the model (which, as it is argued in the previous section, is incomplete) and on competing considerations, such as the quest to maximise commercial opportunities and associated profits.

Last, but certainly not least, the majority of bilateral collateral arrangements provide only for the exchange of variation margin (covering fluctuations in the value of the contract), but not of initial margin (covering the potential cost of replacing the contract in case the original counterparty defaults).⁵⁵ Furthermore, the level of collateral required often depends on the credit quality of the counterparty.⁵⁶ Typically, for an equivalent level of exposure, a counterparty with a high credit rating will be asked to post less collateral than one with a lower credit rating. In cases where one of the two counterparties is a non-financial institution or a government-related institution (e.g. the debt management office), the norm appears to be not to ask the latter to post any collateral. Figure 4 below provides an overview of the counterparties of collateralised transactions by type of respondent to the 2010 ISDA Margin Survey.

Figure 4: Counterparties in collateralised transactions (% of total)



⁵⁴ According to the 2010 ISDA Margin Survey, only 29% of the respondents to the Survey reconcile their trades daily, whereas 47% of the trades are still reconciled on an ad-hoc basis or in response to disputes. The results are better for large dealers, who perform daily reconciliation on 56% of their trades.

⁵⁵ As stated earlier, the posting of initial margin is required in the prime brokerage business. This is presumably due to the fact that a prime broker has a similar role to a CCP. Much like a CCP, a prime broker concentrates risk and responsibilities for risk management. Indeed, when a prime broker intermediates a trade between a hedge fund and a dealer, it becomes a counterparty to two trades, one with the hedge fund and one with the dealer. The lack of posting of initial margin in a peer relationship (e.g. between two dealers) is due to the fact both parties would have to post the same amounts (as both are exposed to replacement risk) which would effectively net themselves out.

⁵⁶ According to the 2010 ISDA Margin Survey, 86% of all respondents said that sometimes they set collateral thresholds based on credit ratings, while only 12% said that they use CDS spreads. The corresponding shares for large dealers are 100% and 27% respectively.

Note: The category 'Other' includes transactions with CCPs, energy and commodity trading firms, sovereigns and supranationals, and other counterparties. In general, each of these categories of counterparties represents at most 1% of the total transactions.

Source: ISDA

Concerning the legal enforceability of bilateral collateral arrangements in the EU, this aspect is covered by the Financial Collateral Arrangements Directive.⁵⁷

3.1.4.3. The consequences

There are several consequences arising from the issues listed above. First, and most important, the amount of collateral is, on average, too low compared to the level of counterparty credit risk associated with OTC derivatives exposures. Based on the ISDA survey, approximately \$1.4 trillion of exposures in OTC derivatives remain uncollateralised. In other words, the amount of leverage in the market is higher than should be the case given the amounts of collateral.

Second, infrequent valuation of exposures and exchange of collateral may lead to large margin calls in case of abrupt price movements between calculation dates, which may in turn result in high costs for the party receiving the margin call (as it may not have the liquidity to meet the call and may need to borrow it) or may even lead to its default (if it cannot obtain the necessary resources to meet the call). The same reasoning can be applied to situations where the amount of collateral that needs to be posted depends on the credit quality of the counterparty. AIG's example provides a clear illustration of that.

Third, the differences in the risk models used leads to situations where disputes may and frequently do arise⁵⁸ between counterparties as regards the mark-to-market value associated with a particular contract and the corresponding collateral obligation it gives rise to.⁵⁹ This leads to unwelcome delays to the collateralisation process.

3.1.5. *Problem 3: Insufficient mitigation of operational risk*

3.1.5.1. Background

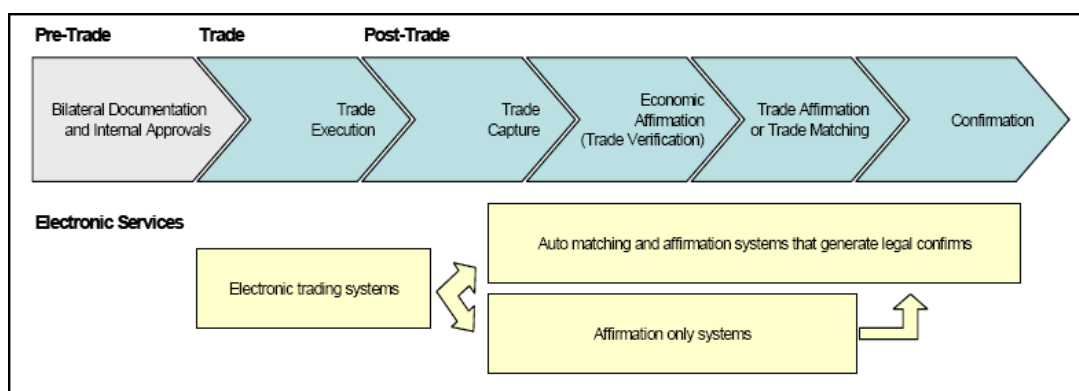
An OTC derivatives trade goes through several processing steps from the point at which two parties agree to a trade to the point where the transaction has been confirmed (see Figure 5).

⁵⁷ 2002/47/EC.

⁵⁸ No statistics on the frequency of collateral disputes could be found. However, the fact that collateral disputes are frequent was confirmed by a number of market participants.

⁵⁹ In other words, a collateral dispute is most likely to arise due to a dispute over the valuation of an OTC derivative. This may, for example, be the result of different valuation models used by the two counterparties to the OTC derivative contract. Collateral disputes due to differing views on the value of the collateral asset pledged are far less common.

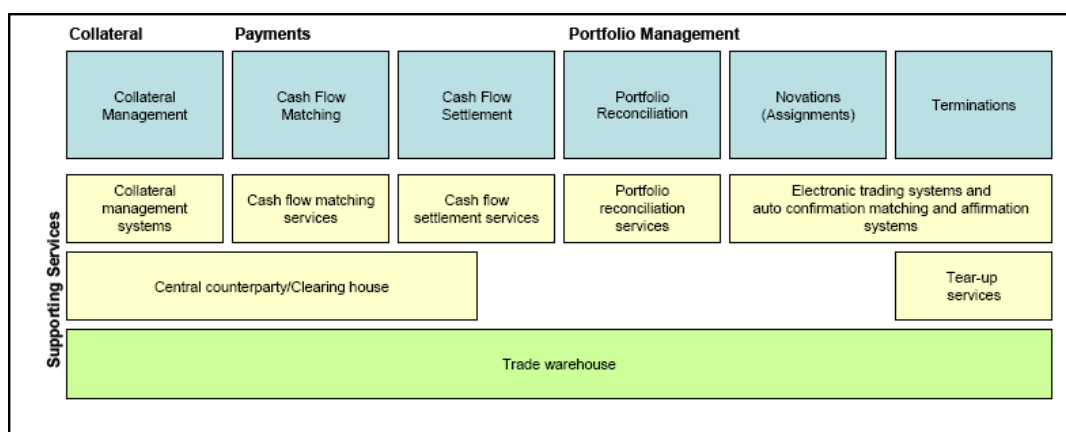
Figure 5: An OTC derivatives transaction from trade to confirmation



Source: BIS.

The story does not end with the confirmation of a transaction. During the lifetime of an OTC derivative contract several one-off (e.g. the termination of a contract) or recurring events (e.g. collateral management and settlement of cash payments), stemming from the rights and obligations of the contract, need to be managed (see Figure 6).

Figure 6: Lifecycle elements of an OTC derivatives transaction



Source: BIS.

The processes that have been developed to manage these events tend to be quite complex and in many cases they are highly interconnected, i.e. the output of one process is used as an input for another.⁶⁰ Ideally, in order to avoid that delays in one process have a knock-on effect on other processes, a high level of automation would be desirable. This does not apply only to the internal processes of individual counterparties; it is equally valid for the interaction between counterparties.⁶¹

⁶⁰ For example, the collateral management process tells a party to a contract the amount of collateral that needs to be posted to its counterparty at a particular point in time. This information is then used as an input into the process used to settle the cash payment involved.

⁶¹ The overall speed of the bilateral processes will be determined by the slower of the two counterparties to a contractual relation.

The level of automation is, in general, directly proportional to the level of standardisation of a contract: the higher the level of standardisation, the more automated processes can be used, and vice versa.⁶² The same logic applies to the adoption of centralised infrastructure, such as CCPs and trade repositories: their adoption requires relatively high levels of standardisation (especially in the case of CCPs).

The responses to the first public consultation highlighted that one can distinguish between three different types of standardisation, namely:

- (a) contract standardisation (standard legal relationships, confirmation agreements, documentation, market conventions on event handling);
- (b) product standardisation (standard valuations, payment structures, dates); and
- (c) process standardisation (straight-through processing (STP), matching, confirmation and settlement).

As clearly stated in its October 2009 Communication the Commission decided to focus its attention on the first and third type of standardisation, i.e. contract and process standardisation. The main reason behind this focus lies in the fact that high levels of contract and process standardisation are compatible both with the ability of market participants to hedge specific risks and the possibility to adopt centralised solutions (trade repositories and CCPs). Conversely, high levels of product standardisation, while compatible with the adoption of centralised solutions, are not necessarily compatible with the hedging requirements of market participants.⁶³

3.1.5.2. The issues

The OTC derivatives market allows for a high degree of flexibility in defining the economic and legal terms of derivatives contracts. As a consequence, there are a number of highly bespoke and complex contracts in the market that still require significant manual intervention in many stages of the processing. Manual intervention becomes particularly problematic once the transaction volumes of a type of contract start to increase rapidly. Indeed, in the past, the rapid expansion of volumes in the OTC derivatives market has invariably led to significant processing backlogs of unconfirmed trades, as the development of post-trading processes was not rapid enough to cope with the rising volumes and increasing complexity of derivatives trades. In spite of the progress made to reduce these backlogs in the past few years, especially in the area of credit derivatives, the problem has temporarily resurfaced during the crisis. This demonstrated that more needs to be done to foster standardisation.

⁶² Standardisation is a sufficient, but not a necessary condition for automation. Indeed, even the processing of non-standard contracts can be automated to a certain extent.

⁶³ This does not mean that product uniformity will not increase. The CDS market is a clear example of a market where all three types of standardisation took place in response to the drive to adopt CCP clearing.

An additional issue that concerns standardisation (or lack thereof) is its impact on liquidity. In general, the more bespoke the product, the less liquid it is (and hence the more difficult it is to sell or replace it, even more so in distressed market conditions).

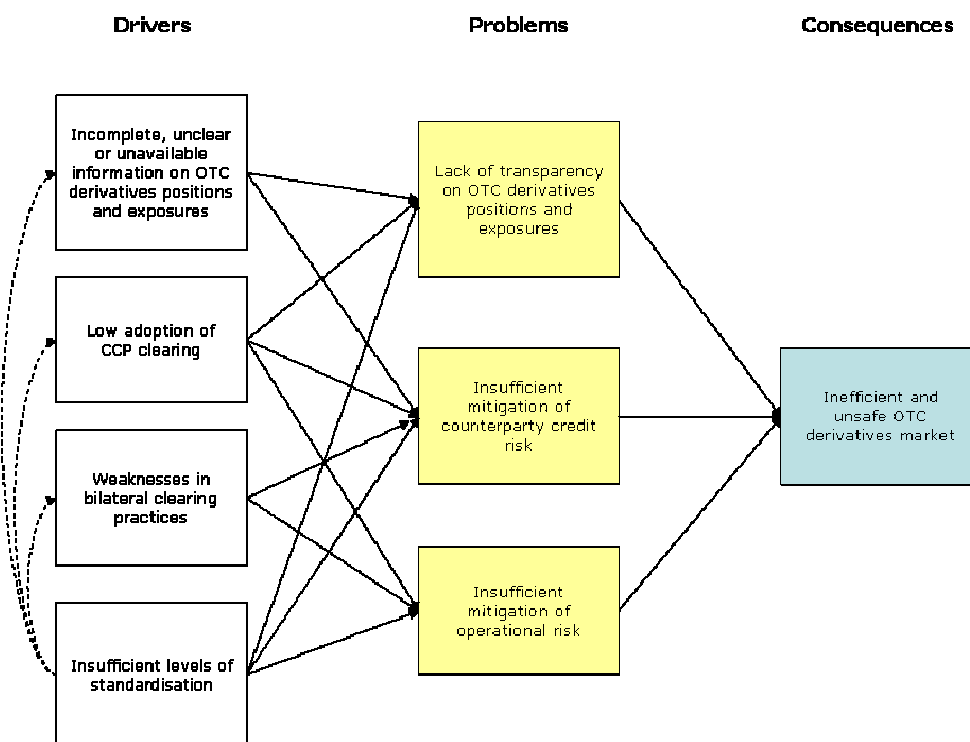
3.1.5.3. The consequences

Low levels of standardisation of contracts and low automation of processes increases operational risk, i.e. the risk of loss resulting from inadequate or failed internal processes, people and systems.⁶⁴ This may in turn lead to increased legal risk, may limit transparency and may even lead to an increase of counterparty credit risk. For example, the failure to confirm a transaction because of lack of automation may jeopardise its enforceability or the ability to net it against other transactions. Furthermore, to the extent that it allows errors in recording transactions to go undetected, an unconfirmed transaction may cause market or counterparty credit risks to be incorrectly measured and, most seriously, to be underestimated. As indicated earlier, low levels of standardisation also limit the level of adoption of centralised market solutions (i.e. trade repositories and CCPs).

3.1.6. The problem tree

Figure 7 below provides an overview of the various problems, their drivers and their consequences.

Figure 7: The problem tree



⁶⁴ The full definition by the Basel Committee on Banking Supervision is "the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events".

3.1.7. *The combined effect of problems 1, 2 and 3*⁶⁵

Each problem described in this section can have negative consequences for the proper functioning of the financial system. However, it is their combined effect that can lead to truly devastating results. The case of AIG is extremely telling in this sense.

Box 1: American International Group (AIG)

Derivatives are tools that allow for the trading and redistribution of risk. Due to this characteristic, derivatives have often been hailed as a tool that leads to a better (i.e. more even) distribution of risk throughout the economy. The financial crisis demonstrated that the opposite can also be true: derivatives can lead to an excessive concentration of risk in the hands of a handful of market players. One such player was AIG, a US insurance company.

Through one of its subsidiaries (AIG Financial Products),⁶⁶ AIG managed to accumulate a large exposure⁶⁷ to the US sub-prime mortgages market by selling highly customised CDS, mainly to big financial institutions. In essence AIG sold these banks insurance against losses on these securities. Since AIG had the highest possible credit rating (AAA), it managed to negotiate favourable collateralisation terms (basically, as long as it maintained its AAA rating, it did not have to put up any collateral to back the CDS trades).⁶⁸ Collateral makes a transaction more expensive, so by not having to post it AIG was able to enter into a higher number of contracts than would have been possible if collateralisation were required.⁶⁹

AIG's accumulation of large positions was facilitated by the lack of transparency, both towards the market and towards regulators.⁷⁰ Due to the bilateral nature of the contracts none of AIG's counterparties knew its overall exposure to the sub-prime

⁶⁵ Problem 3 played a less prominent role compared to the other two. The lack of standardisation was mainly involved in the context of the lack of transparency on AIG's position. Indeed, the CDS sold by AIG were not registered in the trade repository as they were too bespoke.

⁶⁶ The company had a UK banking license. There was also another AIG entity with a French banking license, Banque AIG, which made similar deals to the ones of AIGFP, but on a smaller scale.

⁶⁷ As Fitch Ratings reported in the fifth annual update of its Global Credit Derivatives Survey (published in 2007), AIG was ranked "only" as the 20th largest counterpart by notional amount, with a gross sold position of \$482 billion. However, the problem was that unlike dealers, who tend to run a balanced book, AIG was a net seller of protection, with its net sold position being only slightly lower than the gross one (\$384 billion).

⁶⁸ This arrangement exacerbated the pro-cyclicality of the collateral agreement.

⁶⁹ Since capital and collateral are complementary types of protection against losses (the former is supposed to cover "foreseeable" losses, while the latter is supposed to cover "unexpected" or "residual" losses), this situation may give rise to questions regarding the proper capitalisation of AIGFP's business. However, such analysis is outside of the scope of this report.

⁷⁰ The CDS were so highly customised that they were not captured by the trade repository run by the DTCC.

⁷¹ On 15 September 2008, all three main credit rating agencies (Standard and Poor's, Fitch Ratings and Moody's) all downgraded AIG's long-term debt rating.

⁷² According to a disclosure made by AIG on 15 March 2009, banks received a little more than \$45 billion in payments related to CDS contracts underwritten by AIG. The documents are available at http://www.aig.com/aigweb/internet/en/files/Counterparties150309RELonly_tcm385-155648.pdf and http://www.aig.com/aigweb/internet/en/files/CounterpartyAttachments031809_tcm385-155645.pdf.

⁷³ Overall, the value of the package put together by the US government to rescue AIG amounted to \$182.5 billion. <http://www.gao.gov/new.items/d09490t.pdf>. See p.4.

mortgage market and therefore could not price the risk of the contracts correctly. The lack of transparency coupled with a deficient cross-border regime for the supervision of complex and large financial institutions prevented regulators from detecting the build-up of the risk on AIG's balance sheet (and consequently on the balance sheets of its counterparties) and hence of the possibility of preventing the situation that led to AIG's unravelling.

The severe deterioration of the sub-prime mortgage market led to losses in securities that were backed by pools of sub-prime mortgages. As AIG was the one that "insured" those losses, it was called to compensate the buyers of the "insurance". This caused losses at AIG and prompted credit rating agencies to downgrade the company.⁷¹ The downgrade proved to be the proverbial straw that broke AIG's back. It triggered the special clause in AIG's collateral agreement that specified that collateral would be asked if the company would be downgraded. This prompted what turned out to be a massive call for collateral that AIG was not able to meet and was therefore pushed to the brink of bankruptcy. The fact that AIG's bankruptcy would probably have led to significant losses at big banks,⁷² prompted the US government to intervene and rescue AIG.⁷³

3.2. Economic magnitude of the problem

While, as explained in the introduction, OTC derivatives did not cause the crisis, they played a part in its unfolding. Their exact contribution to the costs of the crisis would be difficult to estimate as this would require the knowledge about the share of damage to the financial system that could be directly attributed to OTC derivatives. Annex 8 attempts to provide a very rough estimate of these costs. By first attempting to estimate the overall costs of the crisis (which are defined as the sum of the direct costs of intervention in the banking sector and the costs in terms of lost output) the analysis concludes that the share of OTC derivatives in total costs is at least several billions of euro.

3.3. How would the problems evolve without EU action?

There are currently several non-legislative initiatives, both at European and international level, that aim at resolving the problems described in section 3.1. A number of these initiatives have been launched due to the financial crisis; some of them pre-date it. The most overarching of these initiatives is the one involving the Operations Steering Committee (OSC),⁷⁴ a consortium that includes 14 major dealers (the so-called G14)⁷⁵ in the OTC derivatives market, a number of buy-side institutions and industry associations. The OSC has committed, through a series of letters to regulators, to deliver structural improvements to the global OTC derivatives market.⁷⁶ The latest of these letters, dating from 1 March 2010, reaffirms and strengthens existing commitments and deadlines and introduces some new ones. The commitments cover five main areas: i) developing and using trade repositories in

⁷⁴ Previously known as the Operations Management Group (OMG).

⁷⁵ Bank of America-Merrill Lynch, Barclays Capital, BNP Paribas, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs & Co., HSBC Group, J.P. Morgan, Morgan Stanley, The Royal Bank of Scotland Group, Société Générale, UBS and Wachovia Bank.

⁷⁶ The letters containing the detailed commitments can be found at http://www.newyorkfed.org/newsevents/otc_derivative.html.

order to increase transparency; ii) increasing the use of CCPs; iii) increasing the level of product, processing and legal standardisation in each asset class with a goal of securing operational efficiency and mitigating operational risk; iv) enhance bilateral collateralisation arrangements to ensure robust risk management; and v) improving operational performance, e.g. via straight-through-processing (STP).⁷⁷

The various commitments of the OSC, together with other initiatives running in parallel, are described in more detail in the next three subsections. The combined outcomes of these various initiatives can serve as a baseline scenario against which any future EU action can be compared.

In terms of legislative initiatives specifically targeting OTC derivatives, the Commission services are not aware of any such initiatives currently conducted at the level of individual Member States. There are, however, legislative initiatives taking place in jurisdictions other than the EU, most notably in the United States. These are described a bit more in detail in section 3.3.4.

3.3.1. *Current initiatives in the area of problem 1*

The existing initiatives aimed at increasing the transparency on positions in OTC derivatives have focused primarily on the use of trade repositories.

The only trade repository that existed at the moment when the financial crisis started, i.e. the Trade Information Warehouse (TIW),⁷⁸ proved to be a very useful tool for increasing transparency.⁷⁹ Indeed, after Lehman's default it contributed to reduce the uncertainty in the CDS market regarding the net exposure of market participants due to CDS written on Lehman, albeit with a delay.⁸⁰ In its June 2009 letter, the OSC members committed to reporting all their CDS trades to the TIW by mid-July 2009, a task that, according to the Group, has been completed. Given the high concentration of the market, this means that the TIW now covers almost all outstanding CDS contracts.⁸¹

Following the positive experience with CDS, the OSC committed itself to creating at least two additional trade repositories, one for interest rate derivatives and one for equity derivatives, and to reporting all their trades to them. TriOptima was selected as the provider of the former, while DTCC/Markitserv was chosen to run the latter.⁸²

⁷⁷ The automated end-to-end processing of trades including, where relevant, the automated completion of confirmation, matching, generation, and clearing and settlement of orders. STP enables the entire trade process to be conducted electronically, without the need for rekeying or reformatting data.

⁷⁸ The trade repository was later renamed into Warehouse Trust.

⁷⁹ Interestingly, the TIW was initially created with a different objective in mind. That is, to aid the credit derivatives industry in reducing the confirmation backlogs plaguing the CDS market.

⁸⁰ Before the TIW divulged the information the market knew only about the gross exposure, which amounted to \$400 billion. It turned out that the net exposure, and hence the amount of money that actually changed hands was a far more manageable \$5.2 billion. However, the information on the costs that Lehman's counterparties had to incur in order to replace the contracts they entered into with Lehman was never made public.

⁸¹ No official estimate is available. However the consensus appears to be that the percentage of market coverage is in the "high 90s".

⁸² The selection of the two providers was announced on 16 September and 22 October 2009, respectively.

TriOptima launched its Interest Rate Trade Reporting Repository on 20 January 2010,⁸³ while DTCC/Markitserv launched its Equity Derivatives Reporting Repository at the beginning of August 2010.⁸⁴ In addition to the OSC commitment, CLS Bank has announced that it is studying the possibility of creating a trade repository for foreign exchange derivatives.⁸⁵ There is currently no information on whether a trade repository for commodity derivatives will be created.

On the public sector side, the OTC Derivatives Regulators' Forum, a group comprised of international financial regulators,⁸⁶ was created in September 2009 to, among other things, coordinate and articulate information needs of the regulatory community. This includes considering and developing common reporting templates and formats, articulating specific expectations, and considering mechanisms for data reporting.

These initiatives should result in a significantly improvement in the transparency of the OTC derivatives market, as information on large portions of the outstanding contracts would be stored in a trade repository. The exact market coverage that will be achieved through these initiatives depends on the combined market share of the OSC members, which varies from one market segment to another (see Figure 12).

3.3.2. *Current initiatives in the area of problem 2*

In terms of reducing counterparty credit risk, existing industry initiatives aim both at increasing the use of CCP clearing and at improving bilateral clearing processes.

3.3.2.1. CCP clearing

On CCP clearing, significant progress has been achieved in terms of establishing and using new CCPs that clear OTC derivatives. The CDS market is a case in point. Since the beginning of the crisis, regulatory pressure to introduce CCP clearing in the market has resulted in the establishment of several CCPs. Three of those CCPs are located in Europe (Eurex Clearing, ICE Clear Europe and LCH.Clearnet SA) and are the result of the Commission-led process described in the introduction of this report. While all three are actively clearing contracts, most of the volumes are concentrated in one of them (ICE Clear Europe).⁸⁷ Figure 8 below shows the volumes that it has cleared since its launch and value of the open contracts it manages.

Figure 8: Evolution of cleared volumes and open position for European-referenced index (left) and single-name CDS (right) at ICE Clear Europe (€ billion)

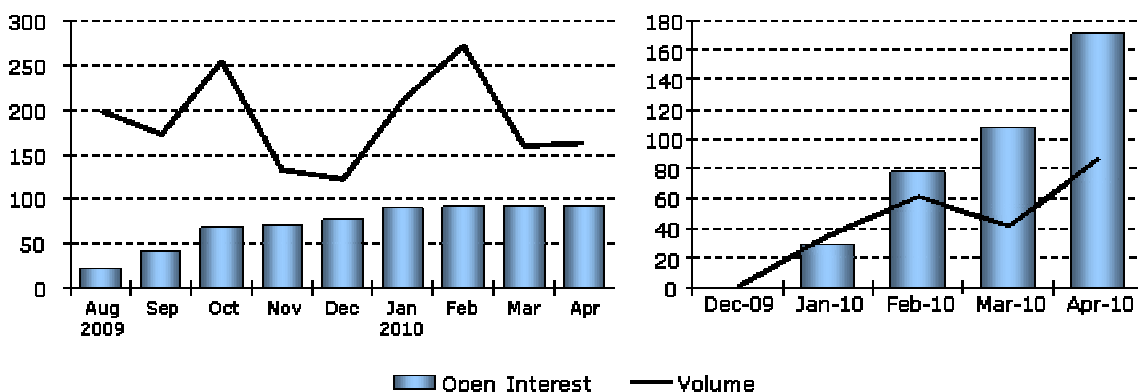
⁸³ At the end of July 2010, positions with a gross notional value of \$465 trillion were registered in TriOptima's trade repository. Correcting for the double-counting of CCP-cleared contracts, this means that approximately 70-75% of all contracts are registered in the trade repository.

⁸⁴ See http://www.dtcc.com/news/press/releases/2010/dtcc_launches_equity.php.

⁸⁵ See <http://www.cls-group.com/Media/Pages/NewsArticle.aspx?id=46>.

⁸⁶ See http://www.newyorkfed.org/newsevents/news/markets/2009/Appendix_1.pdf for a list of the members of the Forum. See also <http://www.otcdrf.org/index.htm>.

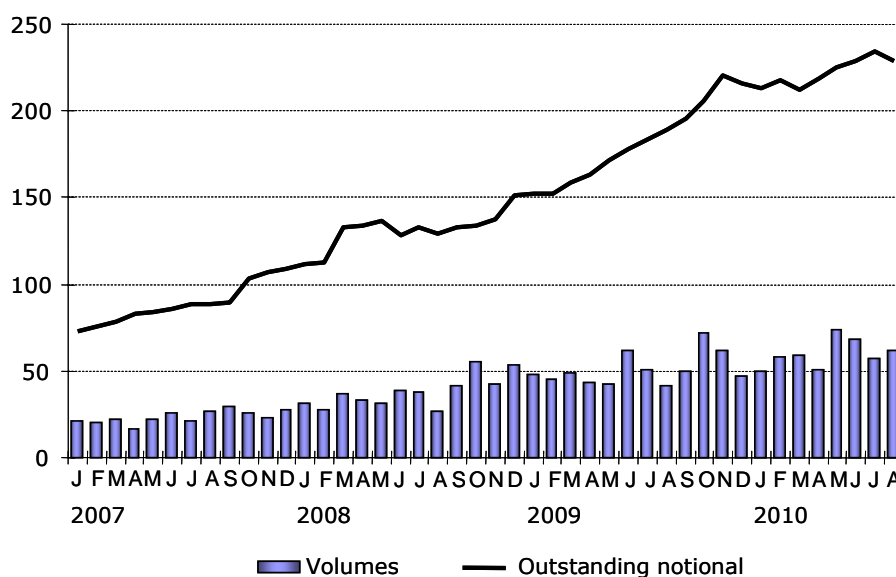
⁸⁷ As of end of April, Eurex had an open interest of €95 million, while LCH.Clearnet SA had an open interest of a little over €177 million.



Source: ICE Clear Europe

Furthermore, the crisis has prompted market participants to reassess the advantages of using existing CCPs. For example, SwapClear, the main CCP clearing interest rate swaps, has registered an important increase in its business since the start of the crisis (see Figure 9 below).⁸⁸

Figure 9: Evolution of cleared volumes ('000 trade sides) and open position (\$ trillion) for interest rate derivatives in SwapClear



Source: SwapClear

The take up of CCP clearing has certainly benefitted from the commitments put forward by the major dealers (i.e. members of the G14). The latter have set ambitious targets both in terms of proportion of eligible contracts that would need to be cleared and deadlines by which this would need to happen. For example, for CDS, they have (collectively) committed to clear 85% of both new and historical eligible trades by

⁸⁸ According to TriOptima, about 47% of all the contracts registered in its trade repository are cleared by a CCP.

the end of June 2010.⁸⁹ They have also committed to broaden the set of trades eligible for central clearing.

3.3.2.2. Bilateral clearing

The industry has also made several commitments with respect to the bilateral collateral management process. In particular, the industry has committed to develop a detailed roadmap containing specific implementation steps and timeframes for improving collateral management. The roadmap was published in 2009⁹⁰ and updated in 2010.⁹¹ One of the items of the roadmap concerned the development of best practices for collateral management. These were published by ISDA in a document at the end of June 2010.⁹²

Another set of commitments contained in the roadmap concerns portfolio reconciliation and the ways to improve this practice. Market participants use portfolio reconciliation to facilitate the bilateral collateral management process.⁹³ According to the latest ISDA Margin Survey, most of the respondents to the survey (90% compared to 80% in the previous year) use reconciliation services. However, it is mainly large dealers that tend to reconcile a high percentage of their trades on a daily basis (usually inter-dealer trades). Furthermore, a large proportion of trades (44%) is still reconciled on a quarterly basis at best (sometimes even only in case of disputes). The OSC has in essence committed to extending portfolio reconciliation as best practice throughout the OTC market.⁹⁴

Although portfolio reconciliation ensures that counterparties agree on the composition of their collateralised portfolios, they may still disagree about the value of reconciled portfolios, particularly those containing complex OTC derivatives. This is why another group of commitments made by the OSC concerns collateral disputes. In particular, the OSC has committed to developing a mechanism to resolve collateral disputes by the end of September 2009. The commitment was fulfilled.⁹⁵

3.3.3. *Current initiatives in the area of problem 3*

The industry has undertaken considerable work to increase the standardisation and increase the operational efficiency in the OTC derivatives market. Some of this is

⁸⁹ For details on the commitments for both credit and interest rate derivatives see 1 March 2010 letter. Available at http://www.newyorkfed.org/newsevents/news/markets/2010/100301_letter.pdf.

⁹⁰ Available at http://www.isda.org/c_and_a/pdf/ISDACollateralMgmtRoadmap.pdf.

⁹¹ Available at http://www.isda.org/c_and_a/pdf/2010-ISDA-Roadmap-Collateral-Management.pdf.

⁹² Available at http://www.isda.org/c_and_a/pdf/ISDA-Best-Practices-for-the-OTC-Derivatives-Collateral-Process.pdf.

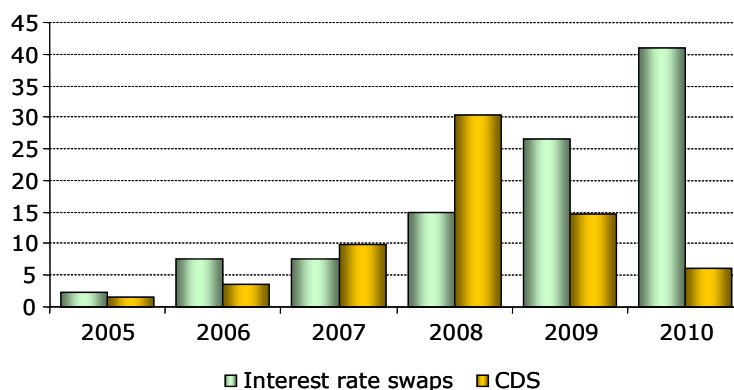
⁹³ In essence, portfolio reconciliation is the process of arriving at a point where certain pre-identified items match between the books and records of two parties with respect to a portfolio of trades between them. Its importance for the collateral management process lies in the fact that without agreeing the population of trades and their characteristics, counterparties cannot go on to discuss differences in the mark-to-market values and the subsequent collateral obligation. Portfolio reconciliation can be done either through bilateral arrangements or through the use of third-party vendors that provide a centralised service (e.g. TriOptima).

⁹⁴ See ISDA (2010), Feasibility Study Implementation Plan: Extending Collateralized Portfolio Reconciliations. Document available at http://www.isda.org/c_and_a/pdf/ISDA-Port-Rec-Feasibility-Study-Implementation-Plan.pdf.

⁹⁵ See ISDA 2009 Dispute Resolution Procedure. Available at http://www.isda.org/c_and_a/pdf/ISDA-2009-Dispute-Resolution-Procedure.pdf.

related to the OSC commitments. These include targets on electronic affirmation and confirmation (in view of reducing further the backlog of unconfirmed trades), automation of processes and portfolio compression.⁹⁶ The latter has seen a substantial increase in its use since the onset of the crisis, especially in the CDS and interest rate swaps markets (see Figure 10 below).

Figure 10: Volumes of portfolio compression in CDS and interest rate swaps (\$ trillion)



Note: Data for 2010 refers to the situation at the end of August.

Source: TriOptima

Some of the work was driven by the regulatory push for increased use of CCP clearing, for example the launch of the "Big" and "Small Bang" Protocols⁹⁷ for the credit derivatives, and the standardisation of coupons of single-name CDS.

3.3.4. Legislative initiatives outside the EU

The OTC derivatives market is, by its very nature, a global market. As indicated in section 2, the G20 set out the basic objectives for action on this market and is now coordinating the global effort that is aimed at turning these objectives into concrete actions. Several initiatives are already under way. Apart from the initiatives in the EU and the US, which represent the biggest share of the market, several initiatives are underway also in Asia (Hong Kong, Japan,⁹⁸ Singapore and South Korea). The Commission's policy proposals need therefore to be considered in this context.

The Dodd-Frank Wall Street Reform and Consumer Protection Act ("the Act"), the US legislation on financial regulatory reform which also contains measures targeting the OTC derivatives market, was signed into law by President Obama on 21 July

⁹⁶ In OTC derivatives, participants build up gross positions that far exceed their net risk position as many of the contracts offset one another. Portfolio compression (also known as "tear-ups") is a process that identifies these offsetting trades and eliminates them, leaving the market risk profile of the market participants unchanged.

⁹⁷ The protocols can be found at <http://www.isda.org/companies/auctionhardwiring/auctionhardwiring.html> and <http://www.isda.org/smallbang/> respectively.

⁹⁸ Recently, Japan's parliament approved legislation that requires some OTC derivatives trades to be cleared by a CCP. See <http://www.reuters.com/article/idUSTOE64B07O20100512>.

2010.⁹⁹ The Act broadly covers all types of OTC derivatives¹⁰⁰ (it splits them into two categories: swaps and security-based swaps)¹⁰¹ and all types of market participants.¹⁰² Most of the obligations set in the Act fall on four categories of market participants: swap dealers, security-based swap dealers, major swap participants and major security-based swap participants (“dealers and major participants”).¹⁰³ The areas covered by the Dodd-Frank Act and the objectives it pursues are the same as the ones covered by the Commission proposal. Among other things, it:

- requires that details on all OTC derivative contracts be reported to a registered trade repository or, in case a contract can not be reported to a repository, to the relevant authority;
- requires that all eligible OTC derivative contracts be cleared through a CCP (the Act foresees exemptions¹⁰⁴ to this requirement);
- introduces minimal capital, as well as initial and variation margin requirements for dealers and major participants on all OTC derivative contracts that are not cleared by a CCP;
- updates the regulatory framework for CCPs; and
- sets up a regulatory framework for trade repositories.

In many instances the Act sets out the main principles that should apply to OTC derivatives and to market participant active in the OTC derivatives market, leaving the definition of a number of detailed technical standards to the relevant supervisory authorities (CFTC, SEC or banking authorities).

3.4. Treaty base and subsidiarity

3.4.1. Treaty base, competence

The competence of the EU derives from Article 114 of the TFEU¹⁰⁵ (ex Article 95 - harmonisation). A second base that could be used is Article 53 of the TFEU (ex Article 47(2) – professional services). The final selection of the Treaty base will be determined depending on the content of the draft proposal.

⁹⁹ Available at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=111_cong_bills&docid=f:h4173.enr.txt.pdf.

¹⁰⁰ OTC derivative contracts where one of the counterparties is the government, one of its agencies or the Federal Reserve Bank, are excluded from the scope of the Act. In addition, there is a possibility for the Secretary of the Treasury to exempt foreign-exchange derivatives from the clearing requirement (but not the reporting requirement).

¹⁰¹ The former fall under the remit of the CFTC, the latter under the remit of the SEC.

¹⁰² The Act leaves open the possibility to exclude small banks, credit unions and savings associations from the definition of financial entity (see footnote 105) and hence from the clearing requirement.

¹⁰³ In principle, non-financial institutions could be captured by one of these categories. This is most likely to occur to non-financial institutions with large positions in OTC derivatives.

¹⁰⁴ If one of the counterparties to an OTC derivative contract is not a financial entity (this includes, among others dealers and major participants), uses the contract to hedge or mitigate commercial risk, and notifies the competent authority on how it generally meets its financial obligations associated with entering into the non-CCP cleared contract, then the contract is not subject to the clearing requirement.

¹⁰⁵ Treaty on the Functioning of the European Union.

3.4.2. *Subsidiarity*

According to the principle of subsidiarity (Article 5.3 of the TFEU), action on EU level should be taken only when the aims envisaged cannot be achieved sufficiently by Member States alone and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the EU. The preceding analysis has shown that –

- although all the problems defined above have important implications for each individual Member State, their overall impact can only be fully perceived in a cross-border context. This is because the OTC derivatives market is, by its very nature, a cross-border market. Consequently, the effectiveness of remedies implemented in an autonomous and uncoordinated way by individual Member States would likely be very low as such remedies would be able to capture just a portion of the market. Furthermore, given the systemic impact of some of the problems, uncoordinated action may even prove counterproductive;
- certain aspects of the identified problems are partly covered by the existing *acquis communautaire*, notably the Financial Collateral Arrangements Directive, the Settlement Finality Directive, the Market in Financial Instruments Directive, the Capital Requirements Directive and the UCITS Directives. Any new proposal would need to tie in perfectly with these pre-existing EU measures. This can be best achieved in a common effort.

Against this background EU action appears appropriate in terms of the principle of subsidiarity.

4. THE OBJECTIVES

4.1. General, specific and operational objectives

Taking into account the overall effect of the identified problems (see section 3.1.6. above), the general policy objective of this exercise is to reduce the systemic risk by increasing the safety and efficiency of the OTC derivatives market. Reaching this general objective requires the realisation of the following more specific policy objectives:

- (1) increase the transparency of the OTC derivatives market for regulators, market participants and the public;
- (2) reduce the counterparty credit risk associated with OTC derivatives;
- (3) reduce the operational risk associated with OTC derivatives.

As indicated in the introduction, this report is principally concerned with problems that can be solved through the use of post-trading market infrastructure. With this in mind, the specific objectives listed above require the attainment of the following operational objectives:

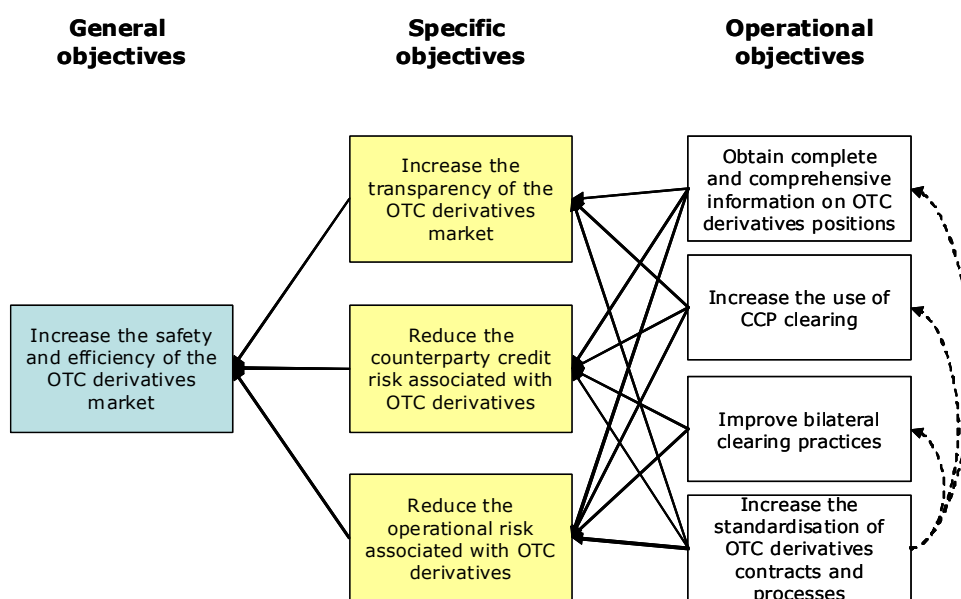
- (1) obtain complete and comprehensive information on OTC derivatives positions;
- (2) increase the use of CCP clearing;
- (3) improve bilateral clearing practices; and
- (4) increase the standardisation of OTC derivatives contracts and processes.

Counterparty credit risk can be managed either centrally, i.e. through a CCP, or bilaterally. In other words, an OTC derivative can be cleared either through a CCP or bilaterally. From the point of view of a single contract, operational objectives 2 and 3 are mutually exclusive. However, as already indicated, not all OTC derivatives are suitable for CCP-clearing. This is why it is still possible to define both operational objectives.

. Operational objective 4 has an impact on the other three operational objectives in the sense that achieving the former facilitates the achievement of the latter (this relationship is marked in Figure 11 by the dashed arrows).

An overview of the various objectives and their interrelations is depicted in Figure 11 below.

Figure 11: The objectives and their interrelation



4.2. Consistency of the objectives with other EU policies

On the one hand, the identified objectives are coherent with the EU fundamental goals to promote a harmonious and sustainable development of economic activities, a high degree of competitiveness, and a high level of consumer protection, which includes safety and economic interests of citizens (Article 169 EC TFEU).

On the other hand, these objectives are consistent with the reform programme proposed by the European Commission to drive the EU out of the financial crisis. As an essential element contributing to a stable financial sector, attaining these objectives is a prerequisite for building a sustainable recovery.¹⁰⁶ They are also consistent with the policies that were announced in the various Communications mentioned in the introduction of this report.

¹⁰⁶ Communication for the spring European Council, Driving European recovery - COM(2009) 114.

5. POLICY OPTIONS AND POLICY INSTRUMENTS

5.1. Policy options and their scope

In this chapter we examine the various policy options that have been considered in order to give effect to the four operational objectives described in the previous section and depicted in Figure 11. Although the operational objectives in question seem to address somewhat different issues, they are in fact intertwined and seek to provide coherent and comprehensive solutions to the same underlying issues. Before defining the policy options, it is important to point out that these will set out broad principles rather than detailed measures. The more detailed measures will need to be defined at a later stage, most likely through Commission delegated and implementing acts. Their impacts will be analysed in accordance to established rules.

5.1.1. *Options for objective 1 – Obtain complete and comprehensive information on OTC derivatives positions*

Two aspects need to be considered in the context of objective 1. The first one concerns the question about the way in which the information on positions or alternatively the information needed to calculate the positions should be collected. The possible policy options addressing the first aspect are the following:

- Option 1.1.: Rely on existing initiatives (= baseline scenario).
- Option 1.2.: Obtain additional commitments from the industry. This option could include the broadening of the personal scope, i.e. extending them to additional market participants, or the material scope of the commitments, i.e. extending them to additional types of OTC derivatives, or both.
- Option 1.3.: Require market participants to report all the necessary information on their OTC derivatives portfolios directly to the competent regulator(s). As explained in section 3, regulators already have the power to ask the entities they regulate for all the information they need to perform their duties. This option should not be read as simply maintaining the status quo, but rather as a change of approach from the current "pull" (require the information on an ad-hoc basis) to "push" (require regular reporting).
- Option 1.4.: Require market participants to report all the necessary information on their OTC derivatives portfolios to a trade repository.
- Option 1.5.: Introduce a reporting requirement combining options 1.3. and 1.4. This option takes into account the possibility that a trade repository may not exist or, in case it does exist, that it may not be either willing or able to accept the information reported by the regulated entity.

The second aspect concerns the question of the level of detail of the information that each group of stakeholders (regulators, market participants and the public) should receive. Its scope can actually be narrowed to just market participants and the public since regulators need to be able to access any information they deem necessary to

carry out their responsibilities. The possible policy options addressing this aspect are the following:

- Option 1.6: Rely on existing initiatives (= baseline scenario).
- Option 1.7.: Require the publication of aggregate position information. The aggregation could be done by market segment (e.g. interest rate derivatives), product (e.g. a particular single-name CDS), group of market participants (e.g. banks) or any combination thereof.
- Option 1.8.: Provide both aggregate and individual position information. The latter refers to positions of individual market participants that could be published either with or without a certain lag (e.g. a month).

5.1.2. *Options for objective 2 – Increase the use of CCP clearing*

The possible policy options for achieving this objective are the following:

- Option 2.1.: Rely on existing regulatory incentives and initiatives to increase the use of CCP clearing (= baseline scenario).
- Option 2.2.: Obtain additional industry commitments on the use of CCP clearing. This option could include the broadening of the personal scope, i.e. extending them to additional market participants, or the material scope of the commitments, i.e. extending them to additional types of OTC derivatives, or both. Furthermore, it could include the "tightening" of existing commitments (e.g. increasing the proportion of total trades that would need to be cleared).
- Option 2.3.: Provide additional regulatory incentives for the use of CCP clearing.¹⁰⁷ These could include, for example, measures aimed at increasing the safety of CCPs or measures facilitating the use of CCPs by smaller market participants. This option should be seen as a complement to options 2.1. and 2.2.
- Option 2.4.: Require the use of CCP clearing for OTC derivatives that meet predefined eligibility criteria. The criteria should include those that are usually used by a CCP when it considers the possibility of clearing of a particular contract. These include, among others, the liquidity of the contract and the availability of pricing information.
- Option 2.5.: Require the use of CCP clearing for all OTC derivatives.

At least some of the above options are not mutually exclusive.

5.1.3. *Options for objective 3 – Improve bilateral clearing practices*

The possible policy options for achieving this objective are the following:

¹⁰⁷ Regulatory incentives for the use of CCPs already exist. Certain market participants (e.g. banks) are not required to set aside regulatory capital for exposures that they have with a CCP complying with certain conditions.

- Option 3.1.: Rely on existing initiatives to improve bilateral clearing practices (= baseline scenario).
- Option 3.2.: Obtain additional commitments from the industry to improve bilateral clearing practices. This option could include the broadening of the personal scope of the commitments or their "tightening" (e.g. shortening the cycles of the various processes) or both.
- Option 3.3.: Set specific targets for the bilateral clearing of OTC derivatives transactions. One possible set of targets could, for example, address the measurement, monitoring and mitigation of counterparty credit risk associated with bilaterally-cleared OTC derivatives.
- Option 3.4.: Prescribe the methods that should be used in the context of the bilateral clearing of OTC derivatives transactions.

5.1.4. *Options for objective 4 – Increase the standardisation of OTC derivatives contracts and processes*

As argued earlier, the main focus is on contract and process standardisation. With this in mind, the possible policy options are the following:

- Option 4.1.: Rely on existing initiatives to increase contract and processes standardisation (= baseline scenario).
- Option 4.2.: Obtain additional industry commitments to increase contract and processes standardisation. This option could include the broadening of the personal scope or the material scope of the commitments (i.e. the processes that need to be improved). Furthermore, it could include the "tightening" of existing commitments (e.g. lowering the allowed number of outstanding unconfirmed trades).
- Option 4.3.: Set specific targets for contract and process standardisation.
- Option 4.4.: Require the use of standard legal contracts and processes defined at EU level.

5.2. **Policy instruments**

5.2.1. *The available set of policy instruments*

In general, the Commission's "toolbox" contains the following policy instruments:

- Communication,
- Recommendation,
- Directive, and
- Regulation.

The Commission can also encourage the private sector to pursue self-regulation in certain cases. Finally, the Commission may decide not to pursue any kind of action at the EU level (this is the "do nothing" option).

6. ANALYSIS OF IMPACTS AND CHOICE OF PREFERRED OPTIONS AND INSTRUMENTS

6.1. Analysis of impacts

Most of the options that will be analysed below (the exceptions are option 1.1. – 1.8.) are subject to so-called network effects (or network externalities). This means that the more market participants will adopt a particular process or practice, the higher the benefits for each market participant that adopted them will be.¹⁰⁸ At the same time, the attractiveness of the process or practice for those that have not yet adopted them will increase as well.

Most of the analysis in this section is qualitative rather than quantitative. To a great extent this is due to i) the difficulty in obtaining quantitative data and ii) the lack of information on certain parameters that will become known only in the coming months as a consequence of the definition of technical standards (as explained in section 4) or of other legislative initiatives that the Commission will pursue in the area of OTC derivatives.

6.1.1. *Options for operational objective 1 (information on positions)*

6.1.1.1. Option 1.1. (rely on existing initiatives)

This option involves no action at EU level, but rather relies on action at Member States' or industry level. As indicated in section 3 there are currently a number of ongoing industry initiatives that have as a goal to increase the amount of available information on OTC derivatives positions. The initiatives have already led to substantial increases in the transparency for credit and interest rate derivatives.¹⁰⁹ Both trade repositories currently hold information about the great majority of outstanding contracts and are being actively accessed by regulators in search of information. Since the information is collected in a central point, this facilitates the regulators job, as it spares them from having to compile individual information on their own. Furthermore, since both repositories publish aggregate data (with quite detailed breakdowns), the transparency for the general public has increased as well.

According to information available to the Commission services, the average annual cost of maintaining a contract in a trade repository (i.e. the price a market participant needs to pay) varies depending on the asset class. In case of interest rate derivatives it amounts to a few euro cents per contract while for credit derivatives it amounts to a few euro per contract. The forthcoming trade repository for equity derivatives is expected to be positioned somewhere between the two. The differences in the average prices are mainly due to the services that these prices cover. For the credit derivatives repository the price covers a service package that in addition to the "recordkeeping" service also includes several operational services (e.g. credit event processing, settlement calculations). For the interest rate derivatives repository, the price covers solely the "recordkeeping" service.

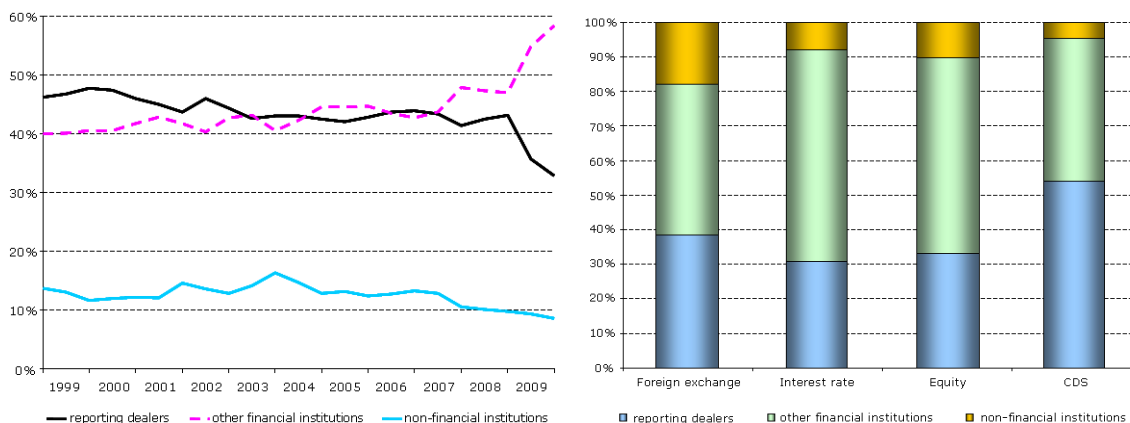
¹⁰⁸ The telephone network is the classical example used to illustrate network effects.

¹⁰⁹ Once the trade repository for equity derivatives will be up and running, transparency for this type of products should increase as well.

While the current initiatives already managed to deliver important results they are not without shortcomings:

- (1) *Limited scope, both personal and material.* As concerns the personal scope, the commitments are currently limited to the OSC members. The market coverage provided by the trade repositories therefore depends on the market shares of the OSC members, in particular the G14 (see Figure 12 below for an overview of the market shares of the various categories of market participants). For example, in the CDS market, where contracts that have at least one OSC member as a party represent the great majority of the market, coverage is very high.¹¹⁰ In another market, where the weight of OSC members might be significantly lower (e.g. interest rates), market coverage would be incomplete. As concerns the material scope, the current commitments do not foresee the creation and use of trade repositories for foreign exchange and commodity derivatives. This means that the current initiatives will not lead to a complete and comprehensive coverage of the entire OTC derivatives market.

Figure 12: Market concentration in the OTC derivatives market: evolution of market shares (left) and market shares as of December 2009 (right)



Note: Data are compiled from a survey among about 55 dealers. Data are "netted" to account for double-counting resulting from positions between reporting institutions.¹¹¹ Notional amounts outstanding are adjusted by halving positions vis-à-vis other reporting dealers. The data do not distinguish as to whether these OTC contracts are centrally or bilaterally cleared. The left panel does not include data for commodity derivatives.

Source: BIS, Commission services calculations

- (2) *Issues related to data protection.* Since there is no legal requirement backing the reporting process, a party to the contract may be unable to report the identity of its counterpart because of data protection issues (the counterpart

¹¹⁰ As long as at least one of the two counterparties to a contract reports that contract to a trade repository, the details of that contract will be known.

¹¹¹ Reporting dealers are mainly large commercial and investment banks and securities houses that participate in the inter-dealer market and/or have an active business with large customers, such as large corporate firms, governments and other non-reporting financial institutions. "Other financial institutions" are smaller commercial banks, investment banks and securities houses, and in addition funds (mutual, pension, hedge, etc.), building societies, leasing companies, insurance companies, financial subsidiaries of corporate firms, and central banks. Non-financial institutions are mainly non-financial end users, such as corporates and governments.

may not give permission to have his or her name disclosed; it may even be that the law prevents this disclosure). If the two parties to a contract both report the contract then this situation could potentially result in an artificial inflation of the overall market size (if neither would reveal the identity of its counterparty, then the contract would be counted twice). If only one of the parties reports, the consequences of this situation would be more severe: the usefulness of the information stored in the trade repository would be reduced (the size of the position would be known while the counterpart to the position would not) and would require regulators to seek the information directly.

- (3) *Non-binding nature of the commitments.* Not honouring a voluntary commitment does not carry any particular sanction with it. Therefore, there is nothing that compels a market participant to honour the commitment in full or to prevent him or her from walking away from it at any point in time.
- (4) *Inability of a trade repository to "capture" a contract.* Contracts may be so bespoke that a trade repository may not be able to process them. In such cases, under the current commitments, such contracts would remain unreported. If their number is high enough, the overall transparency would be lower than desired.

6.1.1.2. Option 1.2. (obtain additional commitments from the industry)

On the benefits side, this option would permit to close, either partially or completely, the gaps in the scope of the current initiatives, thus increasing the transparency compared to option 1.1. Regulators would gain a more complete picture of the OTC derivatives market. To the extent that a certain level of standardisation would be needed in order to deliver on the commitment, it would increase the standardisation in the additional market segments it would cover and could therefore also result in a certain amount of streamlining of the processes used by market participants. Finally, and less importantly, it would also create revenues for the operators running the additional trade repositories.

On the costs side, there would be the one-off investment cost of creating the new trade repositories. In terms of costs for market participants, a distinction needs to be made between those already subject to an existing commitment and those who are not. The former would incur additional costs in the form of connection costs to the new trade repositories (both one-off and recurring), and additional fees that would need to be paid to the new trade repositories for maintaining the information. Furthermore, they may incur the cost of hiring additional staff to handle the reporting process related to contracts to be reported to the new trade repositories.¹¹²

¹¹² This would very much depend on the type of information that would need to be reported. In case of reporting of positions, the information should already be available to the reporting entities, so no significant additional costs should be involved. If, conversely, information on single contracts would need to be reported, the bulk of the work would need to be done at the beginning because of the need to report the details of outstanding contracts. This burden could, however, be distributed over a certain period of time, which would likely eliminate the need to hire additional staff. Once this first phase would be concluded, the reporting of new contracts should not require any additional resources.

The latter would incur the same type of costs and, assuming they would have to report the same volume of information as market participants already subject to an existing commitment, the same level of costs. Both categories would therefore incur higher total costs than under option 1.1.

The information on the fees charged by the existing trade repositories is not publicly available, but according to the information provided to the Commission services the fees do not appear to be particularly high. The overall impact on the costs of this measure should therefore be relatively limited. This cost impact, especially for smaller market participants, could be mitigated significantly by allowing them to delegate the reporting to their counterparties. In most cases the delegation would be to bigger institutions with whom small market participants usually enter into OTC derivative contracts and who are better adapted to shoulder the costs of the reporting. In case these bigger institutions already voluntarily report their contracts, then the marginal cost of reporting on behalf of their counterparties would be very small, if not even zero.

Finally, this option would not solve shortcomings 2, 3 and 4 described under option 1.1.

6.1.1.3. Option 1.3. (require direct reporting to regulators)

This option has a number of benefits compared to option 1.1. Firstly, it would resolve shortcomings 2 (data protection) and 3 (non-binding nature of commitment) since the reporting would be required by law. It would also resolve shortcoming 4 (inability of trade repository to "capture" a contract) as, in principle, a supervisor should be able to receive all information, including the one on bespoke contracts. Whether or not it would solve shortcoming 1 (limited scope) would largely depend on the ability of obtaining information from non-regulated entities (i.e. non-financial institutions).¹¹³ If not all market participants could be captured, then the coverage would be potentially incomplete. In any case, the market coverage would be certainly no lower, and quite probably higher than under option 1.1. Combining all these elements means that the level of transparency under this option would be greater than under option 1.1.

Secondly, this option should entail much lower reporting costs than option 1.1. Indeed, reporting to regulators does not require the payment of fees and the reporting channels are already established, so presumably no additional connection costs would be necessary. The costs should be reduced even further by the fact that the number of competent regulators may in the end be smaller than the number of trade repositories.¹¹⁴

¹¹³ The problem would actually be limited to contracts where both counterparties are not regulated. Those contracts where one counterparty is a regulated entity and the other one is not, would still be reported by the former.

¹¹⁴ The current market consensus view seems to be that there will be only one trade repository per segment, so potentially 5 in total. On the regulators' side, a regulated entity could, in principle, report all the information to a single regulator. The picture may get a bit more complex if transaction reporting is also taken into account, as then the regulated entity may have to report to two different regulators (positions to one and transactions to the other). For at least some types of OTC derivatives (e.g. energy derivatives), more than one regulator may be interested in the information which could require reporting to multiple

Finally, in case the information under option 1.1. is reported to a trade repository located in a jurisdiction different from the one of the regulator requesting the information, then under this option the latter would not have to enter into an information-sharing agreement with the regulator of the trade repository to be able to access it.

This option has also a number of disadvantages compared to option 1.1. First, unless a way would be found to accommodate¹¹⁵ the way reporting is done under current initiatives it would lead to a duplication of reporting channels and perhaps even discourage market participants from using trade repositories. To the extent that trade repositories support other processes (e.g. credit event processing for CDS), this would not be a positive development.

Second, it would lead to a fragmentation of information for regulators. Moreover, to the extent that different information (or information in different format) would be reported to different regulators, piecing together a complete picture would become a challenging task. This problem would be particularly acute for market regulators and systemic risk regulators, but could also prove significant for prudential regulators of large groups active in multiple jurisdictions.

Last, but not least, the resources that regulators currently have at their disposal may turn out not to be sufficient to deal with the potential flood of information that would result from this requirement. This would mean that regulators would either need to increase their resources (which would mean an increase in costs for them) or risk to end up in a situation in which they would be unable to take full advantage from the increased transparency.

6.1.1.4. Option 1.4. (require reporting to trade repositories)

Similarly to the previous option, this one would eliminate shortcomings 2 (data protection) and 3 (non-binding nature of commitment) of option 1.1. However, unlike the previous option, it would not eliminate shortcoming 4 (inability of trade repository to "capture" a contract). Similarly to the previous option, whether this option would be able to completely eliminate shortcoming 1 (limited scope), would very much depend on the ability of legislation to capture currently non-regulated market participants.

In terms of benefits, therefore, the level of transparency under this option would probably be close to, but slightly below option 1.3., since the number of highly bespoke contracts that could not be captured by a trade repository is probably not very high. An additional benefit would be the centralisation of all the data, which would significantly reduce, if not eliminate, the costs that regulators would incur under option 1.3.

regulators. This problem could be mitigated, at least in part (depending on what type of information is sought by each regulator), through information-sharing agreements between regulators.

¹¹⁵ For example, by considering that reporting the information to a trade repository is compliant with the requirement, provided that the regulator has unencumbered access to the information stored in the trade repository.

In terms of costs, it would entail the same type of costs as option 1.2., but probably a higher level of overall costs due to the broader scope (however, due to economies of scale, the increase in the overall costs should be contained).

The above analysis presupposes that there would be only one trade repository per market segment. If this out not to be the case, then the costs of this option would probably be higher (higher overall investment costs by trade repositories, lower economies of scale and hence potentially higher fees charged by trade repositories, higher fragmentation of data).

6.1.1.5. Option 1.5. (require reporting to trade repositories or, if that is not possible, directly to regulators)

This option has the same costs as option 1.4., but higher benefits, as it would eliminate shortcoming 4 (inability of trade repository to "capture" a contract). Since the amount of contracts that could not be captured by a trade repository would probably be limited, regulators would most likely not need to employ significant additional resources to deal with them. Provided that the information on these "residual" contracts would be reported in the same format as the information on the contracts reported to the trade repositories, then the effects of fragmentation would be limited.

Table 3: Summary of the impact analysis for operational objective 1 (information on positions) – how to report

	Impact on stakeholders	Effectiveness	Efficiency
Option 1.1. (baseline)	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Option 1.2. (obtain additional commitments)	(+) regulators gain more complete picture (+) revenues for trade repositories (-) higher costs for reporting institutions	(≈/+) While increase scope of reporting data protection barriers will remain and it will be difficult enforcing non-binding commitments. Moreover, some contracts may not be captured	(≈/+) higher set-up and ongoing costs would be at least offset by the benefits
Option 1.3. (report to regulators)	(++) regulators gain more complete picture (+) cheaper to report for regulated entities (-) costlier to manage for regulators (≈/-) potential loss of revenue for trade repositories	(≈/+) While resolve data protection barriers, enforceable, capture all contracts there will potentially be duplication of reporting channels and fragmentation of information/difficulty gain overall picture of market. Market coverage depends on definition of regulated entity.	(≈/-) lower reporting costs, but costly for regulators to manage received information
Option 1.4. (report to trade repositories)	(+/++) regulators gain more complete picture (+/++) revenues for trade repositories (-) higher costs for reporting institutions	(+/++) It resolves data protection barriers, it is enforceable but some contracts may not be captured by trade repositories. Market coverage depends on definition of regulated entity. Potential issue of fragmentation of information in case of multiple trade repositories	(≈/-) higher set-up and ongoing costs, but likely to be limited
Option 1.5. (1.3. + 1.4.)	(++) regulators gain more complete picture (+/++) revenues for trade repositories (≈/-) costlier to manage for regulators	(++) It resolves data protection barriers, is enforceable and will capture the great majority of contracts. Market coverage depends on definition of regulated entity. Some fragmentation possible, but	(≈/-) set-up and ongoing costs, but likely to be limited

	<i>(-) higher costs for reporting institutions</i>	<i>likely to be fairly limited.</i>	
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6.1.1.6. Option 1.6. (rely on existing initiatives)

As explained in section 3, many of the market infrastructures (CCPs and trade repositories) are already making some sort of aggregate information available to the public. Pursuing no action at EU level would not change this.

6.1.1.7. Option 1.7. (require the publication of aggregate position information)

This option could involve two additional benefits when compared to option 1.6. First, to the extent that some market infrastructures do not publish aggregate data, requiring its publication would increase the amount of information available to the public. Second, in case the publication of data broken down to a more detailed level, that is currently not published, would be required (e.g. data on contracts denominated in particular currency, or on a particular underlying, or held by a particular category of market participants) this would again increase the amount of information available to the public.

This option would not involve any significant additional costs compared to option 1.6., neither for those required to publish the information (either market infrastructures or regulators) nor for those receiving it.

6.1.1.8. Option 1.8.

In terms of benefits, the publication of data on individual positions would enable any market participant to estimate better the counterparty credit risk it is exposed to when dealing with a particular counterparty and would therefore allow it to secure itself better against this risk.

As for costs, similarly to option 1.7., the publication costs would be marginal at worst. However, disclosing information about individual positions would mean disclosing the trading strategies of single participants thus potentially discouraging them from trading in the first place. One way of addressing this issue could be to publish data with a lag. However, doing so, especially if the lag would be substantial, would rob the data of any meaning.

Table 4: Summary of the impact analysis for operational objective 1 (information on positions) – level of public disclosure of information

	Impact on stakeholders	Effectiveness	Efficiency
Option 1.6. (baseline)	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Option 1.7. (Aggregate positions)	<i>(+) increase information available to public and to market participants</i>	<i>(+) more transparency</i>	<i>(≈) no significant additional costs</i>
Option 1.8. (Aggregate + individual positions)	<i>(+/++) more information available to the public, enable market participants to better assess counterparty risk (-/-) disclose trading strategies of market</i>	<i>(++) more transparency, better assessment of counterparty risk, which enables better management of risk</i>	<i>(-/-) no significant cost of publication, but potentially significant impact on liquidity of the market</i>

	<i>participants</i>		
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6.1.2. Options for operational objective 2 (use of CCPs)

Before starting the analysis of costs and benefits of each policy option, it may prove useful to list the benefits associated with CCP clearing, since these are equally valid across the various options. The benefits are as follows:¹¹⁶

- (1) it facilitates counterparty credit risk mitigation;
- (2) it allows mutualisation of losses;
- (3) it has a positive effect on market liquidity;
- (4) it solves disruptive information problems;
- (5) it increases operational efficiency; and
- (6) it allows regulatory capital savings.

Due to the above, the use of CCPs is expected both to help reduce the probability of default of individual members and reduce the probability of market failure due to the default of a major market participant.

From the point of view of individual market participants, the decision on whether to use a CCP for clearing a particular class of OTC derivatives as opposed to clearing it bilaterally will also depend on the trade-off between two types of netting opportunities: bilateral netting between pairs of counterparties across different classes of OTC derivatives, versus multilateral netting among many clearing participants across a single class of OTC derivative (e.g. CDS). A market participant will find CCP clearing attractive if gains from multilateral netting will be greater than the losses in bilateral netting opportunities that would result from the removal of the CCP-cleared asset class from the original bilateral netting set.¹¹⁷

6.1.2.1. Option 2.1. (rely on existing regulatory incentives and initiatives)

As explained in section 3, there are various initiatives aimed at increasing the use of CCPs for clearing OTC derivatives. The existing industry commitments in terms of clearing have already delivered improvements in terms of the proportions of the CDS and interest rate derivatives markets that are being cleared (see figures 7 and 8 respectively) and all the benefits this brings with it.¹¹⁸

Since the current commitments apply to G14 members only (i.e. the large dealers), the bulk of the analysis will be focused on their costs and benefits. In terms of one-

¹¹⁶ For more details see Bliss, R. and C. Papathanassiou (2006), Derivatives clearing, central counterparties and novation: The economic implications. Available at http://www.ecb.europa.eu/events/pdf/conferences/ccp/BlissPapathanassiou_final.pdf.

¹¹⁷ Duffie, D. and H. Zhu (2009), Does a Central Clearing Counterparty Reduce Counterparty Risk?

¹¹⁸ According to very rough estimates, the shares (by notional amount) of OTC derivatives that are currently centrally cleared are 30% for interest rates, 10-15% for CDS and 20-30% for commodities.

off costs, moving to CCP clearing has certainly required investment to adapt their systems and to connect to the CCPs.¹¹⁹ Dealers also have to pay clearing fees to the CCP. An important part of the costs that CCP clearing involves are the net funding costs¹²⁰ of the collateral paid to the CCP in the form of initial margins and contributions to the default fund of the CCP.¹²¹ For example, for the three largest CCPs clearing OTC derivatives (ICE Clear Europe and ICE Trust for CDS, SwapClear for interest rate swaps) the combined default fund and initial margin contributions of its members (i.e. the dealers) amount to approximately €15.1 billion.¹²² Currently, the net funding cost associated with this amount should not be more than a few hundred million euro.

The benefits for CCPs offering clearing solutions for OTC derivatives are in the form of clearing fees they receive from their members and from the net interest they earn on the collateral posted by their members.

In spite of the improvements associated with the current initiatives, they also have important shortcomings:

- (1) *Limited scope, both personal and material.* This is the most important shortcoming of the existing initiatives. The personal scope is limited to the G14 members. The impact of the limited personal scope of this option is much more significant than in the case of the reporting (transparency) commitments. The reason is straightforward: a market participant can report the information on a particular OTC derivative contract irrespective of whether its counterpart does the same. This is not possible in a CCP-clearing environment, where both counterparts must agree to the contract's submission to a CCP. Therefore, for the same market segment, the coverage of the reporting commitments is going to be higher than that of the clearing commitments. Given the personal scope of the latter, the maximum level of coverage that can be achieved is all the contracts between dealers.

The material scope is limited to credit derivatives and interest rate derivatives (there is also a commitment for commodity derivatives, but it is a generic one, without any particular targets). In addition, the material scope depends on the definition of eligible contract, since the commitments specify targets for clearing this type of contracts. To the extent that contract eligibility is defined in a way to capture just a subset of the contracts that a CCP can safely clear, then less contracts would be cleared than would be possible.

- (2) *Non-binding nature of the commitments.* Not honouring a voluntary commitment does not carry any particular sanction with it. Therefore, there is

¹¹⁹ At least in case of interest rate swaps, a substantial portion of the market was already cleared before the onset of the crisis, so most of the related costs have been incurred before the crisis as well. Moreover, for CDS, the major dealers leveraged, to the greatest extent possible, the existing infrastructure in order to minimise these costs.

¹²⁰ The costs of borrowing the funds needed minus any interest that the CCP may pay on the collateral it receives.

¹²¹ There are no additional costs related to the provision of variation margin as the latter is also used in the bilateral clearing model.

¹²² This amount currently covers contributions made by all clearing members of the three CCPs involved, not just the G14 (although they represent the bulk of the contributions).

nothing that compels a market participant to honour the commitment in full or to prevent him or her from walking away from it at any point in time.

6.1.2.2. Option 2.2. (obtain additional industry commitments)

This option would consist in providing specific targets for clearing commodity, equity and foreign exchange derivatives, or including market participants other than large dealers in the scope of the current initiatives, or potentially both. For the broadening of the material scope, it needs to be pointed out that the target would not be perfect coverage since there are OTC derivatives out there that are simply not suited for CCP clearing.

The expansion to commodity and equity derivatives could probably rely on existing CCPs that already provide clearing services for this type of derivatives. For foreign exchange derivatives, the service would need to be developed. Hence, the latter case would involve higher initial investment costs.

A recent paper published by the International Monetary Fund¹²³ tried to estimate what would be the cost impact of moving two thirds of the OTC derivatives market to CCP clearing. The author of the paper comes to the conclusion that the move would require an additional \$170 billion to \$220 billion of collateral (in the form of initial margin and contributions to the default fund of a CCP) from large financial institutions.¹²⁴ This number should be taken with a bit of caution and should probably be seen as the upper bound estimate of the amount of additional collateral needed.¹²⁵ As the author himself acknowledges, it needs to be noted that the true cost of the move would not be the estimated amount, but rather the net funding cost associated with obtaining it. Furthermore, it is quite likely that such high coverage would involve the inclusion of contracts where at least one of the counterparties is not a dealer (see figure 12). This means that the amount estimated above would not fall exclusively on large financial institutions, but also on their clients.

There are at least two possible ways to look at the implications of the above estimate. One is that the large financial institutions could use the money in alternative (i.e. more profitable) ways (for example they could lend it to a business or they could engage in additional trading). This interpretation would mean that the cost of the move to CCP clearing would be equal to the "net" opportunity cost of the collateral.¹²⁶ The other is that up to \$220 billion in additional money is available to prevent that a localised shock (the default of a market participant) is spread to the entire financial system.

The impact of expanding the personal scope of the existing commitments would very much depend from one type of institution to another. For example, a fund that enters

¹²³ Singh, M (2010), "Collateral, Netting and Systemic Risk in the OTC Derivatives Market", IMF Working Paper. <http://www.imf.org/external/pubs/ft/wp/2010/wp1099.pdf>.

¹²⁴ For the individual market segments, the numbers are \$40-\$80 billion for CDS, \$40-\$50 billion for interest rate swaps, \$90 billion for the remaining market segments.

¹²⁵ For example, the estimate does not include the potential savings in collateral coming from higher netting efficiency. Indeed, including more contracts increases the probability that more of them will offset one another and could therefore be netted.

¹²⁶ The difference between the foregone return on the alternative investment and the actual return made on the collateral.

in an OTC derivative contract already has to put up both initial and variation margin for the OTC derivatives contracts it enters into. This would not change in a CCP environment. Nevertheless, there may still be some additional costs involved for the fund. In a bilateral clearing situation, the fund's counterparty could use the collateral given by the fund quite freely and earn a return on it. In a CCP environment, the fund's counterparty would lose at least some of that liberty, and hence some of the associated returns, because at least some of the collateral would need to be posted with the CCP.¹²⁷ The fund's counterparty may then try to compensate this shortfall by, for example, increasing the (implicit or explicit) fees it charges to the fund.

Another potential source of costs for the fund is related to the type of collateral it posts with the dealer. Compared to a CCP, a dealer usually accepts a wider variety of collateral to secure OTC derivatives deals.¹²⁸ Assuming that a fund would not have sufficient collateral of the type accepted by a CCP, it would have two choices. On the one hand it could try and find the necessary collateral on its own (e.g. by using the repo market). On the other hand it may give to the collateral to the dealer. Since the dealer would not be able to reuse the collateral with the CCP, it would need to provide the suitable type of collateral itself. The cost of this "collateral transformation" would be charged to the fund (e.g. by applying a higher haircut to the collateral it provides). In both cases, CCP-clearing would entail higher costs for the fund.¹²⁹ This problem could potentially be solved by allowing CCPs to accept a broader variety of collateral (with appropriate haircuts).

The implications for non-financial institutions (NFIs) may be much more significant. NFIs usually do not provide any collateral to secure the OTC derivatives transactions that they have entered into. This would change in a CCP environment, where an NFI would be asked to provide both initial and variation margin. The former can be seen as an upfront cost of CCP clearing; the latter introduces a certain level of cash flow volatility. Both need to be funded, which entails costs. That is not to say that bilateral clearing is cost-free for NFIs. By not requiring any collateral from an NFI the dealer basically provides it with an implicit credit line. The implicit credit line involves certain costs for the dealer,¹³⁰ so the latter will try to pass them on to the NFI by including it in the transaction fee. The cost of moving to CCP clearing would therefore need to be compared to the implicit cost that is currently paid by the NFIs, to see what the net impact would be.

The impact on the cash flows of NFIs also needs to be taken into account. As mentioned earlier, the posting of variation margin may, in times of heightened market volatility, could provide a substantial drain on the liquidity of NFIs. This could be addressed by ensuring that an NFI has a credit line it can draw upon in case

¹²⁷ The exact amount would depend on the extent to which the positions of the clients using the same dealer to access a CCP would offset one another (the dealer post the collateral based on his or her net position with the CCP). The higher the amount of offsetting contracts, the lower the net position and the lower the amount of collateral that would need to be posted with the CCP.

¹²⁸ CCPs usually accept only the most liquid types of collateral, i.e. cash and government bonds.

¹²⁹ According to the reply to the second public consultation submitted by the Investment Management Association, a pension fund's return could be lowered by between 1.1 to 1.9 percentage points if it had to use the repo market to obtain the necessary cash to post as collateral with a CCP.

¹³⁰ The dealer has two basic choices: it can either hedge the credit risk associated with the credit line, e.g. by purchasing a CDS, or it can decide not hedge in which case it will have to set aside regulatory capital. Either option involves costs for the dealer.

of need. This would, however, require the NFI to make the previously implicit credit line (which does not appear as debt on its balance sheet) explicit. This could have negative implications for the credit rating of the company. Furthermore, large swings in the market value of the derivative may lead to margin calls that would exceed the limit of an NFI's existing credit line. This would force the NFI to either seek an extension of the existing credit line or to obtain a new one altogether. Within the short time limits of a collateral call, this may not be feasible or might prove costly, especially if the market itself is in turmoil.

Last, but not least, CCP clearing requires market participants to have in place systems that allow them to cope with daily (or even intraday) margining. Many market participants currently do not have such systems and would therefore need to make investments in order to set them up.

To the extent that the dealers would be willing to extend their commitments to OTC derivatives that are currently not covered and to the extent that there are market participants out there that would be willing to adhere to the (old and/or new) commitments (they would only adhere if the net benefits would not be negative), the benefits of this option would be larger than those of option 2.1. One benefit of the broadening of the personal scope would be that dealers would be able to clear more of their contracts and thus potentially benefit from larger netting efficiencies. The associated total costs would also be higher than under option 2.1. This option would do nothing to solve shortcoming 2 (non-binding nature of the commitment) of option 2.1.

6.1.2.3. Option 2.3. (provide additional regulatory incentives)

Within the scope of the measures that can be examined in this report, one additional incentive to encourage a wider adoption of CCP clearing could be making CCPs safer by introducing strict safety requirements for them. Another incentive, especially for those market participants that would not meet the criteria to become members of a CCP and would therefore need to access one only indirectly, through a general clearing member, would be to provide additional safeguards for the collateral they provide.

In a voluntary setting, it is however unclear whether such incentives would be sufficiently large to sway market participants into using CCP clearing.¹³¹ Indeed, both solutions provide additional safeguards, but these safeguards come at a cost. Making a CCP safer might result in the CCP requiring higher margins from its members. Similarly, segregating client accounts may result in general clearing members charging higher fees to offset the loss of revenue that such solution would entail.¹³²

Overall, introducing such incentives may increase the number of market participants using CCP clearing, and thus bring about higher benefits than option 2.1. However, it is difficult to gauge how many more would start using CCP clearing due to the incentives.

¹³¹ Existing incentives have had only a partial success in this regard.

¹³² The analysis of the fund example under option 2.2. is applicable in this case as well.

6.1.2.4. Option 2.4. (require the use of a CCP for eligible contracts)

The selective approach of this option can be seen as recognition of the fact that not all OTC derivatives may be suitable for CCP clearing. Of course, the requirement would only be applicable in case there would be a CCP offering the service.

This option would apply to all OTC derivatives that meet the pre-defined criteria and, in principle, to all market participants that trade them (eliminating shortcoming 2 (non-binding nature of commitment) of option 2.1.). This means that the likely coverage of this option would be greater than the one of option 2.1. The higher coverage would entail both higher benefits in terms of overall reduction of counterparty credit risk, but also higher costs than option 2.1. While it is quite probable that the net benefit for G14 members would be positive (the additional costs would probably be lower than the benefits due to netting effects),¹³³ the outcome for other market participants, especially the NFIs is less certain (the benefits would be the ones typically associated with CCP clearing, the costs would be the ones described in the analysis of option 2.3.). Provided that CCPs would manage to attract a large enough volume of business, the net benefits would probably be positive also for them.

Given the limited market share of NFIs, it is quite likely that the overall benefits would outweigh the costs of this option.

6.1.2.5. Option 2.5. (require the use of CCP clearing for all contracts)

This option would require all market participants to clear all OTC derivatives through a CCP. In order for this option to be materially different from option 2.4., the trading of an OTC derivative that could not be cleared through a CCP would need to be banned. This would result, on the one hand, in a situation where, all traded OTC derivatives would be cleared by a CCP and therefore the counterparty credit risk of the market participants would be substantially reduced (both by virtue of the CCP and by virtue of there being less contracts traded). On the other hand, it would, however, result in the reduction of hedging possibilities for those market participants that have specific needs and may even lead to less hedging overall. From the overall perspective of counterparty credit risk reduction, this option could be considered superior to option 2.1. However, this superiority would need to be weighed against the lower hedging possibilities for market participants.

It could happen that in the scenario described above a CCP would be tempted to accept any OTC derivative for clearing in order to earn additional revenue. In principle, the CCP could protect itself against the higher risk inherent in the more complex OTC derivatives by asking markedly higher margins from its participants.¹³⁴ This could make these derivatives so expensive that market

¹³³ Depending on the particular situation, the migration to a CCP may also entail savings in regulatory capital.

¹³⁴ The analysis of the scenario where the CCP would actually ask for margins that would not adequately cover the exposures of the CCP is not provided here, as it is assumed that regulators would prevent such scenario from materialising. However, should such a scenario actually occur, then it is quite possible that the overall amount of risk in the system would actually increase, as the CCP would be less safe due to its behaviour.

participants would be discouraged from using them. The end result would be the same as the one described in the previous paragraph.

Table 5: Summary of the impact analysis for operational objective 2 (use of CCPs)

	Impact on stakeholders	Effectiveness	Efficiency
Option 2.1. (baseline)	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Option 2.2. (obtain additional commitments)	(+) regulators gain comfort that more contracts/ participants moved to CCP clearing. (-) higher costs in the form of initial margin, variation margin and contributions to default funds or any combination of the above (depending on the market participant) (+) capital relief for those market participants subject to capital requirements	(≈/?) possibility of expanded scope of clearing, though probably limited	(≈/+) costs at least offset by benefits
Option 2.3. (provide additional regulatory incentives)	(+) market participants more comfortable using CCPs (+) smaller participants more comfortable accessing CCP indirectly (-) CCPs may require higher margins, which makes them more costly for participants (-) direct CCP participants may charge higher fees to fund segregation	(≈/?) More participants use CCPs but overall effect uncertain due to cost and voluntary use of CCP	(≈/+) costs at least offset by benefits
Option 2.4. (require CCP clearing of eligible derivatives)	(+) regulators gain comfort that eligible contracts cleared on CCPs. (-) somewhat higher costs for dealers, but likely netting offsets (-) higher costs for non-financial institutions and potentially funds	(+/++) significant increase in use of CCP due to mandate, hence significant reduction in counterparty risk	(-) increased cost
Option 2.5 (require clearing for all derivatives)	(++) all traded contracts are cleared by a CCP (-/-) market participants lose ability to use contracts that cannot be cleared by a CCP	(++) significant reduction in counterparty risk	(-/-) increased cost, reduced ability to hedge risks by using customised contracts

6.1.3. Options for operational objective 3 (bilateral clearing)

6.1.3.1. Option 3.1. (rely on existing initiatives)

Existing initiatives have already led to significant improvements in the way bilateral clearing is done. Still, they suffer from the same shortcomings as the other initiatives:

- (1) *Limited personal scope.* While the parties that have currently committed to improve their internal collateral management processes have made progress, further improvements at market level will depend on other market participants doing the same.
- (2) *Non-binding nature of the commitments.* Not honouring a voluntary commitment does not carry any particular sanction with it. Therefore, there is nothing that compels a market participant to honour the commitment in full or to prevent him or her from walking away from it at any point in time.

6.1.3.2. Option 3.2. (obtain additional commitments)

This option would entail mostly broadening the personal scope of the commitments. If other market participants signed up to the initiatives, this would improve both their processes and it would allow market participants already bound by the commitments to improve their own performance. So if the personal scope of the commitments could be broadened, the benefits of this option would be larger than those of option 3.1.

Improving bilateral clearing would entail a potentially large upfront investment, with benefits of such investment only materialising over time. In the case of smaller market participants that do not have sufficiently high transaction volumes, the benefits may not be sufficiently high to justify the adoption of sophisticated systems for collateral management. This would discourage them from adhering to the commitment. To a certain extent, the smaller market participants could resort to using third-party service providers instead of developing their own systems, thus potentially saving on the costs. Still, it is highly unlikely that this option would completely eliminate shortcomings 1 (limited personal scope) and 2 (non-binding nature of the commitment).

To the extent that some more stringent commitments would be required, this could potentially introduce some additional benefits, but also costs, compared to option 3.1. In any case, for any additional market participants to adhere to the commitment, the benefits would need to at least offset the costs.

6.1.3.3. Option 3.3. (introduce specific targets)

This option would eliminate shortcoming 2 (non-binding nature of the commitment) of option 3.1. and, depending on the scope of the legislation, potentially shortcoming 2 (limited personal scope) as well.

This option would probably lead to increased costs for those market participants that would not already be compliant with the requirements set in the legislation. Since the legislation would just set out the targets that would need to be achieved, but not the ways in which to achieve them, market participants would be free to choose the most cost effective solution to meet the targets (e.g. in-house IT system, third-party service provider etc.). Compared to option 3.1., this option would lead to larger benefits as it would potentially cover all market participants that are involved in the collateral management process.

6.1.3.4. Option 3.4. (prescribe the methods)

This option would lead to the same benefits as option 3.3. However, it is quite likely that these benefits would come at a higher cost as prescribing how the processes should be organised would rob market participants of the flexibility that they would enjoy under option 3.3. For those market participants that use processes that are significantly different from the prescribed ones, adaptation costs could be substantial.

Table 6: Summary of the impact analysis for operational objective 3 (bilateral clearing)

	Impact on stakeholders	Effectiveness	Efficiency
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Option 3.1. (baseline)	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Option 3.2. (obtain additional commitments)	<i>(+) regulators gain comfort that risk management of non-CCP cleared contracts improved. (-) large upfront investment cost setting up procedures, particularly heavy for smaller market participants</i>	<i>(≈/+) potentially broader personal scope and hence better risk management by a larger number of market participants</i>	<i>(≈/+) only market participants with positive net benefits would join</i>
Option 3.3. (set specific targets)	<i>(+ /++) regulators gain comfort that risk management of non-CCP cleared contracts significantly improved. (-) large upfront investment cost setting up procedures, particularly heavy for smaller market participants</i>	<i>(+ /++) better risk management, broader scope, compulsory</i>	<i>(≈/-) investment costs mitigated by freedom to choose way of meeting the targets</i>
Option 3.4. (prescribe the methods to be used)	<i>(+) regulators gain comfort that risk management of non-CCP cleared contracts significantly improved. (-) large upfront investment cost setting up procedures, particularly heavy for smaller market participants</i>	<i>(+ /++) better risk management, broader scope, compulsory</i>	<i>(- /--) no flexibility on how to implement, potentially large costs for market participants with processes that differ significantly from prescribed ones</i>

6.1.4. Options for operational objective 4 (standardisation)

Standardisation is a prerequisite for achieving most, if not even all, of the operational objectives discussed in this report.¹³⁵ The extent to which the other solutions examined in this report will be successful will therefore depend on the level of standardisation that will be achieved.

6.1.4.1. Option 4.1. (rely on existing initiatives)

Existing initiatives have already led to significant improvements in the levels of standardisation and therefore the mitigation of operational risk. Still, they suffer from the same shortcomings as the other initiatives:

- (1) *Limited personal scope.* While the parties that have currently committed to adopt more standard legal contracts and more standard processes have made progress, further improvements at market level will depend on other market participants doing the same.
- (2) *Non-binding nature of the commitments.* Not honouring a voluntary commitment does not carry any particular sanction with it. Therefore, there is nothing that compels a market participant to honour the commitment in full or to prevent him or her from walking away from it at any point in time.

¹³⁵ Standardisation is usually the driving force behind the adoption of central market infrastructure. As the case of CDS has shown the process of standardisation can be accelerated in order to facilitate the adoption of central market infrastructure.

6.1.4.2. Option 4.2. (obtain additional commitments)

This option would entail mostly broadening the personal scope of the existing industry commitments. If other market participants signed up to the initiatives, this would improve the overall adoption of more standard legal contracts and of standard processes. This would also increase the use of such contracts and processes (e.g. if two parties want to enter into a standard legal contract, both need to have adopted it first). So if the personal scope of the commitments could be broadened, the benefits of this option would be larger than those of option 4.1.

Switching to more standardised processes could entail a potentially large upfront investment, with benefits of such investment only materialising over time. In the case of smaller market participants that do not have sufficiently high transaction volumes, the benefits may not be sufficiently high to justify this switch. This would discourage them from adhering to the commitment. To a certain extent, the smaller market participants could resort to using third-party service providers instead of developing their own systems, thus potentially saving on the costs. Still, it is highly unlikely that this option would completely eliminate shortcomings 1 (limited personal scope) and 2 (non-binding nature of commitment).

To the extent that some more stringent commitments would be required, this could potentially introduce some additional benefits, but also costs compared to option 4.1.

6.1.4.3. Option 4.3. (set specific targets for standardisation)

This option would eliminate shortcoming 2 (non-binding nature of commitment) of option 4.1. and, depending on the scope of the legislation, potentially shortcoming 1 (limited personal scope) as well. In the context of process standardisation, this would probably lead to increased costs for those market participants that would not already be compliant with the requirements set in the legislation. Since the legislation would just set out the targets that would need to be achieved, but not the ways in which to achieve them, market participants would be free to choose the most cost effective solution to meet the targets.

As concerns contract standardisation, it could lead to the loss of some flexibility for certain market participants (those that require the flexibility of legal terms), however this would likely be at least mitigated, if not even offset by the benefits from such standardisation (e.g. easier adoption of automated processes).

Overall, compared to option 4.1., this option would lead to larger benefits as it would cover a larger group of market participants. Overall, the costs would also be larger, but not to such an extent that they would exceed the benefits.

6.1.4.4. Option 4.4. (require the use of standard legal contracts and processes)

As concerns process standardisation, this option would lead to the same benefits as option 4.3. However, it is quite likely that these benefits would come at a higher cost as the more detailed requirements on how the processes should be organised would rob market participants of the flexibility that they would enjoy under option 4.3. For those market participants that use processes that are significantly different from the prescribed ones, adaptation costs could be substantial.

The full harmonisation of contracts could potentially lead to higher benefits than option 4.3. To the extent that the resulting contracts would differ substantially from existing ones, this would also entail an increase in costs compared to option 4.3.

Table 7: Summary of the impact analysis for operational objective 4 (standardisation)

	Impact on stakeholders	Effectiveness	Efficiency
Option 4.1. (baseline)	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Option 4.2. (obtain additional commitments)	<p><i>(≈/+) regulators gain comfort that standard contracts more widely used.</i></p> <p><i>(≈/+) easier use of automated processes</i></p> <p><i>(+) additional benefits for market participants already subject to the commitment</i></p> <p><i>(-) potentially large upfront investment cost, particularly heavy for smaller market participants</i></p>	<p><i>(≈/+) potentially broader personal scope and hence broader use of standard contracts and processes</i></p>	<p><i>(≈/+) only market participants with positive net benefits would join</i></p>
Option 4.3. (set specific targets for standardisation)	<p><i>(+/++) regulators gain comfort that standard contracts more widely used.</i></p> <p><i>(+) easier use of automated processes</i></p> <p><i>(-) potentially large upfront investment cost, particularly heavy for smaller market participants</i></p> <p><i>(-) loss of some flexibility for market participants</i></p>	<p><i>(+/++) better risk management, broader scope, compulsory</i></p>	<p><i>(≈/-) investment costs mitigated by freedom to choose way of meeting the targets</i></p>
Option 4.4. (require use of standard contracts/processes)	<p><i>(+/++) regulators gain comfort that standard contracts more widely used.</i></p> <p><i>(+) easier use of automated processes</i></p> <p><i>(-) potentially large upfront investment cost, particularly heavy for smaller market participants</i></p> <p><i>(-) loss of some flexibility</i></p>	<p><i>(+/++) better risk management, broader scope, compulsory</i></p>	<p><i>(-/-) no flexibility on how to implement, potentially large costs for market participants with processes that differ significantly from prescribed ones</i></p>

6.2. The preferred policy options and instruments

6.2.1. The preferred policy options

The preferred policy options are clearly marked in the tables summarising the impacts of the examined policy options.

6.2.2. The cumulative impacts of the preferred policy options

The policy options that have been chosen require that i) all the requested information on outstanding OTC derivatives contracts be reported to trade repositories (or if that is not possible, directly to supervisors), ii) aggregated data on OTC derivatives be published for the benefit of the general public, iii) all contracts that meet pre-defined eligibility criteria be cleared by a CCP; iv) that the collateral management procedures for all OTC derivatives that remain cleared bilaterally be improved, and v) more standard contracts and processes be adopted by market participants.

Taken together, the above measures should facilitate the early detection of risks building up in the financial system, reduce the counterparty credit risk related to

OTC derivatives, and improve the functioning of the OTC derivatives market through the adoption of more efficient processes. Ultimately, the combined effect of the selected options should at least reduce the severity of any future financial crisis, thus reducing its impact on the real economy.

Given that the actions complement each other there is a concrete possibility that their combined benefits will actually exceed the sum of the benefits of each separate measure. Similar synergies are likely to happen on the cost side of the measures. While it is true that most of the investments to support these measures will need to be borne in the short term, at least some of those investments may cover several measures at the same time, thus reducing their overall cost impact.

To the extent that the policy choices will help correct the mispricing of risk that occurred prior to the crisis (the price of risk was too low in relation to the level of risk in the system), they may (and probably will) lead to an increase in the price of hedging and ultimately the cost of capital. The exact magnitude of this increase is unknown (in part, it depends on the level of competitive pressure), but is not expected to be excessive.

6.2.3. The impact on retail investors and SMEs

As a norm, retail investors do not have access to the OTC derivatives market. The policy choices made above will, therefore, not have a direct impact on them. Similarly, the use of OTC derivatives among SMEs is relatively limited. To the extent that they use OTC derivatives, the expected exclusion of non-financial institutions from the scope of the proposals (see section 6.2.8.2. for more details) means that they will be spared the direct impacts. Both categories will, however, likely be subject to the indirect impact of the proposals (i.e. the increase in the cost of hedging and of capital).

6.2.4. Social impact

To the extent that the proposed policies will help contain the effects of future financial crises on the real economy, they will also help reduce the social costs of those crises (e.g. unemployment).

6.2.5. Environmental impact

Nothing would suggest that the proposed policy will have any direct impacts on environmental issues. There may, however, be at least some indirect impacts. For example, since OTC commodity derivatives will be included in the scope of the proposals, there may be an impact on the prices of commodities (e.g. oil, carbon emission allowances) and hence the environment. This impact is likely to be quite small, though.

6.2.6. Impact on third countries / impact on EU competitiveness

As described in section 3.3.4. several countries outside the EU are pursuing legislative initiatives in the area of OTC derivatives, most importantly the US. With the caveat that EU legislation still needs to be adopted by the EU legislators and that detailed technical rules still need to be defined both in the US and in the EU, a comparison of the main elements of the Dodd-Frank Act with the preferred options

chosen above shows that they are broadly consistent. At this stage it is therefore possible to claim that there are no significant risks of regulatory arbitrage between the EU and the US. Whether this will remain the case after all the abovementioned processes will have been concluded, it is very difficult to predict. There is certainly a need to maintain a close dialogue with the US to prevent that major divergences develop in the next phase of rulemaking.

Since the OTC derivatives market is a global market, it is important to monitor not only the actions of the US, but also those of other G20 members. Particular attention will also need to be given to countries that are not part of the G20, as they are not bound by the Group's commitments and may therefore be tempted to attract OTC derivatives business to their jurisdiction. This could have a negative impact on the competitiveness of the EU (market participants may simply move their business to a jurisdiction that has either weaker rules or none at all), although it is hard to judge what the magnitude of this impact could be. Furthermore, without having a clear idea of what third-country actions will entail exactly, the means by which the EU could address this potential disadvantages are unknown.

However, any potential loss of competitiveness or opportunities for regulatory arbitrage will have to be taken into account when deciding on the best way to implement the desired policy initiatives. In addition, international commitments taken by the EU at the WTO will have to be considered to ensure that the implementation of the proposed policies is not incompatible with the EU's trade obligations.

An important issue that still needs to be addressed by all sides are OTC derivatives that have a cross-jurisdictional component. If no agreement at international level is found on how to treat these contracts, there is a concrete risk that they would be able to avoid regulation, at least partially (e.g. the CCP-clearing requirement). Another point where close cooperation will be needed concerns the recognition of market infrastructures (CCPs and trade repositories). This is due to the fact that EU market participants may want to use them for the purpose of complying with the clearing and reporting obligations.

The Commission will therefore need to develop procedures for recognising third-country market infrastructures that will wish to offer their services to entities located in the EU. In view of the recognition process, the location of a particular CCP or trade repository in a third country should not pose any particular issues: EU entities should be able to use third-country market infrastructures for the purpose of complying with the clearing or reporting obligation only if those market infrastructures have been recognised to be subject to equivalent rules and supervision in their home country.

6.2.7. The preferred policy instrument

Before starting the analysis of the various policy instruments, it is worth recalling that in its October 2009 Communication on derivatives markets the Commission stated that a paradigm shift in the approach towards derivatives markets was needed, namely moving from "light-handed regulation" to a more ambitious and

comprehensive regulatory policy. This paradigm shift has been broadly welcomed by the Council¹³⁶ and strongly supported by the European Parliament.¹³⁷

In view of the above, the Communication can be immediately discarded from further analysis of the preferred policy option (it can also be discarded due to the fact that it has already been used in the initial steps of the Commission's policy development process).

The same can be said about the self-regulatory approach. As it was shown in section 3 of this report, there are several industry initiatives currently under way, many of which have already delivered improvements in the way the OTC derivatives market works. However, the approach cannot be used as the basic one for the reasons outlined in the analysis in section 6.1. Rather, the existing initiatives can be used either as a starting point for legislative action (they provide useful information on the detailed measures that may be targeted) or as a useful complement to it.

An advantage of choosing a Recommendation is certainly the high flexibility that this instrument gives to Member States (the latter may decide whether or not to do something, and in case of the former also what exactly to do). In other words, a Recommendation would simply provide the national policy makers with a suggestion by the Commission to the policy preference with no effect on the situation that needs to be addressed. Member States' legislators would then be left to decide whether to accept or not the policy suggestion. In case they would choose to accept it, they would then need to translate it into concrete mandatory rules within their jurisdictions.

In the context of the problems and objectives that were defined, this flexibility is actually a severe drawback. Indeed, as

- (1) the identified problems concern areas that are of critical importance for the smooth functioning of financial markets and therefore the economy as a whole,
- (2) the cross-border effects of diverging national rules addressing the OTC derivatives market constitute a severe drawback for the efforts to create a safe and efficient financial market, and
- (3) solving the identified problems requires a high level of harmonisation of rules (and thus legal certainty),

a legally non-binding instrument, such as a Recommendation, turns out to be inadequate. It may lead to a situation in which i) no action is taken by Member States, ii) action is undertaken only by some of them (potentially on different subsets of the issues), or iii) action is undertaken, but the Recommendation is not followed by all Member States that decided to act, leading to potentially contradicting solutions that could actually worsen the situation. Due to the seriousness of the identified problems, neither outcome is acceptable.

¹³⁶ See point 5 of Council Conclusions of 2 December 2009.

¹³⁷ See Langen report.

This means that the basic policy choice - should action be considered necessary at EU level - for introducing these changes is through a harmonising legal instrument at the EU level. For this there are two options, namely to use a Directive or a Regulation.

While it is correct to say that the main type of legislative instruments introducing EU financial services legislation has traditionally been Directives, this was the result of the contents and the objectives of those instruments. They mainly approximated national rules on the taking up of business and the provision of services and on a gradual manner. They also allowed the seamless integration of those rules in the legal systems of the Member States while giving the opportunity to them to extend the EU rules to areas uncovered by the EU legislation. Admittedly, a Directive is the most appropriate form of instrument to achieve this result.

However, in view of the objectives of the current proposal, a Directive does not seem to be the right choice of instrument. The proposal requires that the legislative framework is applied throughout the EU with exactly the same scope, without any gold-plating and without allowing residual powers to national legislators. In fact, the three objectives, namely information on positions, the use of a CCP and standardisation would require absolute clarity and uniformity as to the personal and material scope of application, the conditions of its application throughout the EU without exceptions or diverging implementations by national authorities and jurisdictions.

It is these characteristics of this legislative instrument that in a sense dictate the choice of Regulation as the most appropriate form, since:

- (1) directly applicable Regulations are the only way to have effectively uniform rules throughout the EU, to the recognised benefit of industry and the users of these rules. They eliminate divergences in applicable law between Member States. At the same time, uniform rules do not mean "one size fits all" and are not incompatible with a certain degree of flexibility for national supervisors in the application of those rules.
- (2) Regulations reduce legal uncertainty: in case of directives national law provisions have to be interpreted in the light of the underlying directives, which themselves may require interpretation, whereas regulations are applicable without a second layer of national legislation.
- (3) Regulations ensure that European law is applicable immediately and to its full extent in the whole Union after its adoption by the legislator. They avoid the resource-intensive and time-consuming transposition of directives by Member States and the monitoring of timely and correct transposition by the Commission.
- (4) The numerous infringement cases against Member States for late, non- or incorrect transposition of directives are evidence that the transposition of EU law is ineffective in many instances. Depending on the content of the regulations, adaptations of national legislation may continue to be necessary in some cases. But this is much more limited than the transposition of a

directive, and [in most cases] application of a Regulation in the markets will not depend upon it.

- (5) The transposition process has proven particularly inappropriate for quick responses needed in times of crisis and to implement G20 commitments within the timeframes committed to at the international level.
- (6) Regulations can be directly invoked by the parties concerned before national administrations and courts, whereas this applies only in very limited circumstances for Directives.

For all these reasons, the Commission services consider that a Regulation is the preferred option.

6.2.8. *The scope of legislation*

Various market participants have advanced arguments for excluding them or certain types of OTC derivatives they use from the scope of any potential legislation regulating the OTC derivatives market. The following two sections provide a more detailed analysis of the issues that were raised in this context and of the possible ways to tackle them.

6.2.8.1. Material scope

In terms of the types of OTC derivatives that should not fall under the scope of the Commission's policy proposals, many market participants felt that the main problems were caused by CDS, so any future legislation should only be focused on them. Especially for two market segments, namely foreign exchange and commodity derivatives, a large number of market participants felt that no regulatory action should be taken, because they played no role in the financial crisis. This argument is "problematic" in three ways. Firstly, it is not entirely true: as argued in various parts of this report, the web of connections among the biggest market players created by all OTC derivatives played an important role in the crisis. Secondly, the argument ignores the fact that many of the issues related to the functioning of the CDS market are equally valid in other segments of the OTC derivatives market. Finally, the argument is backward-looking: the proposed legislation should not just aim at fixing the most immediate problems that arose during this crisis. It should also provide regulators with a comprehensive set of tools to detect the build-up of risks in the system and thus prevent, or at least limit, the severity of future crises.

The Commission already acknowledged, in its second Communication on derivatives markets, that the various market segments differed in their characteristics and indicated that, where justified, its policy proposals would duly take into account these specificities.¹³⁸ However, the Commission also expressed its belief that a comprehensive policy on derivatives was necessary in order to avoid market participants exploiting differences in rules, i.e. regulatory arbitrage.

¹³⁸ The Commission indicated that particular attention would be given to the specificities of certain commodity markets, e.g. electricity and gas markets, due to their particular underlying physical market structure.

Given that the main focus of the concerns revolves around the applicability of the reporting and CCP clearing requirements it is worth to look at the two in more detail. As clearly stated in this report, the main objective of the reporting requirement is to increase the transparency of the OTC derivatives market, in particular by providing comprehensive information on the positions held by the various market participants. Leaving entire segments of the OTC derivatives market out of this requirement would mean that regulators could not gain a comprehensive view of the entire market. This would defeat the purpose of the whole exercise.

As concerns the CCP-clearing requirement, the Commission has repeatedly stated that it is aware of the fact that not all OTC derivatives could be cleared by a CCP and that it has no intention of forcing market participants to clear all their trades on a CCP. The preferred policy option fully reflects this view: it requires that only those OTC derivatives that fulfil certain criteria be cleared by a CCP.

6.2.8.2. Personal scope

In terms of the market participants that should not fall under the scope of the Commission's policy proposals, there was a unanimous plea from non-financial institutions to be excluded from any kind of future legislation on OTC derivatives.¹³⁹ The main argument that they advanced in defence of this position was that their dealings in OTC derivatives do not represent a systemic risk. They also warned that if they would be subject to the legislation, the resulting costs could force them to reduce, or in the extreme even abandon, their hedging practices.

Similarly to its statement on the various market segments, the Commission also indicated that, where justified, the policy proposals would strike the right balance between financial and non-financial institutions. In particular, the Commission stated that in order to promote competitiveness and growth of the European industry, it would strive to ensure that any future policy option would allow non-financial institutions to manage the risks inherent to their business.

The impact analysis shows that including non-financial institutions in the scope of the policy proposals, especially the CCP-clearing requirement, may expose them to a significant increase in their costs. In light of this, two possible solutions can be contemplated.

One is to leave non-financial institutions entirely outside the scope of the proposals. This approach has two important drawbacks. The first one is that it creates a loophole that other market participants may try to take advantage of. The second one is that it ignores the possibility that one or more non-financial institutions may already play, or will do so in the future, a significant (even systemically) role in a particular market segment.

The other one is to leave non-financial institutions outside the scope of the proposals, including, at the same time, a safeguard that would allow the inclusion of a non-financial institution in the scope of the legislation, should its positions exceed a pre-defined threshold. The possibility of setting multiple thresholds that would allow for

¹³⁹ Similar calls for exclusion have also come from supranational institutions (e.g. development banks) and governments.

the progressive inclusion could also be considered. The thresholds should be recalibrated periodically in order to reflect correctly the evolution of the market.¹⁴⁰ This solution is better as it would address both drawbacks of the first one.

6.2.9. *Impacts of the detailed technical rules*

As already stated, the preferred policy options represent only general principles, In order to make them operational, detailed technical rules will need to be adopted by the Commission. In accordance to existing practice, the costs and benefits of those rules will be assessed at that time.

* * *

The policy choices made above put financial market infrastructure at the very heart of the efforts to reform the OTC derivatives market. The decision to require the use of CCPs and trade repositories will further increase the systemic importance of the former and will provide a systemic role to the latter (to the extent they did not already have one). This imposes an obligation to ensure that this infrastructure is safe and sound, in order to prevent the situation in which its use would actually increase systemic risk instead of decreasing it.

In order to achieve this goal, the outstanding issues that have been identified in relation to the functioning of CCPs and trade repositories need to be addressed. The issues and the ways of addressing them are discussed in the next section of this report.

¹⁴⁰ The information stored in trade repositories will play a crucial role in the initial definition and periodic calibration of the thresholds.

7. POST-TRADING MARKET INFRASTRUCTURE

7.1. Central counterparties

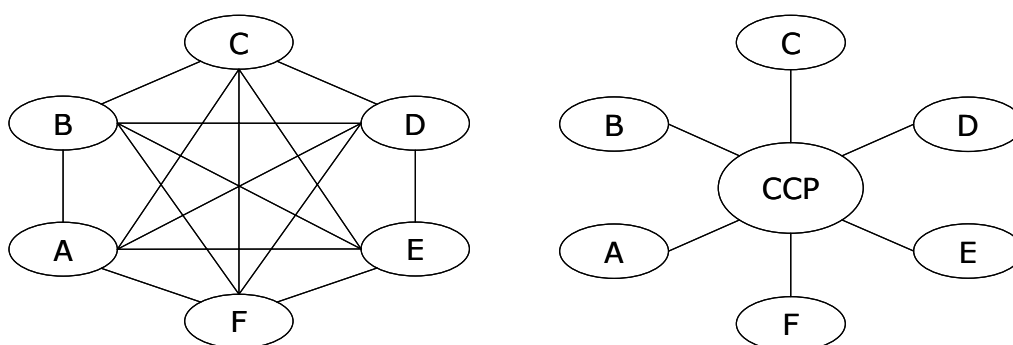
CCPs can clear both securities and derivatives, irrespective of whether they are traded on an exchange or an OTC market. In many cases the same CCP clears many different financial instruments and markets and while there are certain nuances and specificities that are related to each one of them, the basic principles applicable to CCP clearing are universal. The analysis presented in this section in respect of this fact.

7.1.1. Background¹⁴¹

Today, CCPs are used to clear both securities and derivatives trades. However, whereas some form of CCP has been present in the European derivatives space since the late 19th century, it took CCPs far longer, until late in the second half of the 20th century, to gain a firm foothold in the European securities space. The reason behind this gap lies in the more prominent role that counterparty credit risk plays in derivatives transactions compared to securities transactions. Indeed, derivatives transactions take much longer to complete (they can take decades to complete, whereas securities transactions typically take three days) and involve greater uncertainty as to the value (and even direction) of the ultimate transfer obligations. Hence, CCPs play a more prominent role for them.

A CCP is defined as an entity that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer.¹⁴² Thus the “many-to-many” chain of credit is replaced by “one-to-many” arrangement, with the CCP at the centre of the arrangement (see Figure 12 below).

Figure 12: Bilateral vs central (CCP) clearing



¹⁴¹ This section is based on Bliss, Robert and Robert Steigerwald, Derivatives Clearing and Settlement: A Comparison of Central Counterparties and Alternative Structures," Economic Perspectives, 2006, 30 (4, Fourth Quarter, Federal Reserve Bank of Chicago), p.22-29. Available at http://www.chicagofed.org/digital_assets/publications/economic_perspectives/2006/ep_4qtr2006_part2_bli_ss_steigerwald.pdf.

¹⁴² Bank for International Settlements, Committee on Payment and Settlement Systems, and Technical Committee of the International Organization of Securities Commissions, 2004, Recommendations for Central Counterparties, Basel, Switzerland, November. <http://www.bis.org/publ/cpss64.pdf>.

The legal process whereby the CCP is interposed between buyer and seller is known as novation.¹⁴³ To put it simply, novation is the replacement of one contract with another. In fact, when a CCP steps in between the original parties to the trade, two novations takes place, leading to the creation of two new, perfectly offsetting contracts. Because the two contracts offset one another, the CCP normally¹⁴⁴ bears no market risk (the latter is still borne by the original parties to the trade). However, as counterparty to every position, the CCP bears credit risk in the event that one of its counterparties fails. Similarly, the CCP's counterparties bear the credit risk that the CCP might fail.

CCPs mitigate their counterparty credit risk exposure through a number of reinforcing mechanisms, typically including access restrictions, risk-management tools (such as collateralisation), and loss mutualisation. These mechanisms are jointly known as the “risk (default) waterfall” of the CCP.

- Access restrictions (such as membership requirements) are a CCP's first line of defence. CCPs only deal with parties that meet their standards for creditworthiness and operational capability and may revoke access privileges for those who fail to maintain these standards and meet other obligations to the CCPs. This permits the CCPs to limit their risk exposure to those parties they are able to monitor.
- The second line of defence is represented by the CCP's counterparty credit-risk-management techniques. A CCP usually uses several of them. For example, positions and payment requirements are multilaterally netted. CCPs also typically impose collateral requirements (i.e. initial margin) on market participants that have direct access to the CCP. In addition, gains and losses due to mark-to-market fluctuations in the open positions are posted to a clearing member's margin account on a regular (usually daily) basis and result in calls for variation margin.
- If the posted initial margin is not sufficient to offset a loss resulting from the failure of a clearing member, the third line of defence is activated. After exhausting the failed clearing member's initial margin, a CCP will use the latter's contribution to the default fund to cover any residual losses. If this were to prove insufficient, the CCP can then proceed to share any remaining loss among all (or certain classes of) clearing members by using their default fund contributions.
- The fourth, and last, line of a CCP's defence is its own capital.¹⁴⁵

¹⁴³ In some European countries, an alternative approach, known as open offer, is used. In this case, the CCP makes an offer to enter into pairs of contracts on terms agreed upon by two markets participants, under certain rules. The market participants agree upon the terms but never formally enter into a contract vis-à-vis each other. Instead, they report their agreement to the CCP, which then enters into the two contracts.

¹⁴⁴ In case of a counterparty's default, the CCP's position would become unbalanced and the CCP would be exposed to market risk until the defaulting counterparty's position would be reversed.

¹⁴⁵ Depending on each individual CCP's arrangements, the use of at least part of the CCP's own capital can come before the other defences have been depleted, for example before the default fund contributions of the non-defaulting clearing members are tapped. This serves as an incentive for the CCP to perform its risk management tasks properly. Some CCPs may also have additional defences in place, such as additional calls for contributions from non-defaulted clearing members, which may be used before the CCP's capital is tapped.

By virtue of the risk-mitigation role they play, CCPs are a critical component of the market they serve. Consequently, their failure becomes a potential systemic event. Indeed, should a CCP fail, the most immediate consequence would be at least a temporary breakdown of the market as the whole structure through which positions are established, maintained, and closed-out would be disrupted. The effects of such a CCP failure, were it to occur, might be extremely serious.

In view of their systemically important role, CCPs are subject to strict regulation. In the EU, CCPs are regulated at the national level. Since the rules in each Member State have been shaped by the specific economic and institutional circumstances, different Member States have adopted different solutions when regulating CCPs. This has led to a very diverse and fragmented CCP landscape in the EU.¹⁴⁶ The diversity is reflected in the different forms (e.g. a bank, a commercial entity) and in the different business models (vertically integrated with exchanges or stand-alone) that CCPs have adopted. The fragmentation is a function of the number of CCPs that exist in the EU.

The above differences make cross-border provision of CCP services more costly and potentially less safe than would be desirable and represent a barrier to the integration of the EU financial market. The Commission highlighted this issue in two Communications, published respectively in 2002 and 2004.¹⁴⁷ The 2004 Communication concluded that legislation was necessary to ensure efficient and safe pan-European clearing and settlement.

In July 2006, after having considered the advantages and disadvantages of a legislative solution, the Commission decided not to propose any new legislation in the area of post trading in general and CCPs in particular. Instead, it opted for a two pronged approach. In order to increase efficiency and integration in the market for post-trading services, it called on the industry to provide a self regulatory solution. In November 2006 the industry responded by adopting a Code of Conduct on Clearing and Settlement¹⁴⁸ that addressed three main issues: transparency of prices and services, access and interoperability, and unbundling of services and accounting separation. Its scope is limited to cash equities. To monitor the implementation of the commitment, the Commission created the Monitoring Group of the Code of Conduct (MOG).¹⁴⁹ The Commission services also prepared regular reports to inform the Council about the progress made in implementing the Code of Conduct.¹⁵⁰

In order to ensure more consistent regulation across the EU the Commission called upon CESR and ESCB to complete their work on recommendations for securities settlement systems (SSSs) and CCPs. In June 2009 the ESCB and CESR published their recommendations for SSSs and CCPs,¹⁵¹ an adaptation of the global CPSS-

¹⁴⁶ See Annex 4 for an overview of existing CCPs.

¹⁴⁷ Clearing and Settlement in the European Union: Main policy issues and future challenges - COM(2002) 257 and Clearing and Settlement in the European Union - The way forward - COM(2004) 312. Available at http://ec.europa.eu/internal_market/financial-markets/clearing/communication_en.htm#com.

¹⁴⁸ A copy of the text of the Code of Conduct and of other related documents is available at http://ec.europa.eu/internal_market/financial-markets/clearing/communication_en.htm#code.

¹⁴⁹ See MOG website at http://ec.europa.eu/internal_market/financial-markets/clearing/mog_en.htm.

¹⁵⁰ Available at http://ec.europa.eu/internal_market/financial-markets/clearing/communication_en.htm#ecofin.

¹⁵¹ Available at http://www.ecb.europa.eu/pub/pdf/other/pr090623_escb-cesr_recommendationsen.pdf

IOSCO recommendations, with the aim to increase the safety, soundness and efficiency of CCPs in the EU. The recommendations are addressed to regulators and overseers, who have committed to using them as a regulatory tool and to strive to achieve their consistent implementation and a level playing field for SSSs and CCPs in the European Union. The CCP recommendations cover all aspects of a CCP's activities, including risk management, governance and links. They also take into account the specific risks related to central clearing of OTC derivatives.

7.1.2. *The political mandate*

As concerns OTC derivatives, in the October 2009 Communication on derivatives markets the Commission announced that it intended to propose legislation governing their activities so as to eliminate any discrepancies among national legislations and ensure safety, soundness and proper governance.

In the area of securities, the November 2009 Commission services report to the Council concludes that the Code of Conduct has reached its objective of enhancing efficiency by increasing competition. It furthermore points out that the Code of Conduct helped reveal additional problems - especially regulatory ones - that need to be properly addressed. Finally, it concludes that in order to resolve issues related to risk and differences in regulation can only be addressed by legislation.

In its Conclusions of 2 December 2009, the Council agreed with the need to promote CCP clearing of eligible derivatives, welcomed the Commission's intention to work on legislative proposals for CCPs and agreed that further steps need to be taken to address issues related to risk and regulatory barriers to CCP clearing of cash equities.¹⁵²

In its Resolution, the European Parliament welcomed the Commission's intention to submit legislative proposals on clearing houses CCPs.¹⁵³

7.1.3. *The problems*

7.1.3.1. Problem 1: Lack of level playing field for CCPs

Given the lack of common rules, a CCP wishing to offer its services outside its home market may need to obtain multiple authorisations and may have to comply with multiple sets of rules. For example, in some Member States a CCP is required to have a banking license in order to be authorised. A CCP coming from a Member State not having this requirement, would therefore risk being subject to double regulation. In the best of cases, this leads to an increase in the operational costs for CCPs providing their services in several Member States and consequently increases the costs for market participants using them. In the worst of cases, it discourages a CCP from even attempting to enter another market, as the associated costs would be simply too high. In short, the lack of common rules can act as an additional barrier to entry in a market, providing an additional layer of protection to the incumbent CCP. More in general, it prevents the integration of the post-trading sector in the EU.

¹⁵² See Annex 3.

¹⁵³ See Langen report, paragraph 44.

The practical difficulties stemming from the lack of common rules for CCPs have been highlighted both in the area of cash equities (more specifically in connection with the establishment of links between CCPs) and in the area of OTC derivatives (more specifically the CDS market).

7.1.3.2. Problem 2: Lack of common rules for the establishment and treatment of links

The establishment of links is considered to be a way to increase competition among CCPs. It is therefore no surprise that when the Code of Conduct, and in particular the Guideline on access and interoperability, was established, there was a flurry of interoperability requests between CCPs. The CCPs wanted to take advantage of the opportunity presented to them by links and enter new markets. However of all the interoperability request that had been made, only one came to fruition so far. The rest of the requests have been either abandoned or are still in the process of being completed. Setting aside those requests that may have been more the result of strategic positioning than anything else, the slow progress of the majority of the requests can be mainly attributed to three groups of obstacles: regulatory, commercial and technical/operational.

The regulatory obstacles are mainly linked with the differences in national rules highlighted in problem 1 above. Indeed, a mapping exercise concluded by CESR¹⁵⁴ highlights that national regulatory arrangements differ in how link requests are regulated, what the conditions are for cross-border service provision, the authorities involved, the supervisory powers and how cross-border coordination is ensured. As requests between CCPs started taking off, regulators have started to grapple with the impact that interoperability involving multiple CCPs may have on liquidity, credit and systemic risk.¹⁵⁵ In particular, regulators raised concerns on the way CCPs chose to collateralise the exposures they would have with one another. In this context the lack of common rules does not help, as it makes it more difficult to reach a common position on how to address the risk concerns. While the concerns that regulators have in relation to interoperability in cash equities markets are significant, they are not as strong as those related to the concerns they have on interoperability in the OTC derivatives market.

The commercial obstacles are the direct consequence of the lack of incentives for incumbent CCPs to accept interoperability requests. By definition, an incumbent CCP that enjoys a dominant position can only lose by opening up its market to competition. Consequently, the incumbent will have no interest in agreeing to enter in an interoperability agreement. This is why the Code of Conduct explicitly states that loss of market share cannot be used as an argument to turn down a request. However, an incumbent can always find away of slowing down the process without being in breach of the letter of the Code of Conduct. In this situation, the trading venues have proved to play a crucial role as facilitators of interoperability. Indeed, in instances where the trading venues themselves showed a clear will for interoperability, the process tended to be much faster than in those where this was not the case.

¹⁵⁴ CESR (2009). Preliminary technical advice on access & interoperability arrangements in the EU, CESR/08-870.

¹⁵⁵ See Joint Regulatory Authorities of LCH.Clearnet Group, Investigation of risks arising from the emergence of multi-cleared trading platforms, July 2008.

The technical/operational obstacles are due to differences in business models, market standards, practices and technical communication languages between CCPs. For example, a very important question in an interoperability agreement concerns the treatment of exposures between the two interoperating CCPs. Given that CCPs usually adopt different risk management models, finding an agreement on how these exposures will be handled can be difficult, as each CCP will have a clear preference for an approach that mimics its existing solutions.

The lower number of links due to the existence of these obstacles means that there is less competition, less choice for investors, and also less chances for integration and consolidation in the sector.

7.1.3.3. Problem 3: Danger of competition on risk

The Code of Conduct is not the only source of competition in the CCP space: there is also the MiFID. The competition between multilateral trading facilities (MTFs) and regulated markets (i.e. exchanges) that was spurred by the MiFID has had a somewhat surprising side effect: indirect competition between CCPs. To put it simply, in order to compete against established exchanges, MTFs chose to use newly established CCPs that offered much lower fees than the incumbent CCPs. This made the overall price proposition of the MTFs much more attractive than those of the exchanges and allowed them to capture an important market share. In response to this new competition, exchanges started cutting their fees and started demanding their post-trading infrastructure (therefore also CCPs) to do the same. This has led to an unprecedented drop in clearing fees on the market.

This has prompted questions as to whether the fees charged by CCPs will soon reach the physiological floor dictated by the economies of scale. This in turn gave rise to concerns about the possibility of CCPs starting to compete on risk (this is to be understood as competition through lowering the quality of risk management, more specifically by cutting the margins required from the clearing members). A number of market participants seem to fear that this is already happening. They have privately told the Commission services on various occasions that CCPs had started lowering their risk standards in order to lower their costs and attract more clients. Recently, a CCP voiced the same concern in public.¹⁵⁶ These claims were never backed with concrete evidence, so the Commission services cannot judge whether they are true or not. Irrespective of whether they are true or not, however, they highlight a potentially dangerous side effect of competition between CCPs.

Unlike competition between CCPs based on, for example, technological innovation, the race-to-the-bottom kind of competition that is competition on risk is highly undesirable, as it can have devastating consequences given the systemic role of CCPs.

¹⁵⁶ *LCH.Clearnet warns of loose standards*, Financial Times, 16 April 2010.

7.1.3.4. Problem 4: Impaired portability of positions and associated margins (collateral) in the CCP environment

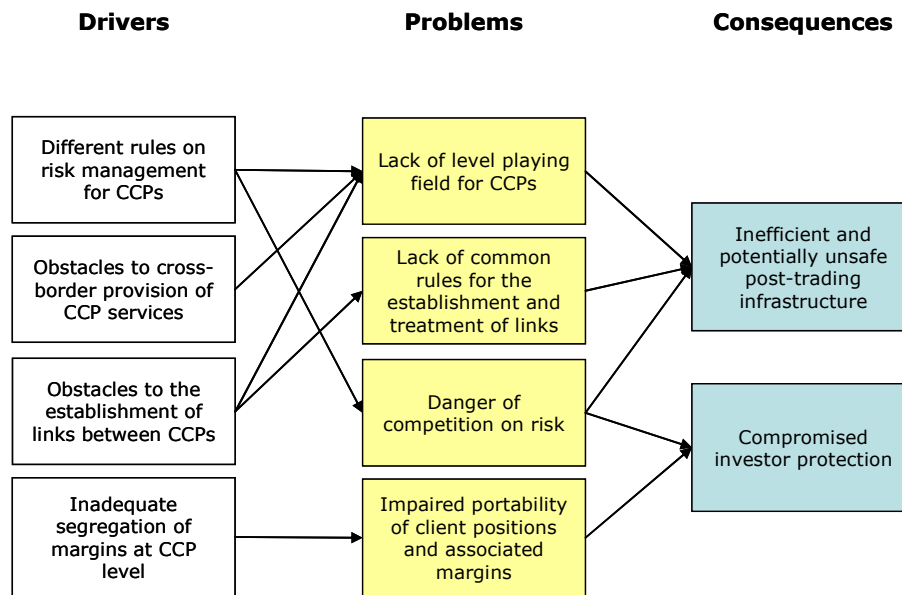
One of the consequences of introducing a clearing requirement is that those market participants that would not meet the criteria to become clearing members of a CCP would have to access it indirectly, through a general clearing member (GCM). This raises the question of what these indirect participants could do in case of the GCM's default. In principle, they would have two basic choices in such a situation. The first one would be to close their positions with the defaulting clearing member and seeking to replace the closed contract with a new one. In this case, they would bear the market risk. The second one would be to move their positions and the associated collateral to another GCM within the same CCP (assuming that they had found one that would be willing to accept this). In this case, no market risk would be involved. Irrespective of the choice they would make, the question of whether they would be able to get back the collateral (more precisely the initial margin) they have posted with the failed GCM would arise.¹⁵⁷ In the first case, the answer would depend on the manner in which the initial margin had been provided and held, and particularly, the extent to which margin had been segregated from the GCM's assets and recoverable by the clients. In the second case the answer would additionally depend on the effectiveness of the CCP's procedures for the transfer of client positions and related initial margin. In both cases the answer would depend on the law applicable to the defaulting GCM.

The question is not just theoretical, as clients of Lehman Brothers International Europe (LBIE) found out after the latter defaulted. When these clients attempted at transferring their positions and related initial margin from LBIE to another GCM within the same CCP, they discovered they could do the former, but not the latter (because the margin of LBIE's clients was frozen). To make matters worse, the clients were required to deposit margin with their new GCM to meet margin requirements associated with the transferred positions, resulting in "double margin". The origin of the problem was two-fold: first, in some cases the assets of LBIE and those of its clients were co-mingled in the same account. In other words, it was not immediately evident which assets belonged to whom. Second, the margin was often transferred to LBIE with hypothecation rights, i.e. LBIE was allowed to lend out the assets it received from its clients to a third party.

7.1.3.5. Problem tree

Figure 13 below provides an overview of the various problems, their drivers and their consequences.

¹⁵⁷ In fact there are two questions: the first one concerns the ability to get the initial margin back, while the second one concerns the timing of this happening. In times of market turmoil the second question may be considered as important as the first one.



7.1.3.6. How would problems evolve without EU action?

Problem 1

In the absence of any EU action, the only available framework for facilitating the cross-border provision of CCP services would be the one provided by the ESCB-CESR recommendations. It is still unclear to what extent these recommendations can contribute to resolving this problem, as too little time has passed since their adoption. Nevertheless, there are at least some elements that may lead one to believe that they will not be able to eliminate the problem in its entirety. First, the ESCB-CESR recommendations are based on CPSS-IOSCO recommendations which were published already in November 2004. Although the latter were adopted by regulators in the EU, they failed to make any significant contributions towards solving this problem. Second, they are a set of high-level principles that can be interpreted and implemented in different ways. Last, and most important, they are non-binding and are thus automatically superseded by any binding rules set at national level.

Problem 2

Similarly to problem 1, in the absence of EU action, the establishment of links will depend on existing national rules, and any existing standards and recommendations, as well as on cooperation between competent national authorities. At EU level, the common framework could yet again be provided by the ESCB-CESR recommendations (in particular recommendation 11). However, as in the case of problem 1, there are limits to what the recommendations can achieve.

On the industry side, the Code of Conduct would continue to provide the blueprint for the process of establishing links between CCPs in the cash equity space. Furthermore, the industry is also trying to deal with the issue of risk management of links. For example, the European Association of CCP Clearing Houses (EACH) has produced a set of standards for the risk management of links in July 2008.¹⁵⁸

¹⁵⁸ <http://www.eachorg.eu/each/code-of-conduct-risk-mgmt-0807.pdf>.

However, similar to the ESCB-CESR recommendations, these standards too have their limits. While CCPs agree on the substance of the standards, they currently do not agree on how they should be implemented in practice, as each CCP believes its approach to risk management to be the best one. Another weakness of these standards is that, in principle, they deal only with interoperability between two CCPs. A more recent initiative, led by EuroCCP,¹⁵⁹ is focused on interoperability among multiple CCPs. For the time being it is difficult to judge whether this initiative will bear any fruit.

Problem 3

The same analysis as the one provided for problem 1 applies. One additional point that needs to be made on this problem concerns recent developments in the post-trading market. In recent months, NYSE.Euronext has announced that it intends to move its clearing in-house and the London Stock Exchange has launched a review of its clearing arrangements that could lead to the same outcome. While the main driver behind these decisions appears to be dissatisfaction with existing clearing arrangements used by the two, the practical consequence is a rather strong shift towards the vertical silo model in the EU. This shift is likely to further reduce the effectiveness of the Code of Conduct.

Problem 4

The industry initiatives mentioned in section 3 include also commitments on buy-side access to CCP clearing with segregation of initial margin and portability. For CDS, the OSC has committed to work together with CCPs in order to deliver these results by mid-December 2009. A commitment to resolve impediments to broader buy-side access has also been provided for interest rate derivatives. The commitment have already led to concrete results: CCPs actively clearing CDS and interest rate derivatives are already offering buy-side institutions the possibility of direct access and of initial margin segregation. The industry has also prepared a report on segregation and portability of customer CDS positions and related margin.¹⁶⁰

At least one Member State (the UK) is also looking at the issues related to segregation and portability.

7.1.4. The policy objectives

The general objectives are to increase the safety and efficiency of the EU post-trading infrastructure and to increase investor protection. Reaching this general objective requires the realisation of the following more specific policy objectives:

- (1) establish a level playing field for the provision of CCP services;
- (2) facilitate the establishment of links between CCPs;
- (3) increase the safety of CCPs; and

¹⁵⁹ http://www.euroccp.co.uk/docs/leadership/EuroCCP_InteroperatingCCPs.pdf

¹⁶⁰ <http://www.newyorkfed.org/newsevents/news/markets/2009/an090713.html>

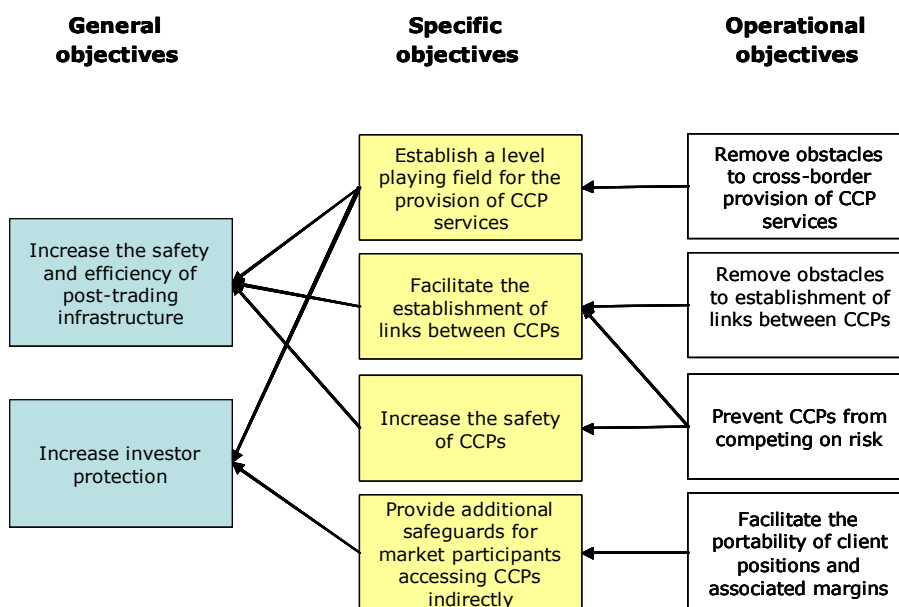
- (4) provide additional safeguards for market participants accessing CCPs indirectly.

In turn, the specific objectives listed above require the attainment of the following operational objectives:

- (1) remove obstacles to cross-border provision of CCP services;
- (2) remove obstacles to the establishment of links between CCPs;¹⁶¹
- (3) prevent CCPs from competing on risk;
- (4) facilitate the portability of client positions and associated margins.

An overview of the various objectives and their interrelations is depicted in Figure 14 below.

Figure 14: The objectives and their interrelation



7.1.5. The policy options and policy instruments

Before defining the policy options, it is important to point out that these will set out broad principles rather than detailed measures. The more detailed measures will need to be defined at a later stage, most likely through Commission delegated and/or implementing acts. Their impacts will be analysed in accordance to established rules.

¹⁶¹ Operational objectives 1 and 2 are not substitutes, but rather complements. The first objective simply means that a CCP wishing to offer its services to market participants in another Member States should be able to do so without the need to seek additional authorisations. However, for that CCP to be able to effectively offer its services in that Member State, it will also need access to local infrastructure (the trading venue, the central securities depository and potentially the incumbent CCP).

7.1.5.1. Policy options for operational objective 1 (cross-border provision of CCP services)

The basic policy options for this objective are the following:

- Option 1.1.: Rely on ESCB-CESR recommendations for CCPs and cooperation among regulators (baseline scenario)
- Option 1.2.: Introduce a passport for CCP services

An important question that needs to be addressed in the context of a passport is the distribution of supervisory responsibilities between the various national (and potentially European) authorities that have a direct interest in the safe and efficient operations of a CCP. The basic policy options addressing this topic are the following:

- Option 1.3.: National authorisation and supervision (baseline scenario).
- Option 1.4.: National authorisation and supervision, with a strengthened role for the college of supervisors.
- Option 1.5.: EU authorisation performed by ESMA combined with national supervision
- Option 1.6.: EU authorisation and supervision performed by ESMA.

In all four scenarios oversight of CCPs would continue to be performed by the relevant central banks.

7.1.5.2. Policy options for operational objective 2 (links)

The basic policy options for this objective are the following:

- Option 2.1.: Rely on Code of Conduct, ESCB-CESR recommendations and cooperation between authorities (baseline scenario)
- Option 2.2.: Introduce a right for CCPs to establish links provided that certain conditions are met. This option would set up detailed rules that links established between CCPs would need to respect in order to be approved and set the supervisory approval procedures that would need to be followed. Apart from risk considerations, the right of CCPs to become interoperable would be subject to additional conditions (e.g. proof of demand for the link from users, prior assessment by competent authority that level of existing competition insufficient).
- Option 2.3.: Introduce a right for CCPs to establish links provided that all relevant risks are addressed and competent authorities approve the link.

7.1.5.3. Policy options for operational objective 3 (preventing competition on risk)

The basic policy options for this objective are the following:

- Option 3.1.: Rely on ESCB-CESR recommendations for CCPs (baseline scenario)

- Option 3.2.: Introduce common risk standards for CCPs. This option would spell out the principles that CCPs would need to follow when setting up their risk management processes. In addition it would include specific targets concerning the overall financial resources that CCPs should hold, without specifying in what form they should be held (default fund, capital or something else).
- Option 3.3.: Harmonise the risk models of CCPs. This option would entail prescribing in detail how a CCP's defences should be structured.

7.1.5.4. Policy options for operational objective 4 (portability)

The basic policy options for this objective are the following:

- Option 4.1.: Rely on existing national rules and industry initiatives (baseline scenario).
- Option 4.2.: Require CCPs to offer indirect participants the possibility of having their margins placed in segregated (omnibus or nominee) accounts; leave indirect participants the choice of whether or not to take advantage of the offer.
- Option 4.3.: Require CCPs to provide segregated nominee accounts to indirect participants and require the latter to instruct their general clearing members to place their margins in those accounts.

7.1.5.5. Policy instruments

The same analysis applies as the one provided for in sections 5.2.

7.1.6. *Analysis of impacts and choice of preferred policy option(s)*

7.1.6.1. Options for operational objective 1 (cross-border provision of CCP services)

Option 1.1. (rely on ESCB-CESR recommendations)

The analysis for this option is already provided in section 7.1.3.6.

Option 1.2. (introduce a passport)

Under this option, a CCP that would be compliant with the regulatory requirements in its home market could gain access to the market in other Member States without the need to undergo additional authorisations or having to comply with additional requirements. In other words, the passport would give CCPs the freedom to provide their services across the EU.¹⁶² This is because the passport regime is based on a harmonisation of the regulatory rules in the Member States.

¹⁶² The passport only refers to the free provision of services because there is no apparent need to provide CCPs with the possibility to establish branches in Member States other than the one where they are established. A CCP can already serve markets and market participants located in different Member States without the need for them to establish a physical presence in every one of those Member States.

Compared to option 1.1., this option would significantly lower the costs of entering a market in another Member State and would therefore probably lead to an increase in competition in the CCP space. This would in turn increase the choice for investors,

Table 8: Summary of the impact analysis for operational objective 1 (cross-border provision of CCP services)

	Impact on stakeholders	Effectiveness	Efficiency
Option 1.1. (baseline)	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Option 1.2. (common authorisation process)	(+) <i>increased ability of CCPs to provide services across border</i> (+) <i>increased choice for investors</i>	(+) <i>increased competition</i>	(+) <i>lower costs of CCP-clearing</i>

Option 1.3. (national authorisation and supervision)

This approach to authorisation and supervision is common in financial services. The passport would allow CCPs to offer services in each Member State without prior scrutiny of competent authorities other than those in the Member State of establishment. National competent authorities would establish colleges, which would include the competent supervisors of the CCP and, depending on whether the CCP served and exchange or the OTC market, the supervisors of the exchange or the supervisors of the CCP's users. Disputes between national authorities could be resolved within the structures of the EU supervisory authorities.

This option is a direct embodiment of the argument that since fiscal responsibility in case of the failure of a CCP lies within that CCP's home Member State, supervision should also be located there. This argument is certainly true in the national context. However, in a cross-border context, where a CCP may have members coming from multiple Member States, this argument may no longer hold. Indeed, in such a situation other Member States may need to use their fiscal resources were a CCP to fail, for example to provide support to their own banks that are members of the failed CCP. This problem will be particularly acute in the context of the CCP-clearing requirement for OTC derivatives: given that there are only a handful of CCPs clearing these instruments, most market participants will have to access a CCP not located in their jurisdiction.

Option 1.4. (national authorisation and supervision, with a strengthened role for the college)

This option leaves the responsibility of supervision and authorisation of CCPs to national competent authorities. However, it recognises the need for other Member States' authorities and ESMA to take a stronger role in the authorisation process. In particular, this solution foresees that the national competent authority would ultimately decide on granting the authorisation, but would need to obtain a favourable opinion of the college before the authorisation could take effect.

This solution recognises that, on the one hand, the activities of a CCP are by definition cross-border and that competent authorities other than the home authority may have an interest in a CCP's proper functioning. On the other hand, it recognises the need to align supervisory and fiscal responsibility.

Option 1.5. (EU authorisation, national supervision)

In view of the issues highlighted under option 1.3., this option contemplates a split between authorisation and day-to-day supervision. In particular, it gives the former to ESMA while leaving the latter with the national competent authority. In practice, this option would ensure a uniform implementation and application of the authorisation requirements across the EU.

From a legal perspective, however, it is clear that if ESMA is awarded formal competence to authorise CCPs, it must also have the competence to withdraw the authorisation, if need arises. This raises issues of fiscal responsibility for the Member State where the CCP is located.

Option 1.6. (EU authorisation and supervision)

This option is diametrically opposite to option 1.3. It foresees that authorisation and supervision of CCPs would be given to ESMA. Central authorisation and supervision would immediately ensure a coherent application of rules and would therefore also address the cross-border issue. ESMA would ensure that Member States' interests and concerns are balanced. Since ESMA has legal personality, any authorisation and supervision decisions would be attributed to the EU.

This solution would address the issue of the free provision of services and foster confidence among national competent authorities. However, it has a fundamental flaw: it does not align fiscal and supervisory responsibility. Indeed, in the absence of an EU-wide resolution fund (or burden sharing agreement), the fiscal responsibility would be left with the Member States.

Table 9: Summary of the impact analysis for operational objective 1 (cross-border provision of CCP services – supervision and authorisation)

	Impact on stakeholders	Effectiveness	Efficiency
Option 1.3. (national authorisation and supervision - baseline)	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Option 1.4. (national authorisation and supervision + stronger college)	<i>(+) country with fiscal responsibility maintains authorisation and supervision power (+) increased role for authorities in the college</i>	<i>(+) involvement of other concerned authorities by means of college opinion strengthens passport effect, as barriers related to lack of trust dismantled (+) supervisory and fiscal responsibilities aligned (?/-) potential divergences in application of authorisation requirements across EU</i>	<i>n.a.</i>
Option 1.5. (EU authorisation, national supervision)	<i>(-) country with fiscal responsibility loses power to authorise</i>	<i>(+) uniform implementation and application of authorisation requirements across EU (?/-) potential differences in national supervision (-) misalignment of supervisory and fiscal responsibilities</i>	<i>n.a.</i>
Option 1.6. (EU authorisation and supervision)	<i>(-) country with fiscal responsibility loses supervisory control over CCP</i>	<i>(+) coherent application of rules and supervision, no uncertainty about cross-border service provision (-) misalignment of supervisory and fiscal responsibilities</i>	<i>n.a.</i>

7.1.6.2. Options for operational objective 2 (links)

Option 2.1. (rely on Code of Conduct, ESCB-CESR recommendations)

The analysis for this option is already provided in section 7.1.3.6.

Option 2.2. (introduce a conditional right to establish links with additional conditions)

Compared to option 2.1., this option should result in more links being established, with a higher level of choice for investors and more competition in the CCP space. This is due to the fact that this option addresses the regulatory barriers and issues related to risk highlighted by the Code of Conduct. The benefits of this option should therefore be greater than the ones of option 2.1. At the same time, the costs should not be greater, and may even decrease compared to option 2.1. due to faster and clearer procedures to establish links.

The only potential issue with this option are the additional conditions. In practice it may be very difficult to define the appropriate threshold for the conditions. Indeed, questions concerning a prior competition analysis (e.g. determining the relevant market and making a judgement on the optimal number of CCPs serving a market) or user demand (e.g. the minimum necessary level of user support for approving a link request, who are relevant users...) are inherently difficult to answer.

Option 2.3. (introduce a right to establish links conditional upon regulatory approval and adequate risk mitigation)

This option goes further than option 2.2. in that it only considers risk-related aspects of links. This option should lead to the establishment of more links, more competition and therefore to higher benefits than option 2.2. By eschewing the additional conditions of Option 2.2, it also reduces administrative costs and increases legal certainty. This option also limits the potential for an excessive proliferation of links by requesting prior supervisory approval and requiring CCPs to identify, monitor and mitigate the risks that may arise from those links.

Table 10: Summary of the impact analysis for operational objective 2 (links)

	Impact on stakeholders	Effectiveness	Efficiency
Option 2.1. (baseline)	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Option 2.2. (right to establish links subject to conditions related to demand/competition, risk controls and prior approval)	<p>(+) <i>If conditions met, increased user choice</i></p> <p>(+) <i>If conditions met, new entrant CCPs able to become interoperable and hence grab market share</i></p> <p>(-) <i>If conditions met, incumbent CCP subject to increased competition</i></p>	<p>(+) <i>Market opening if conditions are fulfilled and put a limit to excessive proliferation of links due to need for prior approval and risk controls</i></p> <p>(≈/-) <i>Inherent difficulty of making conditions related to user demand and prior competition analysis legally operational, hence lingering legal uncertainty of extent of right.</i></p>	<p>(≈/-) <i>Administrative cost of determining whether user demand/ competition conditions met</i></p>
Option 2.3. (right to establish links subject to conditions)	<p>(+) <i>If conditions met, increased user choice</i></p> <p>(+) <i>If conditions met, new</i></p>	<p>(+/++) <i>Ensure market opening if conditions fulfilled and put limit to excessive proliferation</i></p>	<p>(≈)</p>

related to risk controls and prior approval)	<i>entrant CCPs able to become interoperable and hence grab market share</i> <i>(-) If conditions met, incumbent CCP subject to increased competition</i>	<i>of links due to need for prior approval and risk controls</i>	
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7.1.6.3. Options for operational objective 3 (prevent competition on risk)

Option 3.1. (rely on ESCB-CESR recommendations)

The analysis for this option is already provided in section 7.1.3.6.

Option 3.2. (introduce common risk standards)

Prescribing the common risk standards should avoid a situation where CCPs would start cutting corners on their risk management. To the extent that the existing risk standards of some CCPs are below the level at which the common would be set, the introduction of common standards could actually increase the overall quality of risk management (the converse is, however, also true). For both these reasons, this option is better than option 3.1. Of course, the crucial question in this case is at what level the common standards should be set.

The impact on CCPs and market participants will depend on where a CCP's risk management would be positioned with respect to the common standards. For a CCP with risk standards below the required level it would mean a tightening of risk management, which would in all likelihood result in an increase in the costs for its users. Conversely, a CCP with standards above the level set in the common standards could potentially decide to lower them and therefore decrease the costs for its users. The lowering of standards is not a foregone conclusion, though. If the CCP with higher risk management standards was under competitive pressure from the CCP with the lower standards, the introduction of the common standards may actually dampen this competitive pressure. Obviously, the size of the impact would be directly proportional to the difference between the CCP's existing risk standards and the level set in the common standards. The costs of this option would be higher than those of option 3.1. (especially if option 3.1. would result in a race to the bottom). However, provided that the level of the common standards would not be set too high, these costs should not outweigh the benefits of this option. Furthermore, since this option would only prescribe the targets, but not how to achieve them, it would leave CCPs some flexibility in choosing the most cost-effective way of doing it.

Option 3.3. (harmonise risk models)

This option would go a step further than option 3.2. and would actually prescribe how a CCP's defences should be structured and how risk management should be done. Compared to option 3.2., this option would bring few additional benefits (assuming that the targets of the harmonised model coincide with those of the minimum risk standards). The most significant one of them would potentially be the lowering of administrative and IT costs for the users of CCPs. Indeed, if all CCPs ran the same risk model, then their users would not need multiple IT systems to manage their relationships with multiple CCPs.

This option would, however, entail significantly higher costs than option 3.2. This is because CCPs have adopted different solutions. Harmonising their risk management would mean that at least some of them may need to radically change their processes, which would entail considerable investment costs. This type of harmonisation would also have a negative effect on innovation.

Table 11: Summary of the impact analysis for operational objective 3 (preventing competition on risk)

	Impact on stakeholders	Effectiveness	Efficiency
Option 3.1. (baseline)	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Option 3.2. (minimum risk standards)	<p><i>(+) regulators gain comfort that CCPs manage risk in stringent manner</i></p> <p><i>(-) cost for members of CCP whose risk management is currently below minimum level</i></p>	<p><i>(+) no race to the bottom (competition on risk)</i></p>	<p><i>(+) While potentially increased cost as stringency of risk management increase these costs mitigated by freedom to choose most cost-effective solution</i></p>
Option 3.3. (harmonise risk models)	<p><i>(+) regulators gain comfort that all CCPs have same model</i></p> <p><i>(+) lower administrative and IT costs for CCP users</i></p> <p><i>(-/-) significant adaptation for CCPs to harmonised risk model</i></p>	<p><i>(+) no race to the bottom</i></p> <p><i>(-) impact on innovative approaches to manage risk; risk models set by legislation</i></p>	<p><i>(-) significant investment costs by CCPs</i></p>

7.1.6.4. Options for operational objective 4 (portability)

Option 4.1. (rely on existing national rules and industry initiatives)

The analysis for this option is already provided in section 7.1.3.6.

Option 4.2. (require CCPs to provide segregation and leave participants to choose whether or not to use it)

This option differs from option 4.1. in that it introduces a requirement for CCPs to provide for segregation (MiFID currently deals mainly with the segregation at the GCM level). The fact that they are currently not required to do so does not mean that CCPs do not offer this possibility. In fact, they usually do. From the point of view of market participants accessing a CCP indirectly (indirect participants) not much would therefore change. They would keep the option that in many cases they already have.

The problem with the status quo, and therefore with this option, is that indirect participants often choose not to have separation at CCP level for purely economic reasons: segregation is more expensive due to the effects described in section 6.1.2.2. (in short, with segregation at CCP level GCMs would lose some of the revenues and would therefore try to recuperate them by charging higher clearing fees to their clients).

To the extent that market participants accessing a CCP indirectly did not have the possibility to have their margin segregated at CCP level because the CCP did not offer them this possibility, this option would bring some additional benefits compared to option 4.1. The costs for market participants would depend on the level

of segregation chosen, but would almost certainly be higher than under option 4.1. However, given that the choice of whether to segregate or not would be left to the market participants, only those that would have a positive net benefit would decide in its favour. Any opportunity cost that GCMs may incur due to segregation would probably be recuperated through higher clearing fees. One additional cost would be the loss of some netting efficiency at the aggregate level.

For those market participants that would not choose full segregation, the problem of timely access to their margin in case of the default of their GCM, and thus of portability of these margins, would not be solved.

Option 4.3. (require CCPs to provide segregation and participants to use it)

Given that this option obliges indirect participants in a CCP to use segregation through nominee accounts, it eliminates the issue of portability (to the extent that there are no legal obstacles to it). From this perspective, the benefits of this option are higher than those for option 4.2. However, this also imposes higher costs on those indirect participants that would not have chosen full segregation were they given the choice.

Table 12: Summary of the impact analysis for operational objective 4 (segregation)

	Impact on stakeholders	Effectiveness	Efficiency
Option 4.1. (baseline)	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Option 4.2. (possibility segregation)	(+) <i>Increased protection for clients that choose to segregate</i> (-) <i>no increased protection for clients that choose not to segregate.</i>	(+) <i>Portability largely delivered.</i>	(+) <i>Clients would chose solution with highest net benefits</i>
Option 4.3. (segregation obligation)	(-) <i>High costs for clients that would have chosen not to exercise right under option 4.2.</i>	(++) <i>Portability ensured</i>	(-) <i>high costs of implementation</i>

7.1.6.5. The preferred options

The preferred policy options are clearly marked in the tables summarising the impacts of the examined policy options.

7.1.6.6. The social impacts

The analysis of option 6.2.4. applies.

7.1.6.7. The environmental impacts

The analysis of option 6.2.5. applies.

7.1.6.8. The impacts on third countries

The rules resulting from the preferred policy options would have an impact on third-country CCPs. In particular, they would have to comply with those rules (or prove that the rules to which they are subject to in their come jurisdictions are equivalent to the EU rules) in case they wanted to offer their services to EU market participants. At the same time, the Commission will need to continue monitoring that EU CCPs wishing to offer their services in third countries will not be discriminated against.

7.1.7. *The preferred policy instrument*

The analysis of section 6.2.7. is true even in relation to the part of the future instrument that would deal with the authorisation and operation of CCPs, which could be considered as a typical, traditional taking-up of business type of measure. In fact, there is a major difference with this "traditional" approach; the instrument will oblige market participants to use CCPs. This departs from the traditional facilitation and optionality aspects of financial services legislation, i.e., that we create a framework for the cross-border operation of entities and then leave to the markets and to the market participants the choice of using them or not. Here on the contrary, we will be obliging market participants to use these infrastructures, wherever they are located and without an option. In that respect, the existence of precise common rules is paramount and this is best achieved through a regulation.

7.2. **Trade repositories**

7.2.1. *Background*

A trade repository is an entity that has its origins in the OTC derivatives market.¹⁶³ It is a centralised registry that maintains an electronic database of open OTC derivative transaction records (contracts). A trade repository may also engage in other services, such as contract events management and trade processing services. The primary public policy benefit of a trade repository is the increased transparency allowed by its record-keeping function and the integrity of information it maintains.

As already mentioned in this report, only two trade repositories currently exist, one for credit derivatives (the DTCC's Warehouse Trust) and one for interest rate derivatives (TriOptima's IR TRR).¹⁶⁴ The second one was launched only at the beginning of this year.

7.2.2. *The political mandate*

In its October 2009 Communication, the Commission stated that trade repositories should be regulated in order to ensure that they are operated in a safe, sound and efficient manner. It also expressed its belief that ESMA should be responsible for authorising and supervising trade repositories.

In its Conclusions of 2 December 2009, the Council stated that the Commission should work towards proposing a common legal framework for trade repositories and consider the role and functions ESMA should have in this context.¹⁶⁵

In its Resolution, the European parliament welcomed the Commission's intention to submit legislative proposals on trade repositories.¹⁶⁶

¹⁶³ In essence it performs, for bilaterally cleared contracts, the same record-keeping functions that a CCP performs in case of centrally-cleared derivatives contracts.

¹⁶⁴ Interest Rate Trade Reporting Repository.

¹⁶⁵ See Annex 3.

¹⁶⁶ See Langen report, paragraph 44.

7.2.3. The problems

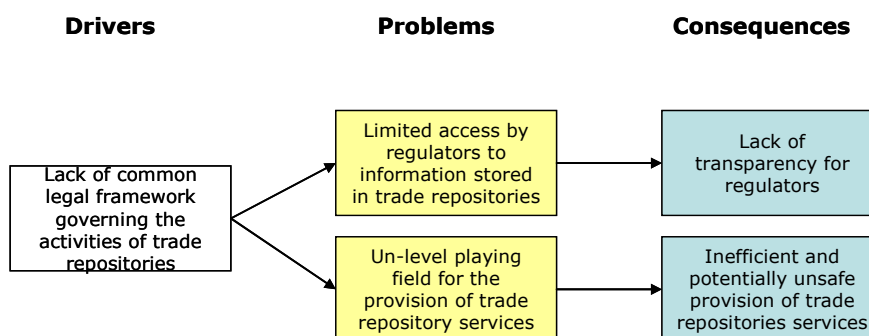
The main problem that arose during the crisis concerned the speed with which regulators could access the information stored in the credit derivatives trade repository (the only trade repository that existed at the time). This situation was mainly due to the fact that, up until very recently, the trade repository was not a regulated entity, so to the extent that information needed to be asked through legal means (e.g. a court order) or required the consent of the clients of the trade repository it took time for regulators to obtain it.

With the systemic role that trade repositories will gain because of the reporting requirement, the question of access to information by regulators will become even more important. In addition, several other aspects of a trade repository's business will need to be addressed because of the reporting requirement. These include authorisation/registration of trade repositories, access to and participation in a trade repository, disclosure of data, data quality and timeliness, access to data, safeguarding of data, governance and operational reliability, bundling of services etc.

7.2.3.1. Problem tree

Figure 14 below provides an overview of the various problems, their drivers and their consequences.

Figure 14: Problem tree



7.2.3.2. How would problems evolve without EU action?

At present, the two trade repositories are regulated under national rules: TriOptima's IR TRR is regulated by the Swedish Financial Supervisory Authority while DTCC's Warehouse Trust is regulated by the Federal Reserve Bank of New York and the New York State Banking Department. In both cases, access to data would require a Memorandum of Understanding (MoU) between the direct regulators and any competent authority requiring the data. The already mentioned OTC Derivatives Regulators' Forum has as one of its objectives the development of international cooperative oversight arrangements that may be applied to trade repositories.

Since there are currently no internationally agreed regulatory standards for trade repositories, CPSS and IOSCO have been tasked to develop a set of

recommendations to fill this gap. The recommendations are expected by the end of this year.¹⁶⁷

7.2.4. *The objectives*

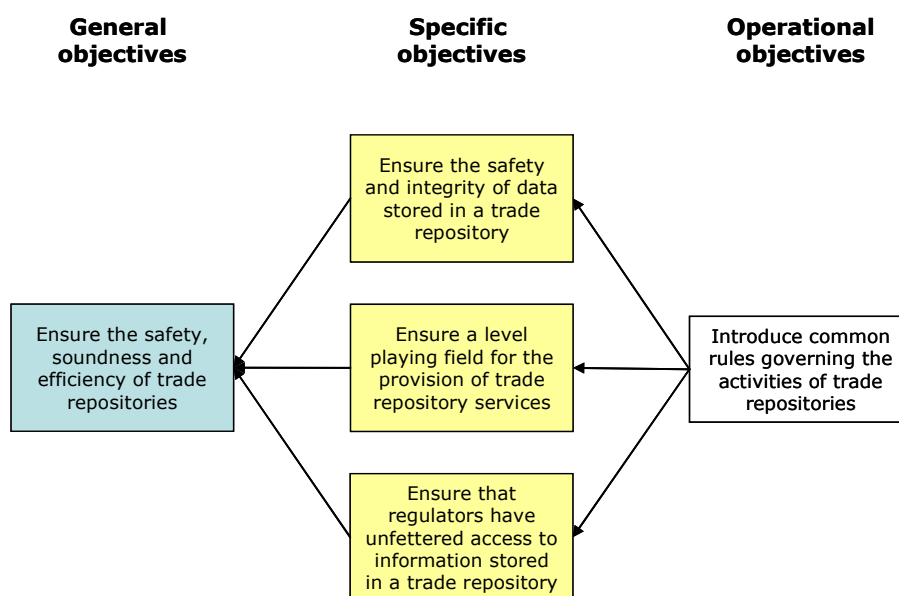
The main policy objectives are to provide safe, sound and efficient trade repositories that will provide the necessary support for the reporting requirement, and ensure that competent authorities have the necessary information to perform their duties. Reaching this general objective requires the realisation of the following more specific policy objectives:

- (1) ensure the safety and integrity of data stored in a trade repository;
- (2) establish a level playing field for the provision of trade repository services;
- (3) ensure that competent authorities have unfettered access to the information stored in trade repositories.

The specific objectives listed above require the attainment of a single operational objective, namely the introduction of common rules governing the activities of trade repositories.

An overview of the various objectives and their interrelations is depicted in Figure 15 below.

Figure 15: Overview of objectives and their interrelations



7.2.5. *The policy options*

The basic policy options for the only operational objective are the following:

¹⁶⁷ CPSS and IOSCO have recently launched a consultation on a set of considerations for trade repositories in the OTC derivatives market and for relevant authorities. See <http://www.bis.org/press/p100512.htm>.

- Option 1.1.: Rely on CPSS-IOSCO recommendations for trade repositories and cooperation among regulators (baseline scenario)
- Option 1.2.: Introduce legislation governing the activities of trade repositories

An important question that needs to be addressed is the distribution of regulatory responsibilities between the various national (and potentially European) authorities that have a direct interest in the safe and efficient operations of a trade repository. Since activities of trade repositories do not raise issues of prudential concern to regulators compared to, for instance, the risk management of a CCP, instead of a system of authorisation and supervision, a less intrusive system of registration and surveillance (to be distinguished from 'supervision' or 'oversight') over trade repositories should therefore be sufficient to achieve the objectives sought. The basic policy options addressing this topic are the following:

- Option 1.3.: National registration and surveillance (baseline scenario).
- Option 1.4.: EU registration and surveillance performed by ESMA.

In both scenarios oversight of trade repositories would be performed by the relevant central banks.

7.2.6. *Analysis of impacts and choice of preferred policy option(s)*

7.2.6.1. Option 1.1. (rely on CPSS-IOSCO recommendations)

Currently, there is no set of common rules applicable to trade repositories, neither at EU nor at international level. As already indicated, recommendations are currently being developed by CPSS-IOSCO. Once they will be ready, they will provide guidance to national regulators. However, they would suffer from the same shortcoming as the other recommendations, i.e. they would provide only broad principles. This means that they could result in widely differing regulatory solutions in the various Member States. This could introduce a multiplicity of different rules applicable to the activities of trade repositories. Since the latter are by definition entities which provide their services cross-border, this would result in the need for multiple authorisations and compliance with multiple rules, increasing unnecessarily their costs.

7.2.6.2. Option 1.2. (introduce legislation)

This option would eliminate the shortcomings of option 1.1. by providing a single set of rules applicable to any trade repository operating in the EU. In view of the importance of these entities for ensuring transparency about the OTC derivatives market and effective supervision of this market, it is paramount that they are subject to a common set of binding rules. Furthermore, the reporting requirement calls for safeguards to be put in place to prevent that trade repositories will abuse their role at the expense of the entities that will be subject to this requirement. Again, this is best achieved through binding rules applicable throughout the EU. This option will also mean that the cross-border provision of services would not entail any additional costs, as the same rules would apply in any EU Member State.

7.2.6.3. Option 1.3 (national registration and surveillance)

This approach mimics the usual authorisation and supervision regime common in financial services. Under this approach, a trade repository would register with its national competent authority, which would also be responsible for ensuring the trade repository's proper functioning. However, the reporting obligation on all EU market participants and the need to ensure unfettered access for EU regulators is likely to result in cumbersome and possibly not frictionless procedures, if the organisation of data access would fall under the responsibility of the national competent authority where the trade repository would be established. While dispute resolution procedures within ESMA would apply, this approach would not be most direct and efficient way to organise regulatory governance of trade repositories across the EU. It would also complicate cooperation with regulators of trade repositories located outside of the EU.

7.2.6.4. Option 1.4. (EU registration and surveillance)

As the main purpose of trade repositories is to provide services to the regulatory community, centralised registration and surveillance seems the most efficient approach. In this way, ESMA could act as the gateway for information requests aimed at a trade repository. This would facilitate a standardisation of access procedures to trade repositories located in different Member States. In addition, data confidentiality issues could be handled in a transparent and non-discriminatory manner and conflicts between requesting national authorities directly resolved. Moreover, ESMA could act as a central point channelling information requests to trade repositories located outside the EU. This centralisation would reduce costs for both trade repositories and regulators.

This option is superior to option 1.3. both from the point of view of costs and benefits.

7.2.6.5. The preferred options

Based on the above impact analysis, the preferred policy options are options 1.2 and 1.4.

7.2.6.6. The social impacts

The analysis of option 6.2.4. applies.

7.2.6.7. The environmental impacts

The analysis of option 6.2.5. applies.

7.2.6.8. The impacts on third countries

Similarly to the case of CCPs, the rules resulting from the preferred policy options would have an impact on third-country trade repositories. In particular, they would have to comply with those rules (or prove that the rules to which they are subject to in their come jurisdictions are equivalent to the EU rules) in case they wanted to

offer their services in the EU. Given that authorities based in the EU would need unfettered access to information stored in trade repositories located in third countries, the recognition process would need to specifically establish that such access is actually possible. If not, the direct consequence would be that no third-country trade repository would be able to offer its services in the EU for the purpose of the reporting requirement.

As in the case of CCPs, the Commission will need to continue monitoring that EU CCPs wishing to offer their services in third countries will not be discriminated against.

7.2.7. The preferred policy instrument

The analysis of section 6.2.7. is true even in relation to the part of the future instrument that would deal with the authorisation and operation of trade repositories.

8. MONITORING AND EVALUATION

Ex-post evaluation of all new legislative measures is a top priority for the Commission. Evaluations are planned about 5 years after the implementation deadline of each measure. The forthcoming Regulation will also be subject to a complete evaluation in order to assess, among other things, how effective and efficient it has been in terms of achieving the objectives presented in this report and to decide whether new measures or amendments are needed.

In terms of indicators and sources of information that could be used during the evaluation, a distinction needs to be made between the evaluation of the measures aimed at addressing transparency, counterparty credit risk and operational risk, and the measures aimed at establishing a common regulatory framework for CCPs and trade repositories.

For the first group of measures, especially for monitoring the reporting and the clearing requirement, the most convenient source of information will be the trade repositories. The information they store will allow for the monitoring of indicators such as the size of the various market segments, the proportion of contracts subject to CCP clearing, the relative importance of different groups of market participants and so forth. For monitoring the progress in terms of contract and process standardisation, existing sources could be used, such as the various ISDA surveys and the indicators published by MarkIt. The indicators that could be used are, for example, the proportion of contracts that are electronically affirmed and confirmed, the average age of unconfirmed contracts, the proportion of trades covered by collateral agreements, the number of collateral disputes and so on. For the clearing requirement a potential indicator could also be the types of contracts that are subject to the requirement and the number of CCPs that are being used in relation to it.

For the second group of measures, finding meaningful indicators would seem to be more difficult. A potentially better approach could be a questionnaire directed at market participants and the operators of the market infrastructure on whether the changes made reduced the risks they face in their daily business.

ANNEX 1: Glossary¹⁶⁸

Affirmation (of a trade confirmation)	A procedure in a confirmation process, whereby a single record of the trade is created by one party evidencing the full terms of the trade and the counterparty verifies and agrees to that record. Affirmation of trade confirmations is different from trade verification (also known as economic affirmation), which is limited to principal economic terms
Arbitrage	The exploitation of price differences in connected markets.
Bilateral collateral agreement	An agreement that defines the terms or rules under which collateral is posted or transferred between counterparties to an OTC derivative contract.
Central counterparty (CCP)	An entity that interposes itself between the counterparties to the contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer.
Clearing	The process of establishing settlement positions, including the calculation of net positions, and the process of checking that securities, cash or both are available for the settlement of obligations. In other words it is the process used for managing the risk of ⇒ open positions.
Collateral	An asset or third-party commitment that is used by the collateral provider to secure an obligation to the collateral taker. Collateral arrangements may take different legal forms; collateral may be obtained using the method of title transfer or pledge. See also margin.
Confirmation	A document identifying the details of a trade and any governing legal documentation, as agreed upon by both parties. This document serves as the final record of the transaction
Confirmation process	The process by which trade details are verified with a counterparty, with a view to obtaining a final record of the trade. This is generally done by exchanging a

¹⁶⁸ This glossary draws partly on glossaries contained in various reports published by Committee on Payment and Settlement Systems of the Bank for International Settlements.

	confirmation proposal via fax, mail or an electronic confirmation service. Either one party provides trade details and the other then verifies the information, or both parties submit records of the trade and verify each other's records.
Counterparty credit risk	The risk that a counterparty will not settle an obligation for full value, either when due or at any time thereafter. Credit risk includes pre-settlement risk (replacement cost risk) and settlement risk (principal risk).
Coupon	The regular payment on a contract, often also referred to as premium or \Rightarrow spread. The coupon can be fixed or floating.
Credit event	An event that may trigger the exercise of a CDS contract. Credit events include, for example, failure to pay (interest or principal when due), bankruptcy or \Rightarrow restructuring.
Default fund	A fund composed of assets contributed by a CCP's participants that may be used by the \Rightarrow CCP in certain circumstances to cover losses and liquidity pressures resulting from defaults by the CCP's participants. Also known as clearing fund.
Exposure	The amount of funds at risk, i.e. the amount that one may lose in an investment.
General clearing member (GCM)	A member of a \Rightarrow CCP that clears on its own behalf, on behalf of its customers and on behalf of other market participants.
Hedge	A \Rightarrow position established in one market in an attempt to offset \Rightarrow exposure to the risk of an equal but opposite obligation or position in another market.
Leverage	A financial ratio that compares some form of owner's equity (or capital) to borrowed funds. The higher are the borrowed funds with respect to own capital, the higher is the leverage.
Margin	An asset (or third-party commitment) that is accepted by a counterparty to ensure performance on potential obligations to it or cover market movements on unsettled transactions.
Marking to market	The practice of revaluating open positions in financial instruments at current market prices and the calculation of any gains or losses that have occurred

	since the last valuation.
Master Agreement	An agreement that sets forth the standard terms and conditions applicable to all or a defined subset of transactions that the parties may enter into from time to time, including the terms and conditions for closeout netting.
Multilateral netting	Netting on a multilateral basis by summing each participant's bilateral net positions with the other participants to arrive at a multilateral net position. Such netting is often conducted through a central counterparty (but it can also be done by other entities). In such cases the multilateral net position represents the bilateral net position between each participant and the central counterparty.
Multilateral trading facility (MTF)	A multilateral system, operated by an investment firm or a market operator, which brings together multiple third-party buying and selling interests in financial instruments - in the system and in accordance with non-discretionary rules - in a way that results in a contract.
Netting	The offsetting of positions or obligations by counterparties.
Notional amount	The reference amount on which a derivative contract is written.
Novation	The replacement of a contract between two initial counterparties to a contract (the transferor, who steps out of the deal, and the remaining party) with a new contract between the remaining party and a third party (the transferee).
Open interest	The total number of open derivative contracts on a specific underlying.
Plain vanilla transactions	Generally used to refer to a type of derivatives transaction with simple, common terms that can be processed electronically. Transactions that have unusual or less common features are often referred to as exotic, structured or bespoke.
Portfolio reconciliation	The process of verifying the existence of all outstanding trades with a particular counterparty and comparison of their principal economic terms.
Portfolio compression	⇒ Multilateral netting.

Position	The stance an investor takes vis-à-vis the market. An investor's position is said to be long (short) when she buys (sells) a financial instrument.
Reference entity	A corporate, a sovereign or any other form of legal entity which has incurred debt, on which a CDS is written.
Restructuring	One of the ⇒ credit events that may trigger the exercise of a CDS contract. The term denotes a change in the legal terms of an issuer's (⇒ reference entity) obligation, such as the reduction in the obligation principal, the reduction in the contractually agreed interest payments and the deferral of interest or principal payments.
Segregated account	An account used for the ⇒ segregation of a client's assets
Segregation	A method of protecting a client's assets by holding them separately from those of the custodian (or other clients, as the case may be).
Settlement	The completion of a transaction, wherein the seller transfers securities or financial instruments to the buyer and the buyer transfers money to the seller.
Speculation	The act of making an investment, i.e. taking a ⇒ position in the market, without certainty of being able to recover the initial investment or earning a return on the investment.
Straight through processing (STP)	The automated end-to-end processing of trades including, where relevant, the automated completion of confirmation, matching, generation, and clearing and settlement of orders.
Trade matching	The process by which both counterparties to a trade create a written or electronic record evidencing the full terms of the trade. These two records are then compared and considered matched if they are identical.
Trade repository	A centralised registry that maintains an electronic database of open OTC derivative transaction records (contracts).

ANNEX 2: Future policy actions for ensuring efficient, safe and sound derivatives markets

Objective	Proposed actions	Time line
Reduce counterparty credit risk - strengthen clearing	<p>Propose legislation on CCP requirements, governing:</p> <ul style="list-style-type: none"> (a) safety requirements (e.g. conduct of business, governance, risk management, legal protection of collateral and positions) (b) authorisation/withdrawal of authorisation and supervision of CCP (c) mandating of CCP clearing of standardised derivatives <p>Amend CRD in order to:</p> <ul style="list-style-type: none"> (d) Mandate financial firms supplying initial and variation margin; (e) Substantially differentiate capital charges between CCP-cleared and non-CCP cleared contracts in CRD; 	<p>Mid 2010</p> <p>End-2010</p>
Reduce operational risks - standardisation	<p>Assess whether to re-shape the operational risk approach in the CRD to prompt standardisation of contracts and electronic processing.</p> <p>Work with industry to increase standardisation of legal regimes and processes;</p>	<p>End 2010</p> <p>On-going</p>
Increase transparency - trade repositories	<p>Propose legislation on trade repositories:</p> <ul style="list-style-type: none"> (f) Regulate trade repositories (g) Mandate reporting of OTC derivatives transactions to trade repositories; 	<p>Mid-2010</p>
Increase transparency – trading	<p>Amend MiFID to require transaction and position reporting to be developed in conjunction with CCPs and trade repositories;</p> <p>Ensure trading of standardised contracts on organised trading venues under MiFID;</p> <p>Enhanced trade and price transparency across venues and OTC markets, as appropriate, in MiFID;</p> <p>Conclude review of exemptions from MiFID for commodity firms.</p>	<p>End-2010</p>
Improve market integrity	<p>Extend MAD to OTC derivatives;</p> <p>Give regulators the power to set position limits in MiFID.</p>	<p>End-2010</p>

ANNEX 3: 2 December 2009 Council conclusions on derivatives markets and clearing and settlement¹⁶⁹

The Council adopted the following conclusions:

1. The Council RECALLS the Conclusions of the European Council of 18/19 June 2009, where the European Council called for "further progress to be made in the regulation of financial markets, notably on transparency and stability of derivatives markets."
2. The Council RECOGNISES the global dimension of derivatives markets and the need for a level playing field, as agreed by G-20 leaders at their meeting on 25 September 2009, where they called i.a. for: "Improving over-the-counter derivatives markets: All standardized OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by end-2012 at the latest. OTC derivative contracts should be reported to trade repositories. Non-centrally cleared contracts should be subject to higher capital requirements."
3. The Council also STRESSES the importance of the two related workstrands set out in the ECOFIN roadmap adopted by the Council (ECOFIN) on 20 October as an annex to its conclusions on strengthening EU financial stability arrangements, namely:
 - "Increasing the safety for "over the counter" derivatives markets, by : the clearing of standardized OTC derivative contracts through central counterparties and, if not, higher capital requirements; the reporting of non-standardized derivative contracts to trade repositories";
 - "Improve transparency in use of derivatives".
4. The Council broadly WELCOMES the future actions announced by the Commission in its Communication on "Ensuring efficient, safe and sound derivatives markets - Future policy action". On that basis, the Council, bearing in mind the aforementioned declaration of G-20 leaders in Pittsburgh:
5. Broadly WELCOMES the paradigm shift in the approach towards derivatives markets suggested by the Commission, namely moving from so-called "light-handed regulation" to a more ambitious and comprehensive regulatory policy, that is aimed at reducing counterparty and operational risks, increasing transparency of the derivatives market and strengthening market integrity and oversight and, operationally, is expected to shift derivatives trading and clearing from predominantly OTC bilateral transactions towards centralised trading and clearing infrastructures;
6. STRESSES in that respect, as noted by the Commission, the need to have a comprehensive policy on OTC derivatives in order to avoid regulatory arbitrage and, at the same time, to take into account differences across classes of instruments and contracts, as well as those of specific market participants, incl. non-financial firms, and

¹⁶⁹ Available at http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressdata/en/ecofin/111706.pdf. See p. 26-30. The relevant passage is reported in its entirety, although not all of the points are relevant to this report.

commodity markets, e.g. for gas and electricity. Any future policy option should ensure that non-financial institutions can continue managing the risks inherent to their business, without incurring disproportionate costs; and where appropriate should allow them to tailor risks to individual needs, subject to proper risk mitigation techniques and internal controls, but without underpricing risks nor opening regulatory loopholes.

7. AGREES with the need to improve substantially the mitigation of counterparty credit risk, and focusing in particular on:
 - b. Promoting clearing of clearing eligible derivatives by means of one or more central counterparties (CCPs) which should be subject to adequately harmonised regulation and supervision and oversight to ensure improved safety and soundness.

The Council WELCOMES the joint CESR-ESCB Recommendations for Central Counterparties in Europe and broadly WELCOMES the Commission's intention to work on appropriate legislative proposals addressing in particular 5 issues, namely: conduct of business and governance, risk standards, legal protection to collateral and positions, authorisation and recognition of third-country CCPs.

Taking into account i/ the pan-European reach and systemic importance of CCPs and ii/ the fact that CCPs may ultimately be supported by fiscal authorities, the Commission should propose appropriate institutional responsibilities;

- c. Recommending the use of CCPs located in Europe. The Council recognises that there are strong reasons for some CCPs being located in Europe, relating to regulatory, supervisory and monetary policy concerns.
 - d. Accordingly, mandating CCP clearing for clearing-eligible derivatives. The Council however RECOGNISES that there are limits to the scope of potential standardisation, and that non-standardised OTC derivative contracts will therefore remain necessary and that proper arrangements need to be in place to fulfil the aforementioned objectives of transparency and safety for the OTC derivatives markets;
 - e. Consequently, requiring proper collateralisation for bilateral clearing, and making it subject higher capital charges than centrally cleared trades, taking into account the risk-mitigating effect of collateral arrangements and other measures, as well as the impact on the corporate sector. The Council INVITES the Commission to conduct comprehensive impact assessments and reflect the principle of higher capital requirements for bilateral OTC contracts, as agreed at G-20 level in Pittsburgh, in future amendments to the Capital Requirements Directive (CRD). The Commission should take into account the technical solutions being developed under the aegis of the Basel Committee.
8. Also AGREES with the importance of improving transparency, efficiency and integrity for derivative transactions, focusing in particular on four issues:
 - a. Mandating reporting of transactions to trade repositories, to be then provided to regulators. The Commission should work towards proposing a Common legal framework for the regulation, supervision and oversight of trade repositories, incl. the roles and functions that may be given i.a. to ESMA within the overall supervisory framework;
 - b. European regulators' and Central banks' access to information stored in trade repositories. The Council CONSIDERS that European regulators and Central banks must have

unfettered access to complete global information. In the absence of such access to information in repositories located in third countries, the Council WOULD ENCOURAGE the creation and operation of European-based trade repositories;

- c. Ensuring that all relevant trades eligible for exchange-trading take place on organised markets;
- d. Enhancing pre-and post-trade transparency requirements as appropriate.

The Commission should include these issues in its review of the Directive on Markets in Financial Instruments (MiFID).

9. Broadly WELCOMES the Commission's intention to work also on mitigating operational risk and, within the context of the forthcoming review of the MiFID and of the Market Abuse Directive (MAD), to revise relevant legislative provisions underpinning market integrity and oversight.
10. Overall, broadly WELCOMES the Commission's intention to put forward, or revise as appropriate, several legislative proposals (i.e. a possible Proposal on CCPs, amendments to the CRD; the reviews of MiFID and MAD). The Council RECALLS in that respect the common / inter-institutional commitment to better regulation and INVITES the Commission to carry out a thorough impact assessment for the legislation to be proposed, working towards addressing the needs of all concerned stakeholders, and seeking consistency with existing or emerging international standards, whilst respecting the aforementioned overarching principles of market transparency and financial stability.

Clearing and Settlement

11. In the field of clearing and settlement for cash equities, as clarified by the Commission report on the Code of Conduct, the Council NOTES the progress made in terms of increased efficiency and reduced costs for investors, in particular as regards cash-equity CCP-clearing. The Council AGREES with the conclusion that further steps need to be taken to address the issues related to risk and regulatory barriers that have been highlighted by the Code of Conduct. The Council TAKES NOTE of the ongoing work aiming at increasing legal certainty of securities holding and transaction and INVITES the Commission to present its draft legislation on securities law as soon as possible.
12. The Council INVITES the new Commission to continue work with the industry to resolve remaining challenges as regards price transparency and comparability, commercial and operational barriers to links and access and service unbundling in the post-trade sector.
13. The Council RECALLS in that respect its conclusions of December 2008 where it stressed the need for further progress on access and interoperability requests, bearing in mind financial stability concerns that these arrangements should be compatible with the safety and soundness of the post-trading infrastructure, and emphasised in particular that links between CCPs should comply with high prudential standards in respect of credit, liquidity and operational risks."

ANNEX 4: Summary of first public consultation

1. INTRODUCTION

This document presents a broad non-exhaustive summary of the responses to the consultation on OTC Derivatives market. The summary follows the same sections outlined in the consultation document and for each section provides both an overview of the general comments received and of the detailed responses to the single questions.

2. PROMOTING FURTHER STANDARDISATION

General comments

The Commission Consultation paper had distinguished two types of standardisation, namely that of the contract (the legal frame) and the contractual parameters (the economic content). Several respondents refined standardisation into the following three subcategories:

1. Contract uniformity (standard legal relationships, confirmation agreements, documentation, market conventions on event handling)
2. Product uniformity (standard valuations, payment structures, dates)
3. Process uniformity and automation (Straight-through processing (STP), matching, confirmation and settlement)

Many respondents found using standardised legal terms beneficial. Market practice has generated model legal frameworks (Master Agreements), while a few may co-exist (e.g. for UK and US legal regime). This might happen naturally in a maturing, more liquid market. Commodity derivatives, however, would by nature be highly specific but there was no evidence that they posed a risk to the financial system. However, corporations often responded that they would not use some of those model contracts because they would entail market practices not suitable for them (e.g. the provision of collateral, which would expose them to liquidity risk). One respondent argued that the recent market agreement on the auction settlement for CDS would have exposed CDS sellers to higher risk. On the other hand, one respondent argued that the standard practice of "cash settlement" in CDS cause speculation and might have hinder access to credit for the companies on whose name the CDS was written. Other respondents argued that the regulation of investment/mutual funds (subject to UCITS) required some specific clauses in otherwise standard CDS contracts to avoid loan delivery.

Product uniformity, as far as standardising the economic parameters of the contract is concerned (provided they are consistently defined), was widely rejected, since it would limit hedging possibilities and might result in a conflict with accounting rule IAS 39. Uniform event handling was seen in some cases as problematic, as there was diversity in national legislation (e.g. corporate action). However, one public authority regarded further standardisation of contract and economic terms as beneficial, which should be determined in an industry/regulator working group.

The technical standardisation, i.e. automation of processes was widely seen as beneficial; however many respondents emphasised the set-up costs. To achieve this, for example the fields to be completed in every transaction could be standardised. Process automation to reduce operational risk was often seen as the driver, rather than the consequence, of standardisation. Some argued that, especially for rather specific needs, the first steps in

concluding a trade (the brokering) need not be automated. One respondent also argued that electronic confirmation on the trade date may risk resulting in cash flows from the swap not matching those of the underlying bond.

A large number of respondents (with exceptions, though) did not consider it necessary to incentivise standardisation through regulatory capital charges, as markets would have an inherent incentive to reduce operational risks anyway.

Several respondents report that the standardisation needed to allow for central clearing (and hence reduction of counterparty risk) should be strictly separated from the kind of standardisation/automation that would reduce operational risk. Moreover, considering only centrally-cleared trades as standardised would transfer a regulatory responsibility to clearing houses, which pursue the business objective of attracting order flow.

(1) What would be a valid reason not to use electronic means as a tool for contract standardisation?

It was pointed out that there was still scope to wider use electronic affirmation and confirmation to reduce settlement risk. Broker dealers should be required to receive positive affirmation from their clients on all OTC derivative trades. Market participants should be invited to explain why the use of electronic means would not be possible in some cases. However, it was warned that dominant market players might impose their electronic systems onto the rest of the market, thus cementing their market power.

Clearinghouses stated that "electronic means" would work on a general level, but the level of standardisation would not be suitable to determine if a contract was eligible for CCP clearing.

A market infrastructure provider argued that capturing the complete information of an OTC derivative trade in an electronic format early during its life cycle (Execution – confirmation – clearing – data repository – life cycle events) should be regarded as a pre-requisite to increasing the resilience and the transparency of the market. The respondent added that, whilst the degree of standardisation of legal terms is relevant for the eligibility of a product for electronic processing during all stages of its life cycle, its eligibility for electronic execution and clearing would in addition depend on its actual liquidity and reliability of pricing.

One respondent offered a functional breakdown of "electronic means" during the trading cycle:

"Electronic execution: should be encouraged wherever possible, but with the realisation that only liquid segments of certain markets may meaningfully benefit from that type of high transparency environment. Certain types of trade may only occur very infrequently, and where price uncertainty exists there is little motivation to risk creating price deviation by the mere disclosure of the price.

Electronic reconciliation and confirmation: potentially a very valuable tool to ensure that details of trades are agreed early and accurately, and can be used in both high and low velocity markets.

Straight-Through Processing (STP): trade-capture via electronic systems (even if it occurs posttrade) allows STP to market participants' internal risk and settlement systems.

Auto routing to depositories and/or CCPs: once trade information is accurately captured it can be submitted automatically to clearing and settlement systems and/or to data depositories.

Clean data for analysis by regulators: as with trade information submitted to infrastructure, accurate, reconciled and ideally netted data can be made available to regulators for analysis."

It was pointed out that brokering the contract may not necessarily be electronic; however once a trade was agreed the remaining back office work can be done electronically.

(2) Should contracts standardisation be measured by the level of process automation? What other indicators can be used?

Many respondents argued that a certain level of process automation was possible even without standardisation, hence the level of process automation was not an exclusive measure of standardisation. So-called "copper" electronic trade records would retain only some key terms of a trade. In the same vein, it was argued that the vast amount of (operational) risk reduction would already be achieved by confirming the key financial terms of a transaction, which would correct the incorrectly booked trades.

Also, for example, equity derivatives may have bespoke contracts to deal with specific legal and business risks, but can still be eligible for electronic confirmation. However, it was also argued that such "short form" automation would be a strong impediment to central clearing.

A focus on execution and confirmation automation levels would provide the best measure for standardisation because these processes will use a fully valid legal record of the contract.

It was suggested to look at the time needed for two parties from agreeing on a trade to reaching a legally binding contract (or between transaction initiation and execution, or, if applicable, novation). Furthermore, the number of failed trades (or erroneous or incomplete confirmations) could be taken as an indicator.

Higher trading volumes and the absence of significant (economic and in legal form) differences in contract terms could be viewed as indicators. One respondent answered that the ratio of traded turnover over outstanding nominal of underlying instrument, the more standardised a contract.

One bank pointed out that the NY Federal Reserve considered 20 trades per month in a product range, such as interest rates, as the threshold for an electronic process. Similarly, another bank suggested setting the use of electronic trade processing as an industry standard depending on the transaction volume, for example for entities with at least 10 transactions in one asset class or 20 cumulatively per month.

(3) Should non-standardised contracts face higher capital charges for operational risk?

This question proved quite controversial, since the use of the term "standardisation" was not uniform among respondents (see general remarks and preceding questions).

Some public authorities argued that priority should be given to counterparty risk mitigation tools. The Capital Requirements Directive (CRD) already takes operational risks into account in general terms; it would be difficult to technically introduce a strengthened recognition for non-standardised contracts. To include possible losses from manual processes would face conceptual problems. This was supported by some industry answers; neither the Advanced

Measurement Approach nor the Standard Approach in the CRD would be able to capture each and every transaction.

However, one regulator argued that in practice, novel or increased operational risk is likely to arise more commonly for non-standard contracts. Therefore, compared to standardised contracts, higher capital charges may be appropriate more frequently.

In contrast, others pointed out that, to the extent that non-standardised contracts were not centrally cleared, they already face higher capital charges (for counterparty risk). It was even argued that an extensive standardisation would conflict with the risk mitigation function that the CRD would attribute to derivatives. One respondent would like to see proof of correlation between non-standard contracts and higher operational risk.

Others pointed out that non-standardised contracts did not only face higher operational and counterparty risk, but also higher liquidity risk. While flexible when written, they become inflexible in terms of maintenance and closure. Operational risk was not the main driver of risk for non-standard products.

In the same vein, a bank suggested to define regulatory targets directly for post-trade automation and performance, rather than addressing standardisation. Calibrating a possible level of regulatory capital charges and ensuring that the system is robust to market changes would be a lengthy exercise.

Further respondents argued that, if it was decided to impose higher charges, those should relate to the level of process automation and straight-through processing rather than standardisation on its own.

Some public authorities thought however that higher capital charges linked to operational risk could serve as an incentive to promote standardisation. Some private-sector respondents also thought that increasing capital charges would help to reduce appetite for complex and less transparent structures. In contrast, banks argued that internal operational risk models were already taking into account the increased risk associated with non-standardised contracts. It was also thought that moves in the direction of standardisation were already in the interest of market participants, if justified by volumes, and did not need further incentives. For example, standardised products would be better priced. It was pointed out that the industry has already committed to more standardisation (ISDA letter to NY Fed, 2 June 2009).

Corporations were very firm in pointing out that their use of derivatives was determined by the structure (maturity etc.) of their liabilities, so that standardisation of the economic parameters of the contracts would undermine their hedging and conflict with accounting standards. While some companies acknowledged that a common understanding of legal terms was useful, they would like to retain the freedom not to use standard collateral agreements.

It was suggested that regulators carry out a quick, determined review of existing industry associations' framework agreements (both for derivatives as well as their underlying assets). Indeed, one regulator suggested establishing a working group to determine 1) a mutually acceptable definition of "standardised", and 2) a roadmap for increasing such standardisation.

(4) What other incentives toward standardisation could be used, especially for non-credit institutions?

It was pointed out that non-credit institutions would receive more favourable prices on standardised products. In addition, if capital charges were applied to credit institutions, these might be passed on to non-credit institutions as spread or price.

One credit institution suggested using the audit process to monitor the implementation of policy objectives by corporations.

One regulator suggested better education of OTC derivatives users.

3. STRENGTHENING BILATERAL COLLATERAL MANAGEMENT FOR NON-CCP ELIGIBLE OTC DERIVATIVES

General comments

Most respondents highlight concern with existing statistics (e.g. ISDA) on collateral levels. These may under represent the level of collateral, as they focus on collateral covered by Credit Support Annexes (CSAs) and hence do not focus on collateral provided outside such relations. Many respondents therefore argue that it is necessary to improve transparency of how exposures are calculated and the level of collateral.

As regards the currently less than full level of collateralisation (one third of exposures remain uncollateralized), many respondents argue that this is natural, as many end-users of OTC derivatives do not supply collateral (e.g. smaller financial firms, corporates, sovereigns and supranational lending institutions).

The views on the merits of strengthening bilateral collateral management differ considerably depending on the type of respondent. Generally, among financial firms there is a broad support for strengthening bilateral collateral management by (i) increasing collateral levels (subject to the comments above) and (ii) improving the frequency by which exposures are marked-to-market and collateral is exchanged.

Broadly, most financial firms believe that daily valuation, exchange of collateral and portfolio reconciliation should be the long-term goal. Most respondents do not see any particular market as beyond that ambition, even though specific attention has to be paid to – and exceptions made – for (i) certain counterparties (small), (ii) certain contracts (complex), and (iii) certain types of collateral (non cash), where the costs of setting up daily valuation, exchange of collateral and reconciliation would be disproportionate to the benefits in terms of risk reduction.

Two groups of respondents have considerable concern with strengthening bilateral collateral management: corporates and supranational lending institutions. Both groups are active mainly in FX derivatives, interest rate swaps and commodity derivatives. While both groups support the objective of making OTC derivatives safer, they argue that they adequately address the risks associated with their current use of OTC derivatives and that obliging them to submit collateral would create significant risks, in terms of unpredictable margin calls, and costs, in terms of administering their collateral obligations. This would effectively reduce their ability to take recourse to OTC derivatives to hedge their business related risks.

Moreover, some corporates express particular concern related to the CDS market, which they judge opaque and volatile and where unpredictable CDS spreads may affect corporates' access to credit.

As regards the need for legislation, views differ significantly. Most financial firms argue that, as current collateral levels are adequate, existing rules and incentives are sufficient. Others – infrastructures, many Member States – on the contrary argue that legislation is necessary to complement industry action. Most of them, however, argue in favour of regulatory capital incentives rather than mandating either supply of collateral or certain collateral management techniques *per se*.

(5) How could the coverage of collateralised credit exposures be improved?

Many stakeholders stress that available ISDA statistics on the level of exposures covered by collateral are unreliable. Between financial dealers, some argue that collateral levels are sufficiently high, due to the 'natural incentives' to supply collateral (e.g. regulatory capital treatment). Moreover, the less than full coverage is explained by end-users who either cannot (e.g. corporates) or will not (e.g. supranational lending institutions) supply collateral.

Corporates argue that being forced to conclude collateral agreements (CSAs) would lead to excessive and unpredictable margin calls, which would expose them to significant liquidity risk. Currently they are exposed to counterparty risk, as no CSAs. However, this risk is manageable provided you choose your counterparty carefully and use several counterparties. Liquidity risk is not, as nobody can predict how prices will evolve. An obligation to submit collateral would put a significant strain on corporate liquidity and would be operationally costly.

Similarly, supranational lending institutions argue that obliging them to submit collateral (either by means of CCP membership or in bilateral collateral relations) would significantly increase their cost and submit them to liquidity risk.

In order to strengthen the level of collateral, some respondents argue that it is necessary to explore the possibility of non-cash collateral.

(6) Are there markets where daily valuation, exchange of collateral and portfolio reconciliation cannot be the goal? Please justify.

A majority of stakeholders argues that there are no markets that *per se* cannot support daily valuation, exchange of collateral and portfolio reconciliation and that it should accordingly be a long-term goal. However, most respondents stress the costs of daily procedures, which for smaller financial firms and most end-users would be prohibitive. Therefore, while broad support for strengthening bilateral collateral management, it is necessary to make exceptions for (i) certain counterparties (small), (ii) certain contracts (complex), and (iii) certain types of collateral (non cash), where the costs of setting up daily valuation, exchange of collateral and reconciliation would be disproportionate to the benefits in terms of reducing risk.

(7) How frequently should multilateral netting be used?

There is a broad support for trade compression, the kind of multilateral netting referred to in this question. However, the frequency of compression depends on the liquidity of underlying instrument; if liquid, compression could occur more frequently; if not, less.

(8) Should bilateral collateral management be left to self-regulatory initiatives or does it need to be incentivised by appropriate legislative instruments?

Views on the relative merits of self-regulation vs. legislative instruments differ. Financial firms broadly express little support for legislation, arguing that natural incentives push towards high level of collateralisation and that existing legislation (CRD) already provide regulatory capital incentives. Others – corporates, infrastructures, public authorities – on the contrary argue that legislation is a useful and necessary complement to industry action. As regards the form of such legislation, with the exception of many infrastructure providers, there is limited support for mandating either collateral provisioning or certain collateral management techniques.

Instead, legislation should focus on incentives (regulatory capital requirements differentiated according to clearing method). Regulatory capital regime should favour CCP clearing. For example, it is argued that regulatory capital rules on bilateral collateral should take into account whether collateralisation includes future replacement cost (initial margin) and not only variation margin, as is currently the norm. Moreover, some argue that the charge on bilateral collateral should be reduced in steps depending on the contract being sufficiently standardised, variation margin being supplied and initial margin being supplied. The best treatment should be accorded to CCPs.

Furthermore, those supporting mandating argue that risk taking (trading) should be separated from risk management (collateral collection). Accordingly, collateral management should preferably be handled by a third party bilateral collateral manager. A commonly held position is that irrespective of what is done, it is essential that institutions remain responsible for properly managing their risk. Therefore, when adapting rules, it is necessary to keep incentives to assess and hedge risks at institutional level.

4. CENTRAL DATA REPOSITORIES

General comments

The idea of central data repositories or trade repositories (TR) is generally well accepted by all kind of respondents. Some divergences appear on the scope of products to be covered and on the need of a unique TR or several ones exclusively covering a segment of the market. Confidentiality and transparency are the two main concerns to be addressed when creating such TR according to an overwhelming majority of respondents. The disclosure of information to the public is positively considered by most of the respondents. However unanimously, respondents propose not to disclose to the public any information which could be detrimental to the market or one of its participants. Disclosure of aggregate data according to the respondents is the way to avoid this happening. Respondents also unanimously agree that regulatory authorities should have an extended access to all data with the sufficient granularity to allow them to exercise their market supervisory duties.

(9) Are there market segments for which a central data repository is not necessary or desirable?

An overwhelming majority of the answers recognise the need to put in place central data repositories for all class of assets and markets. However among the answers received from entities falling under the business category "infrastructures", there seems to be an unanimity in favour of having markets and transactions done "through CCP" not being reported to the TR in view of avoiding duplication of work.

There are also an important number of answers requiring the settlement of a unique central data repository in order to avoid competition and unnecessary duplication.

(10) Which regulatory requirements should central data repositories be subject to?

Regarding the kind and the level of regulatory constraints to put in place, in general it is suggested to have an equal treatment between TR and other financial market players. Some referred explicitly to the MIFID provisions (article 32) whereas others referred to the legal framework surrounding Central Securities Depositories (CSD) activities.

One of the major concerns raised is the need for high level of transparency and adequate rules on system controls and confidentiality.

There are an equal number of answers in favour of TR being public entities or privately owned ones. Work undertaken by IOSCO and CESR on this matter can serve as a base according to one public authorities.

(11) What information should be disclosed to the public?

Regarding information disclosure a distinction is made by all respondents: the direct and full access to be given to regulatory Authorities on the one hand and on the other hand a disclosure to the public of high level statistics based on aggregated figures.

Regarding the scope of the data to be published, most of the answers propose to cover all markets segments on three elements: average prices (intraday), volumes and open interest. Many respondents asked also that the disclosure to the public take place on a delayed basis.

One respondent explicitly quoted the work of the OTC Derivatives Regulators Forum on this topic which proposes to disclose to the public 5 kind of data (all live positions as of a specified date; weekly activity for aggregate positions; weekly transaction activities; aggregate open interest by currency and aggregate settlement data by currency).

Disclosure to the public of information on individual transaction is unanimously rejected. As written by a respondent the commonly accepted goal to be achieved is that: *"The public should be able to analyse the evolution of the market structure over time on the basis of the information made available"*.

Also many respondents have concerns about the additional reporting obligation it will convey: all "corporate" respondents have indicated that these new constraints should be born exclusively by their financial counterpart and that in any case these new reporting obligations could not lead to an increase of the costs of these financial entities.

5. MOVE CLEARING OF STANDARDISED OTC DERIVATIVES TO CCPs

General comments

Respondents highlight a general aversion to mandatory clearing (even exchanges and infrastructures are not supportive) and suggest to follow the way of incentivising clearing through adequate capital incentive. Some indicate the work of the Basel Committee in this respect and the higher capital charges that should apply to bilateral transactions as an incentive to CCP clearing.

Many call for regulation to define minimum standards for CCPs, in particular on risk management to avoid competition to the detriment of risk, but also on CCPs governance and protection of client assets.

Many respondents highlight the time needed to adapt their systems.

Both banks are against multiple CCPs and some suggests a limited number or only one CCP per asset class. In their view, the competition problem would be better solved by appropriate governance arrangements or ownership.

In general the corporate sector is against the idea of CCPs that would simply increase the cost for them. They believe that it is relevant only for CDS and for the financial sector.

Many point out that the FX market is different and CCPs are not needed as the main source of risk is the settlement risk not replacement risk and the former is already adequately covered.

(12) Do you agree that the eligibility of contracts should be left to CCPs? Which governance arrangements might be necessary for this decision to be left to the CCPs' risk committees?

Almost all the respondents agree that the eligibility should be left to CCPs which are the one to bear the risk. Many however argue that the decision should not lead to an obligation to clear the product via a CCP.

Many banks suggests that users should be appropriately consulted and some suggest that the decision of the risk committee should be binding. Some suggest also a role of the regulators in this respect. Many highlight the risk of CCPs that are for profit organisation. Many also request the respect of the ESCB/CESR recommendations on governance arrangements.

For funds it is very important that CDS contracts that exclude loan delivery in case of a credit event are considered eligible.

(13) What additional benefit should the CCP provide to secure a broader use of its services?

Many agree with the suggestion of the consultation paper that one of the benefit can certainly be for the CCP to act as reporting entity on behalf of its members. However, a couple of respondents highlight that in a competitive CCP environment the information held by the different CCPs would be incomplete and not up to date considering that clearing not always occur on the same day. Therefore other market infrastructures would be better placed in this respect.

Among the other services and benefits suggested appear the following:

- Broad market participation;
- Straight Through Processing;
- Transparency on methodologies and prices;
- Cost reduction and adaptation of fee structure for less active customers;
- Cross-margins;
- Interoperability;
- Leveraging of existing infrastructure;
- Incorporate trade tear-up, termination or compression (even through account segregation);

- Equal treatment of corporate actions;
- Tri-party repo arrangements for collateral posted;
- Account segregation and portability;
- Better tax treatment of CCP cleared transactions;
- Use of central bank money;
- Participation and guarantee of States or central banks.

(14) Is the zero-risk weighting a sufficiently effective incentive for using CCPs across different market segments?

In general most of the respondents believe that the zero-risk weighting is a sufficient incentive. However, some point out that to be effective appropriate weights should be placed elsewhere, i.e. bilateral transactions. In this respect many call for global consistency on the incentive applied and therefore suggest leaving this work to the Basel Committee.

One interested party argues that since exchange traded contracts incur a minor liquidity risk, this should be reflected in a better capital treatment than CCP cleared contracts traded OTC.

(15) Should additional requirements, such as appropriate account segregation, be introduced to apply the zero-risk weighting to indirect participants?

Almost all respondent are in favour of account segregation. Some believe that extending capital incentives to them is a positive tool, however to do that it should be ensured that the only counterparty risk that the client face is the CCP one and not that of the clearing member. Some suggests that a large portion of indirect participants are not credit institution and therefore the zero-risk weighting does not apply.

Some argue that since segregation comes at a cost it should not be imposed, in particular segregation at CCP level. It should be for the customer to decide on the basis of a transparent assessment of costs and risks faced.

Some, in particular infrastructures, buy-side and some public authority, call for appropriate regulation to establish harmonised rules on protection of client assets. It is even more important in considering that interoperability will not be immediately available and access via clearing members may represent an interim solution.

(16) Should bilateral clearing of CCP-eligible CDS be penalised and, if so, to what extent? Is there a need to extend regulatory incentives to clear through a CCP to other derivatives products?

In general it is suggested that the same approach should apply to the different asset classes, but most of the respondent are against punitive charges. Capital requirements should reflect the effective risk faced and not be improperly used. However, bilateral clearing implies higher risks and these should be duly taken into account and by doing so an incentive to CCP clearing will be provided. Some market participants may have valid reasons not to clear through CCP and only the higher risk of that choice should be captured.

Capital charges are generally preferred to mandatory use of a particular infrastructure. Some respondents from the buy-side, from infrastructures or from the public sector believe that it is not unreasonable to penalise bilateral clearing of CCP-eligible contracts. Buy-side firms are, however, against penalisation for decisions outside their control.

(17) Under which conditions should exemptions be granted and by whom?

The majority of those who replied to this question indicated that CCP use should not be mandated and hence no exemptions are needed. Corporates unanimously replied that they should be exempt from using CCPs. Some of the respondents indicated that CCP clearing should be mandated only for entities with sufficiently large exposures and for entities that are systemically important. In these cases the exemptions should be granted by the relevant authorities (in some cases after discussions with the industry).

(18) What is the minimum acceptable ratio of CCP cleared/eligible contract? What is the maximum acceptable number of non-eligible contracts?

Almost all of the respondents who replied to this question indicated that it is not advisable to set arbitrary thresholds. Those who did provide some indications of what these thresholds could be, pointed out that they would differ according to product types; in such cases best-practice benchmarks should be used. CCPs warned that setting the maximum number of non-eligible contracts could be counterproductive, as CCPs could be forced to clear unsuitable contracts to keep their members below the threshold.

(19) What statistics need to be provided to regulators to make sure they have all the information necessary to perform their duties?

In general, the respondents indicated that regulators should receive all the information necessary to perform their duties. A number of respondents have stressed the important role that trade repositories could play in the provision of information to regulators (some have even indicated that the repositories should be the default exit point for all information). Some have also pointed out to the current work being done within the OTC Derivatives Regulators Forum for determining what type of information regulators would like to have. One respondent highlighted the need for comparable statistics between data provided by CCPs and data provided by repositories. A few corporates asked to be exempt from any reporting requirements to regulators.

(20) How could European legislation help ensuring safety, soundness and a level playing field between CCPs?

The great majority of respondents indicated that some sort of legislation is necessary to regulate the activity of CCPs (a few indicated that the ESCB-CESR recommendations should be used as the basis for such legislation). The main reasons for legislation mentioned included ensuring safety and soundness of CCPs, a level playing field and preventing competition between CCPs on margin (and thus a race to the bottom). To this end, the respondents indicated that legislation should cover, inter alia, open and fair access, business continuity, effective risk management (especially concerning default management process: mandatory periodic fire drills and stress testing of the default fund), segregation of client assets, common authorisation regime (on this a few respondents indicated that this could be done by one of the new European authorities) and passporting.

Some respondents indicated either that the recently adopted ESCB-CESR recommendations for CCPs are sufficient or that one should wait and see if these recommendations will work before considering legislation. Some respondents also stressed the importance of developing international standards.

A few respondents also stressed the importance of granting CCPs access to central bank liquidity in times of markets stress. In this context some have argued that CCPs should be located in the area of the currency in which derivatives are denominated and should have the status of credit institutions. One respondent called for explicit public guarantees for CCPs.

6. TRANSPARENCY OF TRADING

General comments

Extending MiFID style transparency on OTC derivatives market is facing opposition from a large majority of the stakeholders that have responded to the consultation. The professional nature of the market participants, the size of the trades, the existing arrangements and presence of data providers, and the diversity of derivatives markets lead the majority of stakeholders to reject uniform extension of MiFID style transparency rules, especially for pre-trade information and for specific markets like interest rate, foreign exchange and commodities markets, saying that it would damage liquidity.

Transaction and position reporting finds much more support from stakeholders, especially position reporting towards regulators. They consider that TRs and CCPs are the best positioned to fulfil such requirements. They also underline the need to minimize as much as possible the cost and burden of the new reporting and to preserve confidentiality on individual transaction from public scrutiny, as well as the fragmentation of data that may result from it.

(21) Should MiFID-type pre and post trade transparency rules be extended to non-equities products? Are there other means to ensure transparency?

Even if a few of respondents agree in principle on increased transparency, a large majority of them consider that MiFID type transparency rules, especially pre-trade, are less relevant for derivatives because of the specificities of these markets. Market participants are professional investors, transactions large in size and data providers are actively operating. Most market participants which have answered, being financials or corporates consider that the level of transparency on these markets is overall satisfactory. Most corporates estimate that transparency on foreign exchange, interest rates and commodities markets is adequate. On the contrary, a couple of respondents mention the lack of transparency of the CDS market. Lastly, there are some comments on the fact that increased transparency without further standardisation would create confusion.

Several respondents across different categories underline that increased transparency could be detrimental to liquidity, that any new transparency measure should go through a thorough costs/benefits analysis and adapted to each segment of the OTC derivatives markets which encompass very different products and trading features.

(22) How should transactions reporting of OTC derivatives to competent authorities be envisaged? Should it be extended to all contracts or to certain categories? If so, which ones? Are there other means to ensure that the competent authorities receive the relevant information on OTC derivatives transactions?

A majority of respondents are supportive of transaction reporting towards competent authorities. They also consider that the reporting to competent authorities should come from CCPs or TRs and to a less extent, sell side institutions.

Several respondents, especially from the corporate side and more particularly in the energy markets, stress the necessity of preserving confidentiality of individual transactions towards the public in order to preserve sensitive commercial information and avoid damaging market liquidity. A few point out the fact that transaction reporting may not be the most suitable tool for regulators, especially for energy markets.

There were also several comments on the needs to avoid duplication of existing data and too heavy administrative burden.

(23) How should position reporting of derivatives to competent authorities be envisaged? Should it be extended to all contracts or to certain categories? If so, which ones? Are there other means to ensure that the competent authorities receive the relevant information on the exposures to particular contracts?

There is a large support for position reporting, on a post trade basis, with the same restriction than for transaction reporting regarding public release of individual positions. TR and CCPs are mentioned as the most suitable sources of data.

There were also individual comments on the needs for comparable data across Europe, for clear and unique identification of each transaction, and on the necessity to avoid complexity and minimize costs. A couple of respondents mentioned TREM as a blue print for this position reporting.

7. MOVE TRADING TO MORE PUBLIC TRADING VENUES

General comments

Trading on public trading venues, it is seen as complementary to OTC trading because of the necessity to be able to trade customised products, to use voice market when needed and choose between competing trading venues. A majority of stakeholders consider that forcing all derivatives trading to public venues would have limited added value if central depository and CCP clearing are implemented but could damage liquidity for some markets. A natural evolution should be favoured over a mandatory approach.

(24) How can further trade flow be channelled through transparent and efficient trading venues? What would be the appropriate level of transparency (price, transaction, position) for the different derivatives markets?

The majority of respondents do not support the transfer, especially mandatory of derivatives trading to public trading venues. For several respondents, trading on public venues would not add value if sufficient standardisation, TR and CCP clearing is achieved, but would create a number of issues regarding the ability to trade for large size, confidentiality, and the possibility of using voice trading rather than electronic trading when needed.

For several respondents, OTC and public trading venues are said to be complementary and competition between trading venues is welcome and should be maintained.

ANNEX 5: Summary of second public consultation

I. Clearing and risk mitigation of OTC derivatives

Questions:

What are stakeholders' views on the clearing obligation, the process to determine the eligibility of OTC derivate contracts for mandatory clearing, and its application? Do stakeholders agree that access from trading venues to CCPs clearing eligible contracts should be guaranteed?

The spectrum of the answers ranged from general and strong support for the introduction of a clearing obligation (mostly voiced by market infrastructures) to an outright opposition to the concept as such (expressed by some banks and dealers). It also included responses that approved the principle of mandatory clearing while raising concerns about the ability of some parts of the industry to adapt smoothly and timely to the consequences.

Regarding the process, views were expressed both on the bottom-up and the top-down approach to determine the eligibility of OTC derivative contracts for mandatory clearing. Some respondents raised concerns that a bottom-up approach might incentivise markets infrastructures to apply for mandatory clearing out of commercial interests. As concerns the top-down approach, some respondents expressed concerns if this included the possibility of forcing CCPs to clear contracts they do not want to clear. The question of the enforceability of the clearing obligation was raised by some market infrastructures, i.e. if the non-respect of the obligation to clear would entail the invalidity of the contract and if there were appropriate sanctions in place.

On the issue of application of the obligation, views ranged from an all encompassing approach in terms of personal and material scope to a limited applicability of the clearing obligation. Respondents who argued in the latter sense cited some types of contracts and institutions that should be regarded as being less of a source for systemic risks than others.

As regards the access of all relevant trading venues to CCPs, a majority of respondents expressed support for a guaranteed access. Views differed among market infrastructures, where some argued that trading platforms should comply with operational and risk requirements established by CCPs.

Question:

Do stakeholders share the general approach set out above on the application of the clearing obligation to non-financial counterparties that meet certain thresholds?

Representative from buy-side institutions expressed a broad support for the thresholds in principle, while voicing some concerns about possible loopholes.

A large majority of banks, dealers and non-financial undertakings believed that non-financial counterparties should not under any circumstances be covered by the clearing obligation. Instead of the concept of a "hard" clearing threshold, many non-financial undertakings would opt for a flexible approach which encompassed a number of qualitative criteria.

While largely recognizing the usefulness of an information threshold, some respondents called for clear and appropriate definitions, esp. related to the base of the threshold.

Question:

Do stakeholders share the principle and requirements set out above on the risk mitigation techniques for bilateral OTC derivative contracts?

In terms of the provisions related to risk mitigation of non-cleared contracts, larger counterparties expressed in general broad support for such measures. There was less approval from smaller firms. All counterparties did not consider that there should be a mandatory collateralisation of bilateral exposures.

II. Requirements for Central Counterparties

Questions:

Do stakeholders share the general approach set out above on organisational requirements for CCPs? In particular comments are sought on the role and function of the Risk Committee; whether the governance arrangements and the specific requirements are sufficient to prevent and manage potential conflicts of interest; stringent outsourcing requirements; and participation and transparency requirements?

Do stakeholders consider that possible conflicts of interests would justify specific rules on the ownership of CCPs? If so, which kind of rules?

1. Organisational requirements

There was general support for the requirements indicated in the consultation document. Some respondents argued for CCPs having dedicated CCP status, while others would favour a bank status.

2. Risk committee

There was wide agreement on the necessity to have a risk committee. Views diverged as to the role and concrete set up of the committee. While most banks and dealers argued for a decision making role of this body, some Member States expressed clear preference for a strictly advisory role. Some respondents questioned the usefulness of having independent administrators whose incentives were not clear. Buy-side institutions stressed the need for end-users to be represented on the risk committee and called for a mediation mechanism if there was a disagreement between the risk committee and the CCP management. Many banks and dealers believed that the risk committee should be involved in providing views on interoperability arrangements.

3. Conflicts of interest

Respondents expressed general support for clear rules on conflicts of interest. Some market infrastructures voiced concern over an extension of the relevant provisions to clients of clearing members with whom CCPs have no direct relationship.

4. Outsourcing

This point was addressed in particular by Member States, market infrastructures, banks and dealers. There was a broad agreement to limit outsourcing, esp. regarding risk management functions.

5. Participation requirements

Respondents supported the need for stringent participation requirements. Smaller financial institutions stressed that access should be open and non-discriminatory and cautioned against putting in place requirements that were too high for smaller players to meet. Non-financial undertakings emphasized the need to be able to become clearing members should they fall under the clearing obligation. On the issue of informing CCPs about client relationships, most financial institutions were critical of passing information on. On the other hand, market infrastructures expressed the need for this information, while cautioning against a shift in the burden of measuring the risk emerging from indirect participation to CCPs.

6. Transparency

In general, there is broad support for strong transparency requirements. Market infrastructures recommended some modifications as to the exact formulation on disclosure requirements.

Questions:

Do stakeholders share the approach set out above on segregation and portability?

7. Segregation and portability

There was strong support for the general principle, with some respondents suggesting a more detailed legislative text as to the scope of segregation. Some expressed concerns about imposing a prescriptive structure, but rather to provide choice. Many responses called for an explicit override of national insolvency and bankruptcy laws.

Questions:

Do stakeholders share the general approach set out above on prudential requirements for CCPs? In particular: what should be the adequate level of initial capital? Are exposures of CCPs appropriately measured and managed? Should the default fund be mandatory and what risks should it cover? Should the rank of the different lines of defence of a CCP be specified? Will the collateral requirements and investment policy ensure that CCPs will not be exposed to external risks? Will the provisions ensure the correct management of a default situation? Are the provisions above sufficient to ensure access to central bank liquidity without compromising central banks' independence?

8. Prudential requirements

Apart from market infrastructures, most respondents limited their comments to general statements on the desirability of prudential requirements. There was widespread agreement among respondents on sound and coherent prudential requirements for CCPs which should prevent CCPs from competing by lowering risk management standards.

A. Initial capital

Some market infrastructures called for a clearer distinction between initial and ongoing capital, favouring the reference to "minimum" capital rather than "initial" capital.

Some respondents saw the adequate level of initial capital by 5 million Euros, while others would prefer the capital to be a certain multiple of months of running costs.

B. Exposure management

A number of Member States would opt for an increased focus on liquidity risk rather than on credit risk.

C. Margin requirements

Some non-financial counterparties cautioned against a requirement to post margins on an intraday basis as they did not have direct access to central bank liquidity. On the part of market infrastructures, some voiced concerns on the protection of margins.

D. Default fund

There was widespread support for a mandatory default fund. Some respondents called for clearer definitions on the make-up, the functioning and the coverage of such a fund.

E. Other risk controls

Market infrastructures regarded some of the proposed requirements as being overly strict, e.g. the requirement to withstand the default of the three largest clearing members and the limitation of credit lines per clearing member to 10 %.

F. Default waterfall

Market infrastructures expressed diverging views on the set-up and operation of a default waterfall. Some believed that capital should not be part of the default waterfall, but only the last line of defence.

G. Collateral requirements

Market infrastructures displayed broad agreement with the suggested solution. Some suggested to better specify the process for determining adequate haircuts. Non-financial undertakings called for the inclusion of bank guarantees and credit lines as highly liquid collateral.

H. Investment policy

A number of market infrastructures raised concerns about the requirement to deposit securities with securities settlement systems and cash with central banks. Buy-side institutions expressed a general support for the requirement that investments of CCPs should be made in safe and highly liquid assets, but cautioned against penalising funds with long-term investment strategies.

I. Default procedures

Banks and dealers generally pointed out that members' liability vis-à-vis a CCP should not be unlimited. Some market infrastructures pointed out that it should be made clear that the law of the CCP should govern any default procedure.

J. Review of models, stress testing and back testing

Market infrastructures were supportive of the general thrust of the process while questioning the adequacy of some of the procedural steps proposed.

K. Settlement risk

There were no particular comments made by respondents.

Questions:

Do stakeholders share the general approach set out above on the recognition of third country CCPs? Are the suggested criteria sufficient? Do stakeholders consider that additional criteria should be considered?

Do stakeholders agree with the extension of the clearing obligation to contracts cleared by third country CCPs to ensure global consistency?

9. Relations with third countries

The majority of respondents favoured an equivalence based approach. A few Member States showed support for a location-based approach. A number of comments called for the respect of EU data protection and confidentiality standards.

III. Interoperability

Question:

Stakeholders' views are welcomed on the general approach set out above on interoperability and the principles and requirements on managing risks and approval.

1. Interoperability

There were diverging views both on the desirability of interoperability in general and on the concrete scope and operation of interoperability in particular. While some respondents supported the principle of interoperability, others called it premature or overly risky considering the current state of play of legal and operational harmonisation.

Regarding the scope, a number of respondents intended to limit interoperability to cash securities or even cash equities.

As far as the process is concerned, some suggested a validity check by the competent authorities of the denial of access.

2. Managing risks arising from an interoperability arrangement

There was a broad support for strict risk controls. Some respondents called for a harmonised regulatory framework to ensure proper risk management of a link and to ensure transparency to users.

3. Approval of interoperability arrangements

A number of respondents expressed support for prior approval by competent authorities of interoperability arrangements.

IV. Reporting obligation and requirements for trade repositories

Questions:

What are stakeholders' preferred options on the reporting obligation and on how to ensure regulators' access to information with trade repositories? Please explain.

1. Reporting obligation

Preference for the various options differed among stakeholders. A majority of Member States and non-financial undertakings favoured option A, while a majority of banks and dealers would support option B. Buy-side institutions expressed preference for option A, provided that reporting obligations would be fulfilled by dealers. A number of respondents pointed out the need for a consistent approach with the reporting system that is to be set up for the trading of energy contracts.

2. Requirement for Registration of a Trade Repository

A majority of Member States as well as banks and dealers supported option 2.

Questions:

Do stakeholders share the general approach set out above on the requirements for trade repositories? In particular, are the specific requirements on operational reliability, safeguarding and recording and transparency and data availability sufficient to ensure the adequate function of trade repositories and the adequate protection of the data recorded?

Requirements for trade repositories

A number of respondents expressed broad support for stringent and coherent requirements for trade repositories. It was often stressed that the confidentiality of data in trade repositories had to be ensured. Reference was also made to the issue of confidentiality clauses of reporting institutions and the need of future legislation to deal appropriately with them.

V. Technical reference glossary of definitions

Questions:

Do stakeholders agree with the definitions set out above?

Some respondents suggested clearer definitions on certain terms, e.g. "end-user corporates" and "financial counterparty".

ANNEX 6: An overview of derivatives

Derivatives owe their name to the fact that their value is derived from an underlying, such as the price of a financial instrument (e.g. a share of a publicly traded company) or a commodity (e.g. oil), a market variable (e.g. a stock index or an interest rate), the occurrence of an event (e.g. a default) or something else (e.g. weather conditions).

Derivatives are used by a wide variety of companies. According to a survey conducted by the International Swaps and Derivatives Association (ISDA),¹⁷⁰ 94% of the world's 500 largest companies ranked by revenue use derivatives to manage and hedge their business and financial risks. The most used types of derivatives are foreign exchange derivatives (88%), closely followed by interest rate derivatives (83%).

An important characteristic of derivatives is their ability to provide leverage, i.e. they allow investors to take a large position in the market while committing only a small amount of capital. This makes hedging, but also speculating, cheaper. In other words, leverage allows an investor to earn a higher rate of return on their capital if the underlying moves in the direction that, for example, the buyer of the derivative anticipated.¹⁷¹ Unfortunately, the converse is also true: a party to the contract can suffer large losses in case the underlying moves in the wrong direction.

The fact that derivatives are contracts provides them with a further important characteristic: flexibility. Indeed, derivatives can range from those (e.g. futures) that have fully standardised parameters, such as notional value or maturity, to those (e.g. swaps) that are fully tailored to the specific needs of a particular user. The type of derivative usually also determines how a derivative is traded: fully standardised derivatives are typically traded on organised trading venues, i.e. derivatives exchanges, while customised (or bespoke) derivatives are traded bilaterally, i.e. off-exchange or, as commonly called, over-the-counter (OTC).

The most common types of derivatives traded on an exchange are futures and options. Trading on exchanges is, in principle, accessible to everyone (either directly or indirectly), although in practice only a very small portion of the trading volume in some types of derivatives (most notably single equity options) is due to retail investors. This wide accessibility is one of the main reasons why exchanges are tightly regulated. While there are numerous derivatives exchanges out there, trading in a particular type of derivative tends to be concentrated on one venue. Last, but certainly not least, a derivatives exchange is usually served by a central counterparty,¹⁷² which guarantees the trades executed on the exchange, nets down mutually offsetting contracts and ensures that exposures are sufficiently collateralised.

The most common types of OTC derivatives are swaps, forwards and (exotic) options. Unlike exchange-traded derivatives, OTC derivatives are reserved to professional investors and are thus not accessible to the general public. This is why the OTC derivatives market is subject to

¹⁷⁰ 2009 ISDA Derivatives Usage Survey. The document is available at <http://www.isda.org/researchnotes/pdf/ISDA-Research-Notes2.pdf>.

¹⁷¹ The higher return does not, however, come for free: it is the direct consequence of the higher risk that the investor takes on.

¹⁷² In the vast majority of cases the CCP is owned by the exchange that it serves.

much lighter regulation.¹⁷³ The bilateral nature of this market makes it rather opaque to parties outside a particular transaction. In spite of its bilateral nature, which would lead one to presume a wide dispersion of trading, many segments of the OTC derivatives market are actually highly concentrated, with a large share of the trading being done by a handful of major dealers. Unlike in the case of derivatives exchanges, the use of CCPs is far less pervasive in the OTC derivatives market.¹⁷⁴ This lack of a CCP is, to a certain extent, compensated by alternative arrangements: the exposures related to the contracts are secured through bilateral collateral arrangements¹⁷⁵ and mutually offsetting trades are terminated through a process called portfolio compression. The bilateral nature of the market and the fact that practically all major financial institutions are participants in this market has led to a high level of interconnection between these institutions and hence a high level of interdependence amongst them.

¹⁷³ The basic premise behind this lighter treatment has always been that professional investors can take care of themselves.

¹⁷⁴ Prior to the launch of CCPs for CDS, the only market segment where CCP-cleared trades represented a significant portion of the market was the interest rate swaps segment. CCPs also clear OTC equity and commodity derivatives (e.g. oil), but to a far lesser extent.

¹⁷⁵ Whereas a CCP requires the posting of both initial and variation margin, OTC derivatives trades usually require only the posting of variation margin. This does not mean that there are no cases where initial and variation margin are required on a regular basis. For example, prime brokers require both to be posted by hedge funds they serve. The practice of not requiring any collateral is, however, not uncommon. For example, OTC derivatives where one of the counterparties is a non-financial company or a government usually do not involve the exchange of collateral, mainly because they do not wish to provide the collateral (e.g. because they have a high credit rating and therefore consider themselves to be sufficiently creditworthy not to have to provide collateral).

ANNEX 7:

One way to estimate the economic impact of OTC derivatives on the financial crisis is to look at the economic costs of the financial crisis first. The costs of a financial crisis are typically measured by evaluating the fiscal costs or the costs of lost output. Existing literature on the subject suggests that past crises resulted in large costs on both measures.¹⁷⁶

On quantifying the fiscal costs, the narrowest measure one could look at is the amount of public funds (that is taxpayers' money) used to support the banking sector. As Table 1 shows, by the end of 2009 a total of €226 billion (1.9% of EU GDP) of public funds were disbursed in the form of capital injections used to either prop-up ailing banks or to bail out insolvent ones. Furthermore, over €1 trillion contingent liabilities have been created through measures such as guarantees on bank liabilities, impaired asset relief and liquidity support.

Table 1: Total size of EU public interventions in the banking sector (as of 31 December 2009)

		€ billion	% of GDP
Capital injections	Total approved measures	393.0	3.3
	Effective capital injections	226.5	1.9
Guarantees on bank liabilities	Total approved measures	2895.1	24.5
	Guarantees granted	916.4	7.7
Relief of impaired asset	Total approved measures	329.3	2.8
	Effective asset relief	329.3	2.8
Liquidity and bank funding support	Total approved measures	123.2	1.0
	Effective liquidity interventions	66.8	0.6
Total for all approved measures		3740.6	31.6
Total effective for all measures		1539.1	13.0

Source: European Commission

While these direct fiscal costs are by no means trivial, they are but a fraction of the overall costs of the crisis. The bulk of the costs are those related to the economic recession that is usually triggered by the crisis and that manifest themselves in the form of loss of output, increase of unemployment and public debt. As can be seen from Table 2, the current crisis fully complies with this pattern. Since the beginning of the crisis, all the major macroeconomic indicators registered a significant deterioration, most notably those on public finances. The table reports the EU average and as all averages, this one too masks national realities which are substantially worse.

Table 2: The effects of the financial crisis on the EU economy

	Real GDP growth (%)	Cumulative output gap (€ billion) ^{1,2}	Government debt (% of GDP)	Government balance (% of GDP)	Unemployment rate (%; December average)
2007	2.9	0	58.8	-0.8	6.9

¹⁷⁶ See Reinhart, C. M. and K. Rogoff (2009), "This Time is Different: Eight Centuries of Financial Folly", Princeton University Press, for a detailed historical overview.

2008	0.7	-134	61.6	-2.3	7.6
2009	-4.2	-802	73.6	-6.8	9.4
2010³	1.0	-921	79.6	-7.2	9.6 ⁴

Notes:¹ The gap is calculated assuming an annual potential growth rate of real GDP of 2% in the period 2008-2010.

² The values are expressed at constant, year 2000 prices.

³ Commission Spring 2010 forecast,¹⁷⁷ unless stated otherwise.

⁴ Average rate of unemployment for February 2010.

Source: Eurostat, European Commission, Commission services calculations

Recent studies suggest that the output losses associated with financial crises were generally not recovered.¹⁷⁸ There is also a possibility that this latest financial crisis had an effect on the potential growth rate of the EU economy, namely that it reduced it. If that turns out to be the case, the losses associated with the crisis would be even higher than the ones estimated above.

As indicated in this report, OTC derivative have played a role in the financial crisis. As such, at least part of the costs of the crisis can be attributed to them. Even a very conservative assumption on the share of the costs (i.e. 1%) means that more than €10 billion of costs can be attributed to OTC derivatives.

¹⁷⁷ http://ec.europa.eu/economy_finance/publications/european_economy/2010/pdf/ee-2010-2_en.pdf.

¹⁷⁸ See Cerra, V. and S.C. Saxena (2008), "Growth dynamics: the myth of economic recovery", American Economic Review 98, 439-457.

ANNEX 8: An overview of CCPs in the EU

Member State	CCP	Instruments and products cleared
Austria	Central Counterparty Austria GmbH (CCP.A)	Equities, bonds, funds, warrants, on-exchange derivatives (equity)
Belgium	LCH.Clearnet S.A.	See France
Denmark	NASDAQ OMX Stockholm AB	See Sweden
	EMCF	See Netherlands
Finland	NASDAQ OMX Stockholm AB	See Sweden
	EMCF	See Netherlands
France	LCH.Clearnet S.A.	Equities, bonds, repos, on-exchange (commodity, equity, FX) and OTC derivatives (commodity, credit, interest rate)
Germany	EUREX Clearing AG	Equities, bonds, repos, funds, on-exchange derivatives (commodity, equity)
	European Commodity Clearing AG	Commodities (energy), on-exchange and OTC derivatives (commodity)
Greece	ATHEXClear	On-exchange derivatives (equity, interest rate)
Hungary	KELER	Equities, bonds, funds, on-exchange derivatives (commodity, equity, FX, interest rate)
Ireland	EUREX Clearing AG	Equities, funds
Italy	Cassa di Compensazione e Garanzia (CC&G)	Equities, bonds, funds, repos, warrants, on-exchange derivatives (commodity, equity)
Netherlands	LCH.Clearnet S.A.	See France
	EMCF	Equities
Portugal	LCH.Clearnet S.A.	See France
Romania	Casa de Compensare Bucuresti SA	On-exchange derivatives (equity, FX)
	Casa Romana de Compensatie SA	On-exchange derivatives (commodity, equity, FX)
Spain	MEFF	Repos, on-exchange derivatives (equity)
	OMIClear	On-exchange and OTC commodity (energy) derivatives
Sweden	NASDAQ OMX Stockholm AB	On-exchange (commodity, equity, interest rate) and OTC derivatives
	EMCF	See Netherlands
United Kingdom	LCH.Clearnet Ltd	Equities, bonds, repos, on-exchange (interest rate, commodity, equity, FX) and OTC derivatives (commodity, interest rate)
	EuroCCP	Equities
	ICE Clear Europe	On-exchange derivatives (commodity) and OTC derivatives (commodity, credit)
Norway	Oslo Clearing	Equities, equity derivatives (on-exchange and OTC) and

		securities lending products.
	NOS Clearing ASA	Commodities, on-exchange and OTC commodity derivatives