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IMPROVING THE EFFICIENCY, INTEGRATION AND SAFETY AND SOUNDNESS OF CROSS-BORDER POST-TRADING ARRANGEMENTS IN EUROPE

Progress Report to Economic and Financial Affairs Council (ECOFIN), November 2008

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EXECUTIVE SUMMARY

This report contains a three-fold analysis. First, it reviews the rapidly changing post-trade market landscape in Europe. Second, it assesses the effectiveness of the current policy strategy that has been in place for some years. Third, in light of the ongoing financial crisis it reviews (i) how post-trade systems have coped with stress and (ii) whether the policy strategy needs to be reassessed or complemented.

- There is significant **momentum in the market place**, which is driven by MiFID and the Code. Trading and post-trading prices and costs are decreasing and significant market restructuring has been initiated in the trading as well as the post-trading layer. This process is likely to continue, with focus shifting from price cuts to consolidation.
- On the **Code of Conduct for clearing and settlement** there have been significant achievements. Notably, LSE has finally agreed to go ahead with competitive CCP clearing, thereby creating the first instance of links as envisaged by the Code when it goes live on 12 December. However, further efforts are needed. On access and interoperability, it is necessary to dismantle barriers to entry for Central Counterparties (CCPs) and Central Securities Depositories (CSDs) wanting to provide their services in another Member State so that users have an effective choice of post-trade service provider. It is also necessary to agree on a rational way for prioritising among the around 30 sets of link requests made to date. In addition, price comparability needs to be improved, so that users can readily compare the services and prices of those different partners so ongoing infrastructure efforts in this direction are welcome. Finally, it is necessary to verify the stringency of the accounting separation part of the Code, once first separate accounts are provided in 2009.
- On the **dismantling of Giovannini barriers**, important steps forward have been made. As regards the *industry technical barriers*, corporate actions (barrier 3) are a major remaining challenge, but the industry has now completed, and is currently consulting on, two sets of draft standards. As regards the *legal barriers*, the Commission welcomes the 15 recommendations of the Legal Certainty Group that provide a sound basis for making the EU post-trading market more cost-efficient and safer from a legal point of view. The Commission will consider the merits of proposing legislation in this area. As regards the *fiscal barriers*, the Commission is well on track in translating the FISCO group's recommendations into action. The Commission will shortly put forward a recommendation for how tax compliance procedures should be adopted. Implementing these recommendations would yield significant benefits to Member States and it is therefore important that this happens as soon as possible.
- On efforts to **improve safety and soundness**, following political agreement on the way forward at the May ECOFIN, the ESCB and CESR are translating the former draft standards into recommendations. The Commission believes that the current process of securing rapid endorsement of the main principles of the recommendations is appropriate and necessary. Naturally, the Commission reserves its opinion on the detailed changes to the various background documentation underpinning each recommendation.

While the **financial crisis** clearly highlighted the shortcomings of private risk management practices as well as various aspects of public policy (e.g. prudential

regulation, supervision...), it has so far had a limited impact in the "*traditional*" post-trade field. That per se is a proof of the resilience of this industry segment. Even so, Europe should not be complacent. More specifically:

- Central market infrastructures have so far held up well and have proven their worth. In the markets in which they operate, CCPs have notably proven to be a very effective remedy against counterparty credit risk, successfully handling the stress arising from the near-collapse of Bear Sterns and the default of Lehman Brothers.
- On the contrary, the lack of CCP clearing has proven to be a grave shortcoming in the market for Credit Default Swaps (CDS). The default of Lehman Brothers, notably, exposed market participants to significant losses and uncertainty. To correct this market failure, it is therefore imperative that CCP clearing becomes the norm in CDS markets. The Commission is working with the ECB, regulators and market participants to ensure the establishment of European-based CCP clearing services for CDS within the shortest possible time. The Commission will consider any appropriate measures including legislation. The Commission also believes that a more general review of risk management practices in derivatives markets is merited.
- The crisis has highlighted the importance of the Settlement Finality Directive (SFD) and the Financial Collateral arrangements Directive (FCD). These rules on finality and collateral have provided essential legal certainty during the crisis. A Commission proposal on updating these two directives is currently on track to be adopted in a first reading procedure under the French Presidency. This is important, as the Commission proposal adapts these rules to a more modern world (where the trend is to have more cross-border cooperation of systems and an increasing pool of eligible collateral). Meanwhile, the Commission continues to monitor how the current rules have been implemented and translated in each system and whether they are coping with the stress arising from the financial crisis and will take further actions should the need materialise.
- Fundamentally, the crisis has highlighted the importance of central market infrastructures. Their safety and soundness are vital. Currently, each Member State regulates and supervises its post-trade institutions independently. The crisis has illustrated that these national approaches have functioned well within each system.

However, divergent regulatory arrangements have a number of consequences. They make it more difficult to establish links between post-trade systems. As a consequence it becomes more difficult for foreign post-trade systems to provide their services in competition with the incumbent one and, equally, more difficult for users to choose a different post-trade service provider from the incumbent one. This is unfortunate, as competition by means of links is one way to enhance efficiency.

The Commission is aware of existing concerns of Member States' authorities to allow the entry of a service provider that is not subject to its own regulation and supervision. However, the Commission trusts that the forthcoming ESCB-CESR recommendations will be drafted in such a way so as to provide further comfort as regards foreign authorities' regulatory and supervisory approaches, thereby reducing one source of concern. Furthermore, the Commission believes that regulatory and supervisory objectives could be achieved if authorities in markets that try to link devised arrangements between themselves. The Commission has accordingly asked CESR to provide advice on how to address potential differences in regulatory arrangements by

the end of 2008. In view of CESR's advice, the Commission will consider all options to ensure that links operate in a way that safeguards the safety and soundness of post-trade infrastructures.

In view of the changing market structure, the Commission will repeat the evaluation of its post-trade policies in one year's time. It will be an opportune moment to take stock of the Union's post-trade policy.

INTRODUCTION

This is the fourth report of the Commission to the Economic and Financial Affairs Council (ECOFIN). It provides an overview of the rapidly changing European post-trade market landscape as well as an update on progress as regards the current strategy of achieving efficiency, integration, safety and soundness of European post-trade arrangements. It finally offers an assessment of (i) how post-trade systems have coped with stress and (ii) whether the policy strategy needs to be reassessed or complemented in view of the financial crisis.

The report is structured as follows. First, an overview of the rapidly changing trading and post-trading market structure in Europe. Second, an analysis of the achievements and shortcomings of the Code of Conduct on clearing and settlement two years down the line. Third, a review of the state of progress on dismantling the Giovannini barriers. Fourth, an evaluation of the work on translating ECOFIN's political agreement on prudential recommendations for CCPs and CSDs into action. Finally, an assessment of the impact of the financial crisis on Europe's post-trade systems and what this means in terms of policy priorities.

1. A CHANGING MARKET PLACE

The entry into force of MiFID, the adoption of the Code of Conduct ("the Code") and the launch of the ECB's TARGET2-Securities (T2S) project have created a momentum in European securities markets, which are rapidly changing. This section reviews these changes.

1.1. Market structure developments in the trading and the CCP clearing space

The European CCP clearing market has been the subject of particularly rapid changes. Parts of these changes are Code related. Several link requests have emanated from or have been directed towards CCPs (see Annex 1 for full details). While most of these requests have progressed slowly, one instance of interoperability as envisaged by the Code has now been agreed following LSE's agreement to go ahead with competitive clearing (see section 2).

The momentum is mainly driven by new entrants. Since the entry into force of MiFID in November 2007, a number of Multilateral Trading Facilities (MTFs) have entered the market.¹ Their success has been compounded by often novel post-trade arrangements. Typically, the post-trade model of the new MTFs has involved using a newly established CCP clearing house, then using agent banks in order to connect to incumbent CSDs. This model has been followed by Chi-x, NASDAQ OMX Europe and BATS Trading Europe, all using the European Multilateral Clearing Facility (EMCF) as its CCP clearing house, then using various agent banks to connect to CSDs. Turquoise also follows the same model, using EuroCCP as its clearing house and Citi as its agent connecting to the CSDs in the markets where it competes.

¹ Annex 1 provides a summary of the new MTFs and their post-trade solutions.

In view of these changes, it is not surprising that incumbent exchanges and CCPs have felt obliged to adapt. This new entry has accordingly had significant effect both on **trading costs and on clearing fees**. It has for example led to several sequences of changes to price levels as well as pricing policies.

Box 1: Overview of changes to price levels and pricing policies

- As regards CCP services for equity trades carried out on the LSE – the market that is the subject of the highest number of link requests – the incumbent CCP **LCH.Clearnet Ltd** decreased its fees throughout 2007. Estimates by the LSE suggest that since competitive clearing was announced in May 2006, CCP clearing fees per trade have declined by about 60% on average and up to 75% for the largest customers.²
- **LCH.Clearnet SA**, the French part of the LCH.Clearnet Group providing CCP services for NYSE Euronext, is subject to three link requests and has also reduced its fees throughout 2007. For example, on 1 October 2007 LCH.Clearnet S.A. reduced its clearing and membership fees by 35%.³ This built on a previous fee reduction in January 2007, when clearing fees on Euronext cash markets were reduced on average by 15%.⁴ Clearing fees for NYSE Euronext markets were further reduced by an average 25% in April 2008.⁵
- Fee cuts can also be observed for CCP services for Frankfurt Wertpapierbörse, where **Eurex Clearing**, itself subject to two link requests, in January 2008 announced that it will cut the fixed clearing fees for stock trades on its main order book and trading floor by 25% as of 1 April.⁶
- Moreover, **SIS x-clear**, also subject to link requests, in January 2008 announced that it will be cutting its prices for clearing services on virt-x, SWX Swiss Exchange and the London Stock Exchange (at the time of the press release, x-clear planned to have its LSE service up and running by then) by an average of 47% as of 1 February 2008.⁷

Overall though, it appears that the new trading venues and their respective clearers remain substantially cheaper. These cheaper prices – at least initially – come at a cost in terms of profits.⁸

² LSE (2008), "Netting – Consultation Document", 29 January 2008. See also 2007 press releases of LCH.Clearnet Ltd. According to the LSE, also settlement fees have been affected, as fees levied by Euroclear UK & Ireland in the form of charges to the CCP and directly to customers per trade have fallen by around 25% and another tariff reduction of 22% has been announced for April 2008.

³ Press release, 4 June 2007, http://www.lchclearnet.com/press_and_publications/press_releases/2007-06-04.asp

⁴ Press release, 19 October 2006, http://www.lchclearnet.com/press_and_publications/press_releases/2006-10-19.asp

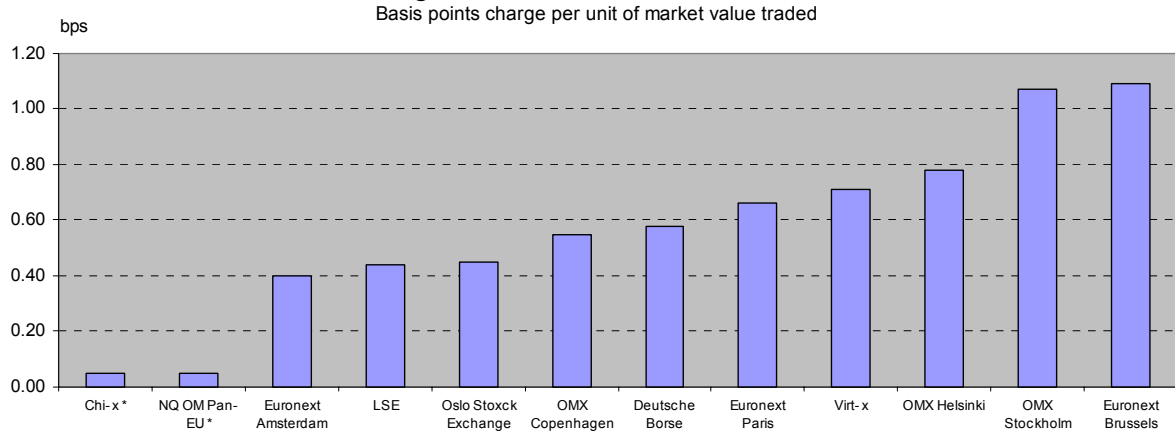
⁵ Press release, 20 December 2007, http://www.lchclearnet.com/press_and_publications/press_releases/2007-12-20.asp

⁶ Press release, 31 January 2008, <http://deutsche-boerse.com>

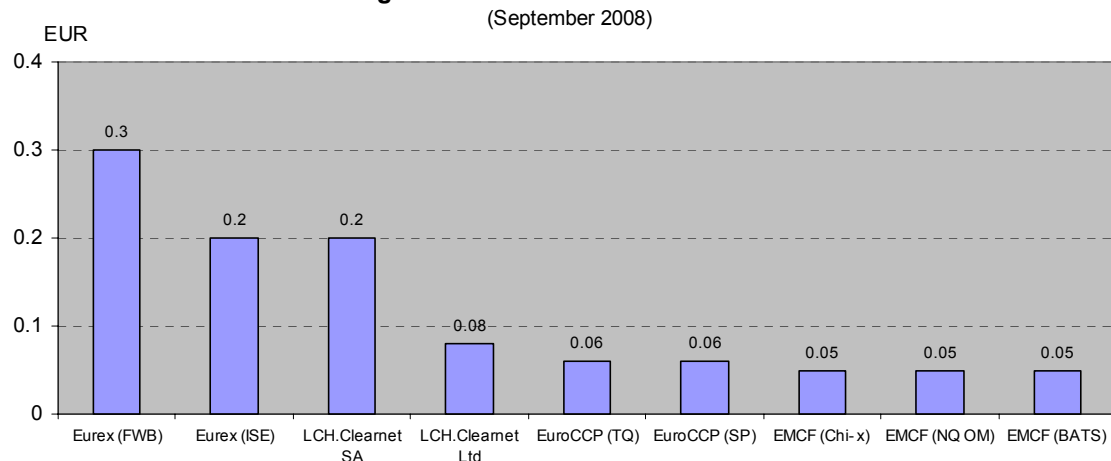
⁷ See <http://www.group.sisclear.com/sis/pressrelease-080114-massive-price-cuts.pdf>

⁸ Even so, Chi-x recently announced its first monthly profits, 17 months after launch, suggesting that successful new ventures aggressively attracting liquidity can still generate profits. <http://www.finextra.com/fullstory.asp?id=19142>

Trading costs of incumbents and new entrants



Clearing fees of incumbents and new entrants



However, incumbent infrastructures can only go so far in lowering prices. Ultimately, they have to adapt to the revenue lost as a result of eroding tariffs. Incumbent operators are accordingly also starting to respond by means of **structural initiatives**. In the *trade area* this has taken the form of incumbent exchanges launching MTFs. For example, NASDAQ OMX has launched a pan-European MTF, NYSE Euronext is launching SmartPool and LSE is creating a dark pool MTF, originally in cooperation with Lehman Brothers, now possibly with Nomura (see Annex 1 for further details). In the *post-trade area*, the most important structural initiative to date came on 21 October, when the LCH.Clearmet Group and DTCC announced that they had signed non-binding heads of terms regarding the proposed merger of the two companies.⁹ Moreover, NASDAQ OMX recently announced that it will introduce CCP clearing for its Nordic markets. The service will be provided by EMCF.¹⁰ The choice of EMCF is dependent upon NASDAQ

⁹ LCH.Clearmet Group, press release of 22 October, http://www.lchclearnet.com/Images/2008-10-08%20Press%20Announcement_DTCC_tcm6-46989.pdf

¹⁰ NASDAQ OMX, press release of 16 October, "NASDAQ OMX launches new roadmap for Nordic equity market": <http://ir.nasdaqomx.com/releasedetail.cfm?ReleaseID=340829>

OMX taking an equity stake in EMCF. As part of the transaction, the EMCF is taking an equity stake in the NASDAQ Clearing Corporation, which aims to compete with the National Securities Clearing Corporation (NSCC), a subsidiary of the DTCC.¹¹ These two developments bring a transatlantic element to the consolidation process, thereby following a similar path to the transatlantic consolidation seen at the level of trading venues (NYSE-Euronext, NASDAQ-OMX).

The DTCC-LCH.Clearent Group merger is conditional upon shareholder approval, regulatory approval and mutual due diligence. If it materialises it could bring substantial efficiency gains. But realising these gains will depend on close integration of the American, French and British businesses. This requires, among other things, a deeper transatlantic regulatory and supervisory co-operation (including through the Financial Markets Regulatory Dialogue) on how to achieve regulatory and supervisory objectives as well as how to address potential differences. The current financial crisis has highlighted the central importance of CCPs for ensuring that regulatory, supervisory as well as monetary policy objectives are fully met. From a European perspective it is important that any post-trade infrastructure offering its services to the European markets is effectively and not only nominally based in Europe, i.e. the operational and risk management systems need to be located on European soil.

The merger would have a profound impact on the European CCP clearing landscape. If the merger goes ahead it will also have an impact on market structures and competition, as other parties (e.g. exchanges, CCPs and CSDs) affected by the merger reposition themselves to face the new actor.

Clearing and settlement is a scale business. Merging the two largest CCPs in the world makes economic sense in terms of static gains (i.e. reducing costs). In terms of dynamic gains (i.e. innovation), the results may be more complicated. If the merger goes through, it means the creation of the largest CCP in the world with a dominant position in the global market. While the DTCC-model illustrates that regulation and user governance can mitigate the associated problems of such a monopoly (price and services), it remains to be seen how it will over time manage to overcome another problem associated with monopolies: the difficulty of creating benign conditions for innovation in the absence of competition. Other competition issues may materialise as well, e.g. how to control potential strategic behaviour to restrict market access possibilities of potential competitors (foreclosure of competition). The potential implications of the merger on competition will have to be carefully addressed.

1.2. Market structure developments in the settlement space

On the CSD side, there are three broad developments. TARGET2-Securities (T2S) is moving forward. There is now commitment to T2S from CSDs and binding contracts are expected to be signed during the first quarter of 2009. This means that it is becoming ever more likely to see the emergence of a single, central platform for the core function of settlement. T2S is interacting with two transformation processes at the CSD level:

- The **consolidation model** which focuses on efficiency by means of physical integration. This approach is driven by the Euroclear Group. In July 2008 Euroclear

¹¹ NASDAQ OMX, press release of 16 October, "NASDAQ OMX makes investment in EMCF", <http://ir.nasdaqomx.com/releasedetail.cfm?ReleaseID=340830>

announced its intention to acquire NCSD, thereby bringing the prospect of a single settlement engine for eight European markets.¹²

- The interoperability model which focuses on efficiency by means of process harmonisation without physical integration. This approach is embodied in the Link Up Markets initiative which is working on building a central hub that will **link together** seven European CSDs.¹³ Link Up Markets is scheduled for a Q2 2009 launch.

While several initiatives still need to be worked out for the co-existence of these three initiatives, if they were all to go ahead and depending on design it could mean that the medium term European settlement market structure would be (i) a central platform with associated scale efficiency for the core function of settlement (T2S), and (ii) two competing models and industrial structures for the organisation of remaining CSD prerogatives (asset servicing, custody...).

Links between these two industrial structures are likely to be proposed. Indeed, link requests have been made in order to provide competing settlement services e.g. Euroclear – Eurex Clearing in order to provide competing settlement services for trades done on Frankfurter Wertpapierbörse), but have so far progressed slowly due to the existence of a number of barriers (see section 2 for further detail).

1.3. The next phase of market evolution

It is difficult to predict how the market structure may further evolve. Some factors push for further evolution, e.g. trading firms' obligation to ensure best execution, which effectively requires them to connect to all trading venues offering meaningful liquidity. Similarly, clearing and settlement agents have to offer their clients access to all cost-effective post-trade venues. However, other factors may suppress the momentum. For example, it is becoming increasingly costly for trading firms and clearing and settlement agents to link to all new trading and clearing venues. According to one study, these companies will have spent around €714m on market data and infrastructure in 2008.¹⁴ The financial crisis may make it more difficult for firms and agents to mobilise that kind of resources in the future. Moreover, the crisis may also further increase trading firms' and clearing and settlement agents' preference for less complex trading and post-trading structures in the future. The crisis may also shift preferences from pricing to reliability. Even so, in the trading and clearing area in view of more than a year of price adaptations, the next phase of evolution is likely to focus on consolidation. In the settlement area, while consolidation cannot be excluded, more competitive pricing is likely to follow.

¹² Belgium, Finland, France, Ireland, Luxembourg, the Netherlands, Sweden and the United Kingdom.

¹³ Clearstream Banking AG Frankfurt, Hellenic Exchanges S.A., IBERCLEAR, Oesterreichische Kontrollbank AG, SIS SegalInterSettle AG, VP Securities Services and VPS). The Cypriot CSD has recently joined the initiative.

¹⁴ TABB Group (2008), European Equity Market Structure: Liquidity, Trust and Competition. www.tabbgroup.com

2. THE CODE OF CONDUCT

In November 2006, providers of trading and post-trading infrastructure services presented a Code of Conduct on clearing and settlement to Commissioner McCreevy. The Code is fully in force since the beginning of 2008. The Commission has previously provided its views on the workings of the Code in three reports. Two years on is an appropriate time for a fuller evaluation of the results of the Code. The Code has achieved significant results and has together with MiFID triggered changes to the structure of European securities markets. However, further efforts are still needed on access and interoperability and price comparability. Moreover, it is too early to discern the effectiveness of the Code's provisions on accounting separation, as the first separated accounts will only be published in 2009.

2.1. Price transparency

The three previous reports have detailed the achievements of the Code in the price transparency area. The significant increase in transparency resulting from universal publication of fees, discount and rebate schemes, price examples and information related to billing reconcilability has shifted attention to price comparability. Following adoption of the Terms of Reference on the external audit of the service unbundling and accounting separation part of the Code also contains a chapter on how to monitor compliance with the other parts of the Code. As part of that monitoring, infrastructures issued in October 2008 self-assessment reports on price transparency and access and interoperability.¹⁵ The price transparency reports document the vast improvements made in price transparency.

While there is now much more information about prices and services available, the information is often complex and it is difficult to compare the offers of different service providers. These problems are particularly prevalent in the settlement area. The reasons for this are broadly historical, as each CSD has developed its own business model in isolation, and as a result label and price their services differently.

Full comparability would accordingly require a significant simplification and harmonisation of the way infrastructures present their services in their fee schedules. This is difficult to achieve in view of the fundamental differences in infrastructures' business model. It is accordingly a long-term objective.

In view of these difficulties, the Code's commitments on price comparability are more carefully worded, committing signatories to work further on price comparability within each layer of the value chain (Article 15 of the Code) and allowing users to compare prices on an individual basis (Article 16). In the short run, CSDs have developed a tool aimed at achieving a practical degree of comparability: conversion tables. The Commission welcomes the steps taken by CSDs to amend the Conversion Tables in view of first experiences, user comments and the joint evaluation by ECSDA and the ECB. The Commission furthermore welcomes ECSDA's report on glossary and definitions of services relevant to the implementation of the Code in general and the Conversion Table in particular.¹⁶ It furthermore takes note of the trend towards a wider use of institution specific price simulators. The Commission takes note of users welcoming these efforts

¹⁵ These reports will be published by FESE, EACH and ECSDA on their respective websites.

¹⁶ Presented at the 29 October 2008 meeting of the MOG.

subject to further tests. It encourages users to inform infrastructures and the Commission of the results of these tests in order to improve comparability further.

The Commission's study on monitoring the evolution of trading and post-trading prices, costs and volumes is progressing. The study is being carried out by Oxera Consulting Ltd and the final report is expected by the end of the year. The Commission intends to publish the study together with the price and cost indicators in early 2009. This study will provide more systematic evidence of the evolution of trading and post-trading prices and costs.

2.2. Access and interoperability

The main objective of the Code's provisions on access and interoperability is to lower barriers to entry, thereby facilitating competition, which enhances efficiency. As outlined in the previous section, the Code together with MiFID has created an undeniable momentum in the market place.

Following adoption of the Access and interoperability Guideline in mid-2007, around 30 *sets* of link requests have been made (see Annex 2). It is more appropriate to focus on such a set of requests rather than individual link requests. For example, if a CCP wants to provide clearing services in competition with the incumbent CCP it needs to establish three types of links: (i) a link with the trading venue in order to receive a transaction feed, (ii) a link with the incumbent CCP in order to ensure interoperability, and (iii) a link with the CSD in order to have access to the existing settlement platform. Accordingly, scrutinising these associated requests in isolation is not meaningful.

The Commission's previous reports have concluded that progress on this part of the Code has been slow, notwithstanding the large number of link requests. The first access and interoperability annual self-assessment reports submitted by concerned infrastructures in October this year do not fundamentally alter that judgement.

As regards progress, the Commission particularly welcomes the LSE's announcement that it is going ahead with competitive clearing.¹⁷ The project is scheduled to go live on 12 December. The LSE will therefore shortly have two CCPs – LCH.Clearnet and SIS x-clear – providing competing clearing services. The necessary links – transaction feed from LSE to the SIS x-clear, interoperability between SIS x-clear and LCH.Clearnet, and access of SIS x-clear to Euroclear UK and Ireland – are established and the arrangement is likely to go live shortly. The incumbent infrastructures in London have accepted to open up and become first movers in this area. In order to build on the momentum created by LSE's decision, rapid progress is needed elsewhere in major markets facing link requests, such as Germany, France and Italy.

The Commission believes that further **transparency on negotiations** surrounding each set of link requests would speed up progress on the requests. In addition to the annual access and interoperability self-assessment reports, the Commission asked infrastructures to submit progress reports ahead of each MOG meeting. Infrastructures have since developed such a tool for measuring progress. For each set of link requests information will be provided on the extent to which the commitments of the Code (e.g. submit service

¹⁷ See LSE's press release of 24 September: <http://www.londonstockexchange.com/NR/exeres/98718B10-71DB-4C8A-91D6-94B9C76394D9.htm>

request, cost specification etc) have been complied with as well as providing information on potential barriers encountered. The table will also provide information on implementation. Infrastructures will update these tables ahead of each MOG meeting. This will enable the Commission to monitor more closely and in a more systematic manner the speed by which requests are advancing. This tool was welcomed by users at the October meeting of the MOG.

This detailed progress information on each set of requests will also form a useful base for **prioritising requests**. While 'first come, first served' provides an objective base for such prioritisation, the Commission believes that this principle has to be combined with (i) proof of user demand for the link in the market of the requesting organisation, and (ii) whether or not the requesting and/ or receiving organisation is making appropriate efforts to move the request forward.

In spite of further transparency and prioritisation, many link requests run into barriers that cannot be solved by infrastructures themselves. These barriers make it more difficult for organisations to build a business case for making a request. Some of these barriers are of **Giovannini** kind, others are related to broader regulatory and supervisory issues. In order to exploit the full potential of the Code, it is essential that any remaining Giovannini barriers are dismantled (see chapter 3). In addition, as indicated in the Commission's previous report, differences in Member States' **prudential regulation and supervision** of post-trade institutions may create difficulties in setting up links between infrastructures. Post-trade arrangements are systemically important. Link negotiations have highlighted that Member States' regulatory arrangements differ. Divergent regulatory arrangements have a number of consequences. They make it more difficult to establish links between post-trade systems. This makes it more difficult for foreign post-trade systems to provide their services in competition with the incumbent one. This also makes it more difficult for users to choose a different post-trade service provider from the incumbent one. This is unsatisfactory, as competition by means of links is one way to enhance efficiency.

These differences are not surprising. All Member States regulate post-trading arrangements to mitigate risks and to ensure their safety and soundness. Interoperability may expose infrastructures to a failure in the other infrastructure with which it is interoperable. This is why the Commission has proposed to amend the Settlement Finality Directive (SFD) in order to eliminate such risks. National regulators nevertheless have a legitimate interest in assessing the soundness of incoming post-trade service providers, as they need to be satisfied that a link does not affect the level of risk of local financial market infrastructure arrangements. This concern is particularly relevant during this period of financial crisis, where it is even more important that central market infrastructures remain safe and sound. The infrastructures themselves have a particular responsibility in this respect, and the Commission welcomes that EACH has adopted standards on intra-CCP risk management practices.¹⁸

However, when regulating and supervising post-trade infrastructures, each Member State has to consider its actions in view of Community rules and principles. First, while national regulators have a large degree of freedom to set national regulatory approaches in the absence of Community legislation, that freedom is not absolute. First, the Treaty grants a general freedom to provide services across Europe. Moreover, Articles 34 and

¹⁸ See previous Commission report for details on these standards.

46 of MiFID grant certain freedoms in the post-trade area and regulatory actions should not prevent those freedoms. Any regulatory restriction to such freedoms has to be proportional to the aim sought so as not to curtail the general freedom to provide services under the Treaty. Second, if a particular regulatory provision at national level gives rise to interpretation or exemptions, it is customary that in view of the Treaty freedoms, regulators should lean towards the more liberal option.

Moreover, a number of ongoing initiatives address the underpinning concern of regulators. First, the forthcoming ESCB-CESR recommendations will provide further convergence as regards authorities' regulatory and supervisory approaches. Second, the Commission proposal to change the SFD will eliminate risks related to interoperability. Third, the previously mentioned EACH standards on intra-CCP risk management also provide further comfort, as it provides a degree of convergence of how CCPs manage risks.

Fundamentally, the Commission believes that regulatory and supervisory objectives can be achieved if authorities in markets that try to link were to devise regulatory and supervisory arrangements between themselves. The Commission therefore encourages national regulators to cooperate with each other in order to find effective, timely and robust supervisory solutions allowing linked systems to operate without affecting systemic risk.

In view of the above, the Commission has asked CESR to provide advice on how to address potential differences in regulatory arrangements by the end of 2008. In view of CESR's advice, the Commission will consider all options to ensure that links operate in a way that safeguards the safety and soundness of post-trade infrastructures. The Commission is also examining the legal aspects in detail.

2.3. Service unbundling and accounting separation

The service unbundling and accounting provisions of the Code are in force since 1 January 2008. Since then, organisations providing the full transaction chain in-house have to unbundle their trading, clearing and settlement services. Moreover, CSDs have to unbundle five core services (e.g. clearing & settlement, credit provision, securities lending...).

While those provisions are formally implemented, it is too early to draw firm conclusions. While horizontal unbundling e.g. enables users to buy some settlement services from other service providers (e.g. custodian banks) than the incumbent CSD, there is not yet sufficient evidence as regards the impact of that freedom. The Commission takes note of users arguing that it improves their bargaining position when it comes to pricing of settlement services. Regarding vertical unbundling, no links have yet been put in place that allow users to purchase either trading, clearing or settlement services from outside integrated groups such as Deutsche Börse or Borsa Italiana. As regards account separation, the 2008 accounts prepared along the lines of the Code will only become public in 2009. However, no organisation has signalled problems with preparing separate accounts.

In terms of monitoring, the framework for monitoring compliance with the service unbundling and accounting separation part of the Code has now been put in place. The **Terms of Reference** outline how infrastructures having signed the Code will report on (i) their compliance with the service unbundling and accounting separation part of the

Code and how external auditors will assess this compliance and (ii) their compliance with the Code in general.¹⁹ As regards reporting on the service unbundling and accounting separation, the exact parameters of this process is outlined in chapter 2 of the Terms of Reference. It applies to all organisations falling under the scope of the Code's part V on service unbundling and accounting separation. In short, each infrastructure will each year prepare a Self-assessment Report, outlining how it complies with the Code and explaining any potential areas of non-compliance. On the basis of the Self-assessment Report and the data disclosed as a result of Article 42 and 43 of the Code of Conduct, the external auditor will provide a conclusion on the engaging party's compliance. These two reports and the data will be sent to national regulators. In addition, infrastructures will prepare a public statement on compliance with the stipulations of the Code on service unbundling and accounting separation. This public statement will be accompanied by an auditor's report. The Commission believes that the Self-assessment Reports and the data prepared by infrastructures and the Assurance Reports prepared by external auditors will enable public authorities to assess whether the policy objectives of the Code's part on service unbundling and accounting separation are being met (e.g. make potential cross-subsidisation more transparent). The public statement and the auditors' reports will also provide markets with a higher degree of knowledge.

¹⁹ The Terms of Reference can be found on the Commission's website as well as the websites of FESE, EACH and ECSDA.

3. DISMANTLING THE GIOVANNINI BARRIERS

In order to fully exploit the potential of MiFID and the Code and to a certain extent T2S, it is imperative that all Giovannini barriers are dismantled. The Commission's March 2008 report provided an in-depth presentation of the state of play for each of the 15 barriers in question. This report does not provide an equally detailed overview. Instead, more detailed assessments are provided by the reports of the FISCO group, the Legal Certainty Group and the imminent CESAME group report.

3.1. Barriers related to differences in technical requirements/market standards

The work to analyse the barriers, formulate solutions and monitor implementation has been carried out within the context of the CESAME group and is being continued within the confines of the CESAME2. The report taking stock of CESAME's four years of work is being finalised. Without prejudice to that report (to be published end-November), the level of progress in each of the barriers can be summarised as follows:

- ***Diversity of IT platforms/interfaces (barrier 1)***: Work on dismantling this barrier is well on track; concrete actions are planned and a timetable is set. The solution – the Communication Protocol²⁰ – was finalised by SWIFT in March 2006. Two deadlines were set in the protocol: March 2008 for the gap analysis (i.e. to identify still missing functionalities) and March 2011 for implementation. The gap analysis was completed on time and identified gaps are already in the process of being filled. In addition, work was carried out to support other areas (e.g. information flow related to general meetings) by providing standardised electronic messages.
- ***Different rules governing corporate actions (barrier 3)***: Work to eliminate this multi-faceted barrier started early but on different tracks. In addressing this barrier, private sector associations thus have faced additional work to put all existing standards into ultimately one set of 'market standards'. While there were already standards for the most frequent corporate actions, i.e. standards on mandatory distributions (e.g. dividend payments) which were in the process of being implemented, these standards have been revised to be in line with standards proposed for other corporate actions (reorganisations, transaction management). Against this background, two set of standards are now in consultation with the industry until the end of 2008: one for corporate actions processing and another one for general meetings. Finalisation and endorsement of a final set of standards is envisaged in 2009. Then, the already established national Market Implementation Groups will work on the implementation. Corporate actions are also closely linked to fiscal and legal issues. The Legal Certainty Group has accordingly proposed solutions in the legal area as well (see below).
- ***Absence of intra-day settlement finality and Different operating hours/settlement deadlines (barriers 4 & 7)***: Work on dismantling these two barriers started by the time the Giovannini Group published its second report in 2003. The ten ECSDA

²⁰ “Elimination of Giovannini Barrier One, Final Protocol recommendation”, March 2006

recommendations on specific standards²¹ were adopted in early 2004. Implementation is almost finished, although being more advanced in 'old' Member States than in new Member States. However, the standards focused on the "issuer CSDs". Now that these CSDs have been aligned regarding their settlement deadlines, it appears that there are still obstacles of the same kind from the view of an "investor CSD" perspective, i.e. cut-off times for users can still vary substantially, in particular if user and CSD are not in a direct relationship. This further issue is therefore examined as a "16th Giovannini Barrier".

- **Differences in standard settlement periods (Barrier 6):** Industry has so far considered that this barrier is less important, as many providers offer investors the possibility to deviate from standard settlement periods and to have real-time or same-day settlement. Therefore little progress in dismantling this barrier has been achieved to date. Recent discussions in the CESAME Group – which were endorsed by CESAME2 Group – indicated that in view of the work on T2S and reduction of risk, the industry sees a need to examine this barrier in greater depth.
- **Differences in securities issuances (barrier 8):** This barrier has been fully dismantled. A related issue, which is currently the subject of discussion (i.e. a pricing issue with charging of licensing fees for certain ISINs) is not part of the barrier but is monitored closely due to the relevance for the industry and standardisation in general.

The industry has strongly supported to continue CESAME's work. To ensure the implementation and monitoring of the standards developed within the work of the CESAME group, the Commission has therefore established the CESAME2 Group.

3.2. Public technical barriers

Within the first category of Giovannini barriers there are three barriers where responsibility for dismantling them falls on the public sector. These are barriers related to national restrictions on the location of clearing and settlement (barrier 2), national restrictions on primary dealers and market makers (barrier 10) and impediments to remote access (barrier 5).

- **National restrictions on the location of clearing and settlement (barrier 2) and national restrictions on the activity of primary dealers and market makers (barrier 10)²²:** As regards barrier 2, the entry into force of MiFID and of the Code have put in place the conditions to remove this barrier; the former by granting rights of free choice of settlement location provided that links are in place and approved by relevant regulators, the latter by providing the tool for creating the necessary links (including links that enable the choice of the location of CCP clearing, something that is not covered by MiFID). It would appear, however, that – at least in the cash equities

²¹ "The ECSDA's response to the Giovannini Report", [https://www.ecsda.com/attachments/working_groups/harmonization_\(wg5\)/first_ecsda_response_to_the_second_giovannini_report.pdf](https://www.ecsda.com/attachments/working_groups/harmonization_(wg5)/first_ecsda_response_to_the_second_giovannini_report.pdf)

²² This barrier represents a specific case of barrier 2 for the primary market and, as concluded by the Economic and Financial Committee's Sub-Committee of national debt managers(see http://ec.europa.eu/internal_market/financial-markets/docs/cesame/ec-docs/20060612-barrier-10_en.pdf for the report), it should accordingly not be considered in isolation, but in the context of dismantling barrier 2.

space – these measures are not sufficient to attain the actual removal of the barrier (see chapter 2).

As regards barrier 10, the Code has currently no effect, as the Code so far only applies to cash equities. Therefore, in order to grant primary dealers in bonds the same rights that the Code grants to investors in equities, its provisions would need to be extended to other classes.

T2S would effectively eliminate these barriers, as it would provide a single settlement location, reducing the need for links. However, T2S will not materialise in the short run. Additional action may therefore have to be considered, particularly as regards barrier 10.

- **Impediments to remote access (barrier 5):** This barrier relates to practical impediments to remote access to national clearing and settlement systems, i.e. the possibility for an investment firm to become a member or participant of a system located in another Member State. Most of these problems have been addressed by MiFID and TARGET2-Cash. As regards the latter, the system also admits non-Euro Member States' users, granting them the benefits of centralised business operation. Even so, currency differences inevitably determine a lack of full harmonisation in settlement systems. This is reflected in the inability of institutions located in a different currency area to access central bank money (this is the case also for Euro-Member States users that operate in non-Euro-Member States). Moreover, irrespective of MiFID, market rules governing access may continue to discriminate between local and remote members, forcing remote members to employ third parties or establish a local entity in order to access the relevant system. Adoption of public standards at EU level could therefore be needed to develop common detailed criteria in order to ensure non-discriminatory remote access.

3.3. The legal barriers

The *Second Advice* of the Legal Certainty Group proposing solutions to the legal barriers was published in August 2008.²³ In line with the group's mandate, it focuses on dismantling (i) barrier 13 on book-entry securities, (ii) legal aspects of barrier 3 on corporate actions processing, and, (iii) barrier 9 on the location of securities. Barriers 14 (netting) and 15 (conflict-of-laws) were not included in the mandate. In short, the LCG's proposals would eliminate the legal uncertainty that arises from differences in the legal treatment of securities, facilitate the processing of corporate actions for cross-border accounts, and give issuers the choice of the location of securities and thereby ensure competition between CSDs. These measures would significantly reduce legal uncertainty, improve safety, enhance efficiency and help cutting transaction cost. More specifically:

- **Barrier 13 – "book-entry securities":** Barrier 13 deals with the absence of an EU-wide framework regarding the treatment of "book-entry securities" that are held through multiple layers of intermediaries across jurisdictional borders. To-date, the issue is only partly addressed within the Financial Collateral Directive. As regards most of the relevant questions, they are dealt with in a rather inconsistent manner

²³ Legal Certainty Group (2008), *Solutions to Legal Barriers related to Post-Trading within the EU*, http://ec.europa.eu/internal_market/financial-markets/docs/certainty/2ndadvice_final_en.pdf

throughout the Member States' jurisdictions, causing legal incompatibilities that result in elevated risk and cost. The Advice addresses this issue in its first eleven recommendations, proposing a harmonised European legal framework in this regard. The recommendations deliver a set of rules covering all necessary key concepts such as, for example, (a) methods for acquisition and disposition of securities, including the creation of collateral interests, (b) harmonised minimum content of the acquired legal position, (c) effectiveness and reversal of transactions, (d) priority of collateral interests, etc. After implementation of measures throughout the EU built on these recommendations, market participants would be able to rely on the legal safety of cross-border transactions to a degree similar to purely domestic transactions.

- **Barrier 3 – "differences in national legal provisions affecting the processing of corporate actions"**: in the identical context of multiple-tier, cross-border holding of securities, the Advice also addresses differences in national legal provisions that make it difficult or even impossible to process corporate actions, like payment of dividends or interests, or exercise of voting rights. The Shareholders' Rights Directive (SRD) is so far the only legislative measure addressing the issue at EU level but only covers a small part of the overall problem. The LCG's recommendations follow reasoning compatible with the one of the SRD but go considerably further in terms of scope and depth of harmonisation. Even so, the *Advice* does not aim at addressing the full range of detail within these many inconsistencies but exclusively deals with obstacles caused by cross-border holding of securities through multiple tiers of intermediaries. The LCG proposes (a) a rule that would ensure that a cross-border investor is put in a position to exercise rights enshrined in the securities, either directly or through assistance by the chain of account providers, and, (b) a rule addressed to account providers setting out a harmonised level of obligatory basic assistance to investors as regards the exercise of these rights.
- **Barrier 9 – "location of securities"**: currently, restrictions often apply on where securities are initially entered into a Central Securities Depository. These restrictions come in the form of either market rules or national law. For example, many jurisdictions tie the listing on a regulated market to the condition that the securities should be deposited exclusively in the local CSD. The Advice of the LCG proposes that securities constituted under the law of a Member State should be capable of being initially entered into any CSD within the EU (Recommendation 15). Consequently, local law and regulations must (a) allow securities to be initially entered into a foreign CSD ("exportability"), and, (b) allow local CSDs to open their holding and settlement structures for foreign securities ("importability"). There is a link between the issuer's free choice of the location of securities and impediments to the free choice of the location of clearing and settlement of securities (Giovanni Barrier 2). The latter part is addressed by the European Code of Conduct for Clearing and Settlement and MiFID. This recommendation accordingly provides an essential complement to the Code of Conduct and MiFID. Whereas the Code of Conduct contains measures addressed to account providers, the main purpose of the removal of Barrier 9 is to give *issuers* the choice of the location of securities and thereby ensure competition with respect to the services offered by CSDs. This assures the realisation of the Code's and MiFID's efficiency benefits by enabling a potential consolidation of post-trade infrastructures.

The findings of the Legal Certainty Group were very much supported at a conference with about 150 expert participants held in Brussels on 23 October 2008. On Barrier 13 and Barrier 3 the results were as follows:

- Firstly, there was a general consensus that the legal problems relating to holding and disposition of securities actually exist throughout the EU and that they are of growing practical relevance: it was repeatedly stressed that the legal problems in cross-border post-trading activities are starting to come to the surface, in the aftermath of the failure of major market participants. Speakers and panellists set out various practical examples in this regard.
- Secondly, the participants agreed that implementing measures built on the Second Advice would facilitate legal documentation of cross-border securities dispositions.
- Lastly, there was a unanimous view that only Community legislation can effectively eliminate legal barriers. Most commentators supported the idea of legislating in form of a Community Regulation.

On Barrier 9 the view of the conference was that the dismantling would bring the EU post-trading market a huge step forward in terms of market integration and efficiency. At the same time, the high conceptual complexity of this part of the work was highlighted.

The Commission welcomes the 15 recommendations of the Legal Certainty Group which provide a sound basis for making the EU post-trading market more cost-efficient and safer from a legal point of view. The Commission will consider the merits of proposing legislation in this area.

3.4. The fiscal barriers

The EU Clearing and Settlement Fiscal Compliance Experts' Working Group (FISCO) – set up to examine how to address the fiscal barriers – presented its final report one year ago.²⁴ The group proposed that the fiscal barriers could be resolved by actions, such as eliminating the need to pass on detailed information on beneficial owners through the custody chain up to the local withholding agents. This could be best achieved by allowing any intermediary in the chain to either assume full withholding responsibilities or to take responsibility for granting withholding tax relief by sending pooled withholding rate information to the upstream intermediary. This possibility would be enhanced by the abolishing of the requirement of paper-form certification, the permission to allow intermediaries to make use of modern technology to pass on beneficial owner information to the local withholding agent in electronic format and to allow the use of pooling of assets into tax-rate pools.

Since then, the Commission's internal market and taxation services have worked to translate these recommendations into clear actions. The Commission plans to adopt a Recommendation in the first quarter of 2009 and is currently consulting with industry and Member States. Discussions take place within the usual settings for tax issues (Working Party IV) as well as in the recently established joint EU/OECD Working Group on Improving Procedures for Tax Relief for Cross Border Investors. The Commission furthermore intends to set up early 2009 a working group to monitor progress in this area, both at the European and the global level.

²⁴ FISCO (2007). *Solutions to fiscal compliance barriers related to post-trading within the EU*, Brussels, October 2007. http://ec.europa.eu/internal_market/financial-markets/docs/compliance/report_en.pdf

4. IMPROVING SAFETY AND SOUNDNESS

In spring 2008, the Council agreed on a way forward for finalising and enacting the recommendations drafted by the European System of Central Banks (ESCB) and the Committee of European Securities Regulators (CESR). In short, the Council agreed on the personal scope (include ICSDs, exclude custodian banks) as well as on the final status (recommendations for national competent authorities instead of standards for financial institutions).

Since then, ESCB and CESR have reviewed the draft recommendations on hold since 2004 and have developed a slightly amended set of recommendations. The Commission endorses the approach of the ESCB and CESR to adopt a process of public consultation and focusing on the rapid adoption of the underlying principles of the new recommendations and then looking at the work remaining on the underlying details.

5. IMPACT OF FINANCIAL CRISIS ON POST-TRADE POLICY PRIORITIES

The previous sections have provided an overview of the market momentum unleashed by MiFID and the Code as well as an assessment of the state of play of the various policy initiatives aimed at improving the efficiency, safety and soundness of European post-trade arrangements. This chapter outlines how the financial crisis has affected EU post-trade arrangements and the conclusions the Commission draws in terms of policy.

Central market infrastructures have so far held up well and have proven their worth. In the markets in which they operate, CCPs have notably proven to be a very effective remedy against counterparty credit risk, successfully handling the stress arising from the near-collapse of Bear Sterns and the default of Lehman Brothers.²⁵ This illustrates the benefits of a CCP, as it (i) allows risk mitigation and mutualisation, (ii) solve disruptive information problems, (iii) increases operational efficiency, and (iv) increases market liquidity.

Conversely, **lack of CCP clearing has proven to be a severe handicap in off-exchange, OTC derivatives markets.** Traditionally, it has been argued that the tailor-made OTC derivatives contracts lend themselves badly to central clearing, as this requires a high degree of standardisation. However, some parts of OTC derivatives markets are now standardised. For example, over 90% of credit default swaps (CDSs) are electronically confirmed. The corresponding figure for interest rate contracts is around 66%.²⁶ These figures suggest that the preconditions for CCP clearing are in place. Indeed, as regards interest-rate swaps (IRS), which constitute the bulk of interest-rate contracts, CCP clearing is provided since 1999 by LCH.Clearnet's SwapClear service, which currently captures around 50% of the eligible market.

Nevertheless, creating a central CCP for CDSs will be challenging. OTC derivatives are often complex to value and the market may well be illiquid in case of a default.

²⁵ See e.g. press release of LCH.Clearnet of 23 September 2008: http://www.lchclearnet.com/media_centre/press_releases/2008-09-23.asp

²⁶ Source: Quarterly Metrics Report, MARKIT (June 2008).

Nevertheless, due to the potential systemic risk implied in case of large concentrated bilateral exposures in the CDSs market, the Commission considers that a rapid shift from bilateral to CCP clearing is necessary. The Commission therefore wants a definitive plan agreed by all the interested parties to shift the majority of CDSs from bilateral to central clearing. The Commission takes note of the initiatives that are currently being prepared (e.g. The Clearing Corporation-ICE, Eurex Clearing, NYSE Euronext Liffe...).

The Commission also believes that a more general review of risk management practices in derivatives markets broadly is merited. Furthermore, it is clear that not all OTC derivatives contracts are sufficiently standardised to allow CCP clearing. The Commission also considers that it is necessary to review the transparency of wider derivatives markets as well as ensuring that the market for exchange-traded derivatives remains as competitive as possible.

The Commission has established a working group composed of market participants, national regulators and the ECB with the task of (i) putting forward by the end of the year a clear proposal for European clearing solutions for CDS, and (ii) advising the Commission on the best way forward as regards the wider derivatives market issues. In view of its discussions with all relevant parties the Commission will consider appropriate measures including, if necessary, legislation.

The crisis has highlighted the importance of the **Settlement Finality Directive (SFD) and the Financial Collateral arrangements Directive (FCD)**. These rules on finality and collateral have provided essential legal certainty during the crisis. A Commission proposal on updating these two directives, notably to clarify the role of system operators, clearing houses, night-time settlement, interoperable systems and to facilitate the use of credit claims as collateral, is currently on track to be adopted in a first reading procedure. This is important, as the Commission proposal adapts these rules to a more modern world (where the trend is to have more cross-border cooperation of systems and an increasing pool of eligible collateral). Meanwhile, the Commission continues to monitor how the current rules have been implemented and translated in each system and whether they are coping with the stress arising from the financial crisis and will take further actions should the need materialise.

CONCLUSIONS

The market place is currently going through a period of rapid change, driven by market participants' desire to exploit the benefits of the single market. As a result, prices and costs are decreasing and significant market restructuring has been initiated. This process is likely to continue, with focus shifting from price cuts to consolidation.

Meanwhile there has been significant advance on the **Code of Conduct**, even though further efforts are needed on price comparability and access and interoperability.

On the **Giovannini barriers**, significant progress has also been achieved but further efforts are needed: corporate actions are a major remaining challenge, following the LCG's advice the Commission will consider whether Community legislation is needed to dismantle the legal barriers and as regards the fiscal ones, the Commission will put forward a recommendation for a harmonised and simplified withholding tax relief procedure.

On efforts to **improve safety and soundness**, the Commission believes that the current process of securing rapid endorsement of the main principles of the recommendations is appropriate.

The **financial crisis** has clearly shown the need for a CCP in the market for Credit Default Swaps (CDS). A credible plan for moving to CCP clearing should accordingly be in place before the end of the year.

The SFD and the FCD have provided essential legal certainty during the crisis. The Commission continues to monitor how the current rules are coping with the stress arising from the financial crisis and will take further actions should the need materialise.

As regards Member States' post-trade regulatory arrangements, Member States need to carefully assess the compatibility of potential restrictions with the Treaty. The Commission believes that regulatory and supervisory objectives can be achieved if authorities in markets that try to link devise arrangements between themselves. In view of CESR's advice, the Commission will consider all options to ensure that links operate in a way that safeguards the safety and soundness of post-trade infrastructures.

In view of the changing market structure, the Commission will repeat the evaluation of its post-trade policies in one year's time. It will be an opportune moment to take stock of the Union's post-trade policy.

ANNEX 1: NEW TRADING VENUES AND POST-TRADE SOLUTIONS

Venue	Parent	Focus	Post-trade partner	HQ	Category	Status
Public markets						
BATS Trading (Europe)	BATS	Trading and routing platform	EMCF	UK	MTF	Active
Burgundy	Swedbank, Handelsbanken, SEB, Neonet, Carnegie, Nordnet, Kaupthing, Ohman, Avanza and Evli	Electronic trading platform for mid-cap and smaller Nordic stocks listed in Stockholm, Oslo and Copenhagen.	?	?	MTF	First half of 2009.
BrokerTec	Icap	Electronic platform for trading fixed income	Users' own membership	UK	MTF	Active
Chi-x	Instinet Europe Ltd	Order driven pan-European matching engine and central limit order book	EMCF	UK	MTF	Active
Equiduct Trading	Börse Berlin	Integrated pan-European single point of connectivity for trading services	LCH.Clearnet SA	DE (UK, FR)	Regulated market	Q4 2008
NASDAQ OMX Europe	NASDAQ OMX	Trading and routing platform for the most actively traded European stocks	EMCF	UK	MTF	Active
SmartPool	NYSE Euronext, HSBC, BNP Paribas	Central limit order book for the execution of large institutional order flow	EuroCCP; EMCF, LCH.Clearnet and SIS x-clear to follow in 2009	UK	MTF	Q2 2008 / Q1 2009
Private markets ("dark pools")						
Baikal	LSE, originally Lehman Brothers, now investigating alternatives.	Combined algorithmic and smart order routing technology with a multilateral non-display liquidity pool.	?	UK	MTF	?
BLOCKalert	ITG	Block-trade matching engine	?	UK	MTF	Active
BlockMatch	Instinet	Dark pool for institutional investors trading illiquid/large stocks	?	UK	MTF	Active
Euro Millennium	Nyfix	Neutral dark pool for equity trading in Europe	BNP Paribas	UK	MTF	Active
Liquidnet Europe	Liquidnet	Ability to negotiate large blocks of equities directly and anonymously	?	UK	MTF	Active
POSIT Match	ITG	Scheduled matches with concentrated liquidity throughout the trading day and i after-hours	?	IE	MTF	Active
POSIT Now	ITG	Continuous intra-day crossing	?	IE	MTF	Active
Mixed markets						
Turquoise	BNP Paribas, Citi, Credit Suisse, Deutsche Bank, Goldman Sachs, Merrill Lynch, Morgan Stanley, Société Générale and	Mixed market model: dark pool and visible order book	EuroCCP, Citi	UK	MTF	Active

	UBS					
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ANNEX 2: LINK REQUESTS AS OF OCTOBER 2008

Markets	Requesting organisation	Receiving organisation	Type of link
IT → FR	CC&G	NYSE Euronext	Transaction feed access
IT → FR	CC&G	LCH.Clearnet S.A.	Interoperability
IT → FR	CC&G	Euroclear France	Standard access
IT → NL	CC&G	Euroclear Nederland	Standard access
IT → BE	CC&G	Euroclear Belgium	Standard access
IT → PT	CC&G	Interbolsa	Standard access
IT → UK	CC&G	LSE	Transaction feed access
DE → UK	Eurex Clearing AG	LSE	Transaction feed access
DE → UK	Clearstream Banking Frankfurt	LSE	Transaction feed access
LU → UK	Clearstream Banking Luxembourg	LSE	Transaction feed access
DE → UK	Eurex Clearing AG	LCH.Clearnet Ltd	Interoperability
DE → UK	Clearstream Banking Frankfurt	LCH.Clearnet Ltd.	Transaction feed access
LU → UK	Clearstream Banking Luxembourg	LCH.Clearnet Ltd.	Transaction feed access
DE → UK	Eurex Clearing AG	Euroclear UK & Ireland	Transaction feed access
DE → UK	Clearstream Banking Frankfurt	Euroclear UK & Ireland	Standard or customised access
LU → UK	Clearstream Banking Luxembourg	Euroclear UK & Ireland	Standard or customised access
DE → BE	Eurex Clearing AG	Euronext Brussels	Transaction feed access
DE → PT	Eurex Clearing AG	Euronext Lisbon	Transaction feed access
DE → FR	Eurex Clearing AG	LCH.Clearnet S.A.	Interoperability
DE → FR	Eurex Clearing AG	Euroclear France	Transaction feed access
DE → NL	Eurex Clearing AG	Euroclear Nederland	Transaction feed access
DE → PT	Eurex Clearing AG	Interbolsa	Transaction feed access
DE → FR	Clearstream Banking Frankfurt	LCH.Clearnet S.A.	Transaction feed access
DE → BE	Clearstream Banking Frankfurt	Euroclear Belgium	DVP link (customised access)
DE → FR	Clearstream Banking Frankfurt	Euroclear France	DVP link (customised access)
DE → NL	Clearstream Banking Frankfurt	Euroclear Nederland	DVP link (customised access)
DE → PT	Clearstream Banking Frankfurt	Interbolsa	Standard or customised access
LU → FR	Clearstream Banking Luxembourg	LCH.Clearnet S.A.	
LU → BE	Clearstream Banking Luxembourg	Euroclear Belgium	Standard or customised access
LU → FR	Clearstream Banking Luxembourg	Euroclear France	Standard or customised access
LU → NL	Clearstream Banking Luxembourg	Euroclear Nederland	Standard or customised access
LU → PT	Clearstream Banking Luxembourg	Interbolsa	Standard or customised access
DE → CH	Eurex Clearing AG	SWX Europe	Transaction feed access
DE → CH	Eurex Clearing AG	SWX Swiss Exchange	Transaction feed access
DE → CH	Eurex Clearing AG	SIS x-clear	Interoperability
DE → CH	Eurex Clearing AG	SIS Sega Intersettle	Transaction feed access
DE → CH	Clearstream Banking Frankfurt	SWX Swiss Exchange	Information
DE → CH	Clearstream Banking Frankfurt	SIS Sega Intersettle	Standard or customised access
DE → CH	Clearstream Banking Frankfurt	SIS x-clear	Transaction feed access
LU → CH	Clearstream Banking Luxembourg	SIS x-clear	Transaction feed access
LU → CH	Clearstream Banking Luxembourg	SIS Sega Intersettle	Standard or customised access

DE → IT	Clearstream Banking Frankfurt	Borsa Italiana	Transaction feed access
DE → IT	Clearstream Banking Frankfurt	CC&G	Transaction feed access
DE → IT	Clearstream Banking Frankfurt	Monte Titoli	Customised access/information
LU → IT	Clearstream Banking Luxembourg	Borsa Italiana	Transaction feed access
LU → IT	Clearstream Banking Luxembourg	CC&G	Transaction feed access
LU → IT	Clearstream Banking Luxembourg	Monte Titoli	Customised access/information
LU → DE	Clearstream Banking Luxembourg	Frankfurter Wertpapierbörse	Transaction feed access
DE → SE	Clearstream Banking Frankfurt	NASDAQ OMX	Transaction feed access
LU → SE	Clearstream Banking Luxembourg	NASDAQ OMX	Transaction feed access
DE → SE	Clearstream Banking Frankfurt	NCSD Sweden	Information
LU → SE	Clearstream Banking Luxembourg	NCSD Sweden	Information
NL → FR	EMCF	NYSE Euronext	Transaction feed access
NL → FR	EMCF	LCH.Clearnet S.A.	Interoperability
NL → UK	EMCF	LSE	Transaction feed access
NL → DE	EMCF	Clearstream Banking Frankfurt	Standard access
BE → CH	Euroclear Bank	SIS x-clear	Transaction feed access
BE → DE	Euroclear Bank	Eurex Clearing AG	Transaction feed access
BE → IT	Euroclear Bank	CC&G	Transaction feed access
BE → UK	Euroclear Bank	EuroCCP	Transaction feed access
UK → FR	LCH.Clearnet Ltd	NYSE Euronext	Transaction feed access
UK → FR	LCH.Clearnet Ltd	LCH.Clearnet S.A.	Interoperability (not a formal request)
UK → BE	LCH.Clearnet Ltd	Euroclear Belgium	Standard access
UK → FR	LCH.Clearnet Ltd	Euroclear France	Standard access
UK → FR	LCH.Clearnet Ltd	Euroclear Nederland	Standard access
UK → FR	LCH.Clearnet Ltd	Interbolsa	Standard access
UK → DE	LCH.Clearnet Ltd	Frankfurter Wertpapierbörse	Transaction feed access
UK → DE	LCH.Clearnet Ltd	Eurex Clearing AG	Interoperability
UK → DE	LCH.Clearnet Ltd	Clearstream Banking Frankfurt	Standard or customised access
UK → IT	LCH.Clearnet Ltd	Borsa Italiana	Transaction feed access
UK → IT	LCH.Clearnet Ltd	CC&G	Interoperability
UK → IT	LCH.Clearnet Ltd	Monte Titoli	Standard or customised access
FR → DE	LCH.Clearnet S.A.	Frankfurter Wertpapierbörse	Transaction feed access
FR → DE	LCH.Clearnet S.A.	Eurex Clearing AG	Interoperability
FR → DE	LCH.Clearnet S.A.	Clearstream Banking Frankfurt	Standard or customised access
FR → IT	LCH.Clearnet S.A.	Borsa Italiana	Transaction feed access
FR → IT	LCH.Clearnet S.A.	CC&G	Interoperability
FR → IT	LCH.Clearnet S.A.	Monte Titoli	Standard access
FR → UK	LCH.Clearnet S.A.	LSE	Transaction feed access
FR → UK	LCH.Clearnet S.A.	LCH.Clearnet Ltd	Interoperability (not a formal request)
FR → UK	LCH.Clearnet S.A.	Euroclear UK and Ireland	Standard access
FR → UK	LCH.Clearnet S.A.	Chi-x	Transaction feed access
FR → NL	LCH.Clearnet S.A.	EMCF	Interoperability

CH → DE	SIS x-clear	Frankfurter Wertpapierbörse	Transaction feed access
CH → DE	SIS x-clear	Eurex Clearing AG	Interoperability
CH → DE	SIS x-clear	Clearstream Banking Frankfurt	Standard/customised access
CH → DE	SIS SegalInterSettle	Frankfurter Wertpapierbörse	Transaction feed access
CH → DE	SIS SegalInterSettle	Eurex Clearing AG	Transaction feed access
CH → DE	SIS SegalInterSettle	Clearstream Banking Frankfurt	Standard or customised access
CH → DE	SIS SegalInterSettle	Clearstream Banking Luxembourg	Standard or customised access
CH → UK	SIS x-clear	LSE	Transaction feed access
CH → UK	SIS x-clear	LCH.Clearnet Ltd	Interoperability
CH → UK	SIS x-clear	Euroclear UK & Ireland	Standard access
CH → FR	SIS x-clear	NYSE Euronext	Transaction feed access
CH → FR	SIS x-clear	LCH.Clearnet S.A.	Interoperability
CH → UK	SIS x-clear	Chi-x	Transaction feed access
CH → NL	SIS x-clear	EMCF	Interoperability
CH → UK	SIS x-clear	EuroCCP	Interoperability
DK → ES	VP Securities Services	Link Up Markets	
NO → ES	VPS	Link Up Markets	
DE → ES	Clearstream Banking Frankfurt	Link Up Markets	
HE → ES	HELEX	Link Up Markets	
ES → ES	Iberclear	Link Up Markets	
AT → ES	Osterreichische Kontrollbank	Link Up Markets	
CH → ES	SIS SegalInterSettle	Link Up Markets	

Source: Commission analysis and FESE/EACH/ECSDA presentation to MOG meeting, 29 October 2008.