LCH.Clearnet Group

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Discussion paper: The Need to Remove Structural Barriers to Consolidation of CCP Clearing

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Executive summary: Market-led efforts to create an efficient pan-European market may need to be supported by public sector intervention

- The need to address inefficiencies in European post-trade services is a key imperative of the FSAP
- Full consolidation of CCPs serving all European markets and asset classes would deliver significant benefits:
  - Economies of scope and scale leading to lower unit costs and significant potential to reduce fees
  - Risk management efficiencies further reducing transaction costs
  - User benefits from system and process standardisation
  - Wider indirect benefits
  - Genuine competition at trading level
- However, there are barriers that are preventing the market from realising these benefits
  - Majority exchange control or influence over CCPs and profit-maximising financial models, which has the potential to:
    - distort competition, and
    - enable the extraction of supra-normal profits from customers of CCPs
  - Regulatory fragmentation
  - Public sector guidance, and possibly intervention, may therefore be required to create the conditions that would allow the private sector to deliver a market-led solution
- Subsequent consolidation of CCPs, in all likelihood into a single CCP Group[1] under user ownership and governance, would
  - Deliver the maximum risk and operational efficiency benefits and
  - Maximise the potential for competition at the trading level

[1] Single CCP Group = holding company operating single processing "factory" serving wholly-owned subsidiary national CCPs

Background: Clearing and settlement harmonisation and integration remains a key FSAP priority

- A key part of the Financial Services Action Plan is the need to remove barriers to the creation of an efficient and competitive European financial market
- In order to ensure that European financial markets are globally competitive in comparison to the US in particular, the costs to users that derive from fragmentation in clearing and settlement must be addressed as they prevent efficient allocation of resources and increase the overall cost of capital[1]
- The focus is generally on the costs of cross-border settlement of equities. However, this is only one aspect of the inefficiencies in European clearing and settlement and should not be the only focus
- CCP clearing across asset classes has already contributed significantly to the reduction in risk and cost in Europe but further integration is still needed
- A Clearing and Settlement Directive addressing access, and with limited application to addressing governance, together with eventual adoption of the ESCB-CESR standards for Clearing and Settlement, would not remove all the barriers to integration
- The optimum market-led solution in clearing is a single user-owned CCP; however the market may not be able to realise this, nor a sub-optimal interoperability solution, due to the potential structural impediments of exchange control over CCPs and divergent business models
- Competition law *ex post* cannot alone be relied upon to deliver the benefits of consolidation as it is possible that it can only deal with denial of access or abusive behaviour, and can at most facilitate a move towards interoperability - which would be a sub-optimal outcome for users, as we explain below

[1] See e.g. the Second report of the Giovannini Group on Clearing and Settlement Arrangements in the European Union, and “Quantification of the Macro-Economic Impact of Integration of EU Financial Markets", Final Report to the European Commission - Directorate-General for the Internal Market by London Economics in association with PricewaterhouseCoopers and Oxford Economic Forecasting

Focus on CCP clearing: The potential to integrate CCP clearing should be regarded as a first step pending resolution of the Giovannini barriers

High network externalities

- As well as being a fixed-cost business, clearing has very strong network externalities, where the value to a user is greatly increased by the access that is given to a wide range of trading counterparties
  - These characteristics are also present in exchanges and settlement systems
  - However, network effects are stronger for CCPs than for exchanges and settlement systems given the additional exposure netting benefits that accrue to users

High market impact

- Because of settlement netting, over 90% of trades in equity markets do not require settlement

Fewer legal complexities and barriers to integration than for settlement

- While national differences remain, the general operating principles are more common across CCPs than across CSDs
- Users of CCPs are a relatively small, but sophisticated, constituency and structural changes would not directly affect the end investor as much as changes at settlement level; and there is generally no direct retail involvement
- The legal underpinnings of a CCP's activity are not as extensively bound into underlying national securities, tax and property laws as those of a CSD

High pro-competitive impact

- The removal of exchange influence over CCPs would act as a catalyst for genuine competition at trading level, and also support the development of competition at the settlement level as the Giovannini barriers are overcome

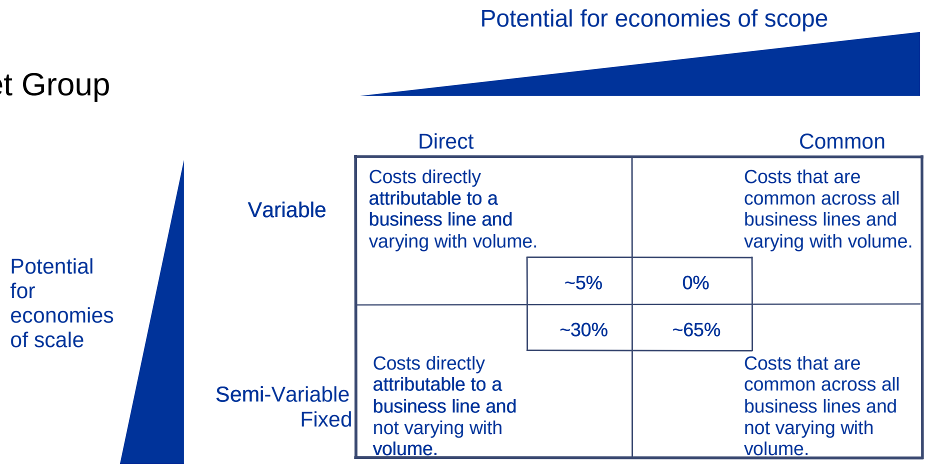
These effects are further magnified as the scope of a CCP extends across borders, markets and asset classes

Benefits of consolidation: Consolidation of CCPs would deliver a wide range of benefits

Illustration: Key areas of benefit deriving from consolidation of markets served by LCH.Clearnet and Eurex Clearing	Minimum estimated benefits
Economies of scope and scale leading to lower unit costs and fees Clearing is essentially a fixed cost business; higher market volumes would reduce unit costs and, subject to the business model, prices There are also significant scope economies available as the same functions underlie clearing processes for different asset classes: equities, bonds and derivatives This quantification of savings refers **to equity markets only** as no analysis has been possible for ETD due to the bundling of fees	Cash equity fee reductions in Germany: c.€70m p.a. (approx. 63%); €960m in perpetuity
Risk management efficiencies leading to further transaction cost reductions Exposure netting reduces collateral needs in margin and default fund provision The extent of savings depends on the range of asset classes that are included and are greater for derivatives	Reduced aggregate collateral requirements: €4.5-€9bn: cost €60-€100m p.a.; €600-€1bn in perpetuity
User benefits from system and process standardisation in equities Use of common systems and processes would enable users to realise similar scale and scope efficiencies in their back offices Common systems should also contribute to higher STP rates and lower fail rates	Cash equity back-office savings from integrating German market onto single platform: €50-€75m p.a.; €500-€750m in perpetuity
Wider indirect benefits Reduction in overall trading costs, both in clearing and as a result of greater competition at trading level, would improve liquidity and reduces the cost of raising capital Reduction in cross-border and cross-asset trading costs would facilitate the integration of national pools of capital and facilitate risk transference further reducing cost of capital A reduction of the cost of capital would raise European GDP	€(to be analysed further)

Economies of scope: Clearing is a substantially fixed cost business with significant sharing of infrastructure across asset classes

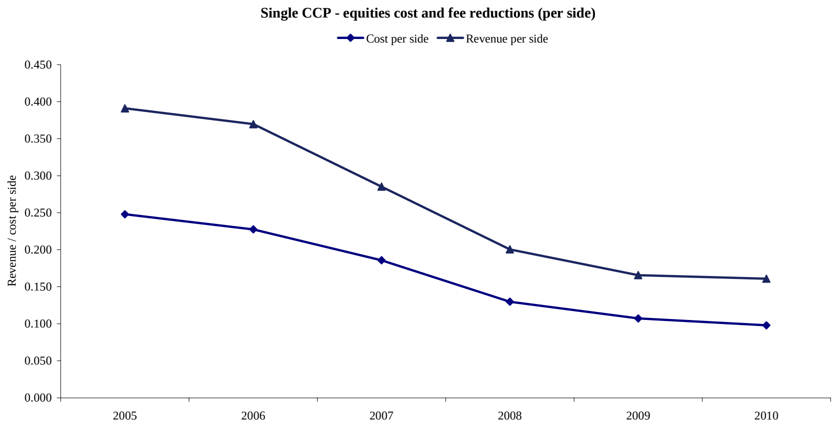
Example:
LCH.Clearnet Group



- As with most core infrastructures, CCPs have a large fixed cost base. Although this introduces high levels of operational gearing and exposure to falling volumes, the benefits from economies of scale and scope can be significant
- In the case of LCH.Clearnet, approximately 65% of costs can be viewed as being unavoidable fixed common costs. Without structural change these cannot be eliminated but they do not vary as volumes increase
- Common costs are allocated to each line of business in proportion, so that each business line therefore makes a significant contribution to those fixed costs
- The greater the number and type of markets that the business is able to clear, the broader the defrayal of fixed costs. LCH.Clearnet's cost allocation practices fully allocates relevant direct costs to each business line
- New products and asset classes can be added at a lower cost than for a single-market or product-specific CCP as investment in generic clearing/CCP functions are re-utilised

Economies of scale: Maximising volume throughput would leverage the fixed cost base but the choice of financial model would determine if these are passed through to users

- LCH.Clearnet has simulated the potential economies of scale which could be achieved by market volume growth, and the clearing of all major European cash equities markets, based on leveraging its own infrastructure as an example
- By including Germany, Italy, Spain, and Sweden with the markets that LCH.Clearnet currently clears, we are able to demonstrate how a single CCP could maximise efficiencies across Europe's major equity markets
- Although at these levels of volumes some increase in the infrastructure would be required, we believe that sourcing arrangements can be renegotiated to ensure that incremental costs are constrained
- The chart below sets out how we believe how unit costs and fees might change under such a scenario. If migration began in 2007 we believe that the industry could benefit from a halving of unit costs over 5 years from today
- However even this can be improved upon. Given the relative gap between US and European markets in terms of traded volume, full cross asset-class clearing is the only way Europe can realise similar levels of economies of scale as in the US



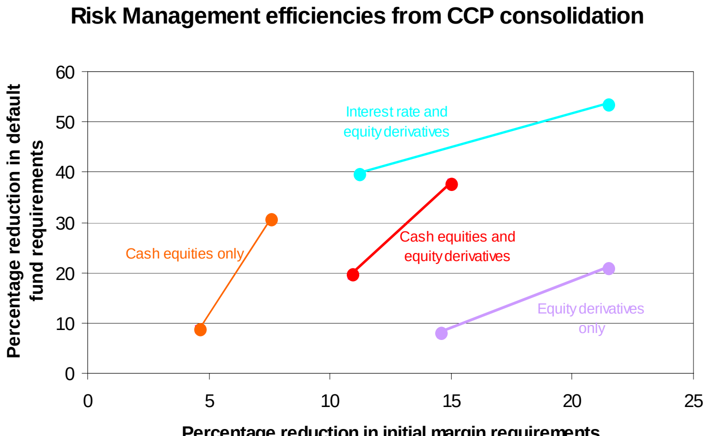
Risk management efficiencies: Reductions in collateral costs would provide further savings

Scenario modelling:

- LCH.Clearnet has modelled with Oxera, for illustrative purposes, efficiencies under a theoretical cross-asset class risk approach (not based on specific systems currently in place)
- The scenarios capture benefits of integration between different market segments using data on actual members' balances

Results:

- Consolidation offers potentially significant benefits in terms of reduction in margin and default fund requirements without assuming a change in risk appetite
- Simulation analysis suggests that **interoperability** offers a fraction of benefits achieved under consolidation: benefits only accrue if members operating in both markets do in fact move their clearing activity to one CCP



source: Oxera

- Risk analysis demonstrates that the risk of any CCP failing as the result of a default of a member reduces with consolidation

Quantifying efficiencies:

- At LCH.Clearnet and Eurex Clearing, the combined level of initial margins and default fund is around €45 billion and €2.5 billion respectively
- From the high-low ranges shown in the chart, if we assume a reduction of 10%-20% in initial margins and a reduction of 25%-40% reduction in default funds:

  these savings represent an aggregate reduction in margin capital of €4.5-€9 billion and a reduction in default fund requirements of €625-€1,000 million (total opportunity cost saving of €60-€100 million p.a.)

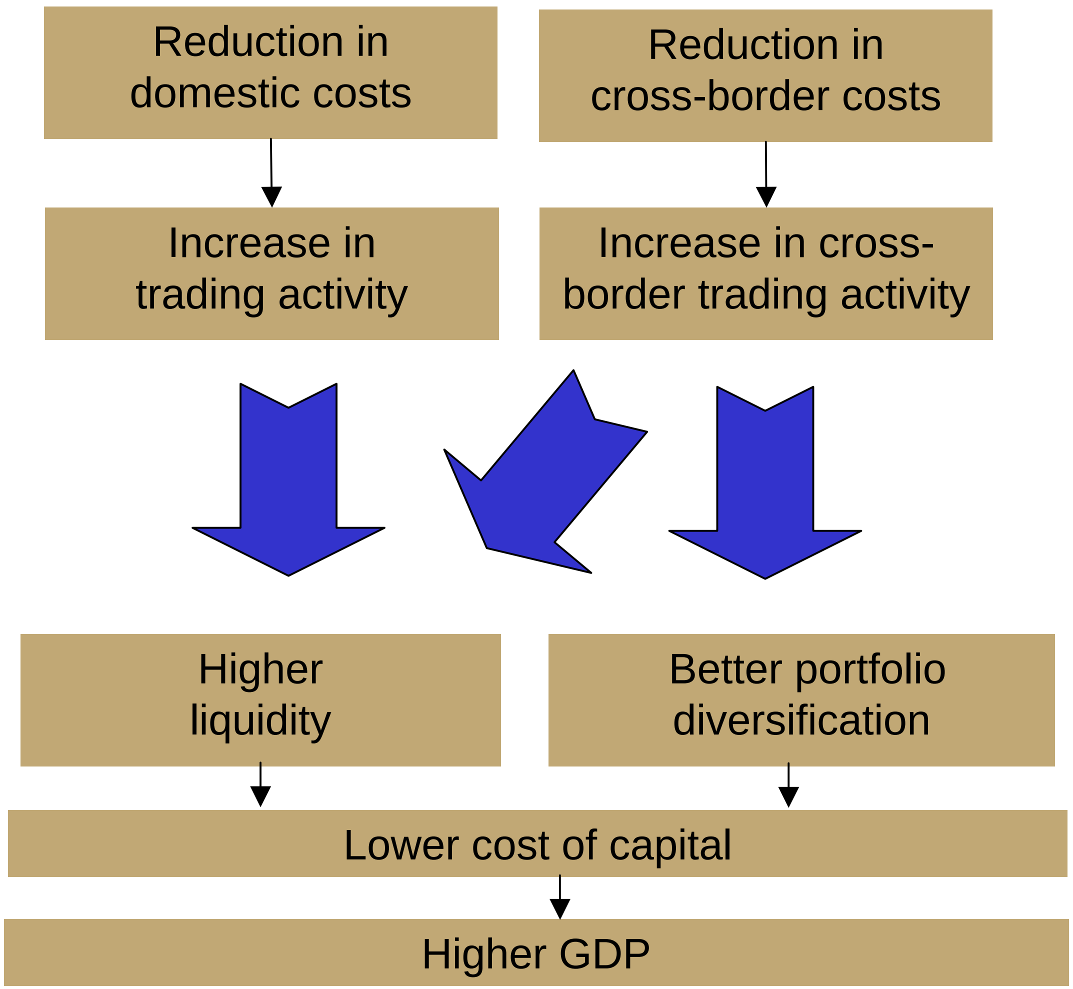
Precedents:

- These are significantly greater savings than have been realised in the US: the CME-CBOT Common Clearing link was expected to provide customers at both exchanges with an estimated savings of $1.5 billion in performance bond (i.e. margin) reduction and $100 million in "capital reductions"
- On August 3 2005, FICC's cross-margining program for U.S. Government securities futures set an all-time savings record in daily margin requirements of $322.8 million. On an average day, the 20 firms who participate in the program see a combined savings in margin requirements of about $183.3 million.

User processing costs: Harmonised clearing processes would enable users to realise efficiencies in their own back offices

- CCP consolidation would also enable users to realise internal savings as economies of scale (within asset classes) and scope (where there are common processes across asset classes) are realised
- These effects have been analysed by LCH.Clearnet as part of the drive to harmonise cross-border equities processing across the markets it currently serves
- Standardisation and consolidation of CCP processes across Europe, as a response to the need to encourage standard processes and consistent with progress on Giovannini Barrier 1, would enable further savings to be realised
- Analysis of the potential aggregate savings that could be realised by members of LCH.Clearnet as a result of its planned integration of cash equity clearing systems suggests a range of €50-€75m p.a.; similar amounts could be achieved from integration of another major market
- As harmonisation of clearing processes extends across other asset classes, primarily fixed-income/repo, and derivatives, additional savings could be realised in each case

Wider indirect benefits: Reduction in transaction costs would lower cost of capital and add to European GDP, benefiting end investors



- Integrated capital markets with low domestic and cross-border transaction costs would deliver lower cost of capital for firms resulting in higher European GDP
  - Preliminary RIA (EC, 2005) shows that 10% decrease in trading costs leads to a long-run GDP increase of €33 billion
  - LE (2002) shows that integration of European capital markets would increase the EU-wide GDP by €120 billion in the long run (40% of this are attributed to the equity markets integration)
- Further work is needed to assess savings in this area but the savings are likely to be significant
- Efficient domestic and cross-border clearing services in equities is an important pre-condition for delivering these benefits
  - Lower domestic clearing costs would improve trading liquidity
  - Lower cross-border clearing costs would facilitate integration of national pools of capital
- Multi-asset class CCP consolidation would provide further benefits in terms of more efficient and less fragmented derivatives and fixed income markets
  - Resulting in higher liquidity, better diversification of investors and lower cost of capital for firms
- **Greater competition for the provision of intermediary services along the value chain would ensure that benefits are passed to the end-user**

Facilitating competition at trading level: CCP consolidation would provide the platform for greater competition at the trading level both within member states and across the EU

- **A CCP must be neutral in order not to distort or discourage competition at trading level.** This is was a key finding of the UK Competition Commission (CC) in its 7-month-long detailed investigation into proposed bids for the LSE by Deutsche Börse and Euronext respectively:
  - "*[W]e consider that access to clearing services used by the incumbent exchange is necessary for a shift in liquidity to be credible. As a result, a CCP controlled by an exchange could remove the competitive constraint on equities trading services posed by the threat of head-to-head competition and thereby lead to higher trading fees, lower levels of service, or less innovation*" [Final report, November 2005, para 5.137]
- **In order to be neutral, a CCP must not be owned or materially influenced within the same economic group as a trading exchange**. Again, this is exemplified by the findings of the CC:
  - The CC identified several ways in which a vertically integrated exchange could foreclose entry or expansion at the trading level by restricting access at the CCP level:
    - These included refusal to supply; discrimination in the terms of access; frustration of the competitor by "*taking longer to deal*" with issues or "*imposing constraints within, for example, the provision of connectivity*" or cross subsidising in favour of trading [CC report, para 5.138]
  - The CC determined that the only effective solution was vertical disintegration (combined with behavioural remedies to the extent that the exchange retained some ownership/influence over the CCP) [paras 6.98, 6.99]:
    - Having consulted on and considered carefully the scope for a multiple CCP/interoperability solution, the CC concluded that this would be "*impracticable and therefore would not be effective*" in remedying the problem [para 6.23]
- **CCP consolidation in Europe is a natural progression from that neutrality in order to allow genuine cross-border competition to flourish at the trading level**
  - The CC was concerned with trading competition within the UK. Exactly the same considerations are applicable within other member states where vertical integration exists today. And most importantly, ***exactly the same considerations are applicable across Europe****:* the most effective and natural way to deliver the margin and settlement netting required for cross-border trading exchange competition to flourish is by means of CCP consolidation

Potential barriers: A number of structural impediments exist so that market forces might not realise these benefits

- **Ownership and financial structures**
  - Exchange ownership and control of CCPs, and profit-maximising business models, may act as a potential disincentive to consolidation: this is a major potential barrier and one where regulatory intervention may be required
  - Exchange control could also prevent even the sub-optimal interoperable structure working effectively
- **Regulatory fragmentation**
  - Different approaches to the regulation and supervision of CCPs make consolidation more complex
  - Each national regulator supervises its home CCP and there is no European passport or agreed process for cross-border supervision
  - In order to facilitate consolidation, agreement should be reached at European level on recognition criteria and prudential oversight
  - This would include provisions to ensure robust risk management and business continuity, where user governance would reinforce the incentives for a strong risk management focus
  - The work plans currently under way at the Commission and ESCB-CESR are important steps in this direction
  - Nevertheless while each regulator retains national responsibility there may remain scope for barriers to full consolidation, such that consolidation into a single CCP Group, with separate CCPs remaining under national regulation, should be the primary target structure in the medium term
- **While consolidation would raise other complexities, these do not present strong barriers**
  - The legal bases for CCP clearing, and core standards, while subject to national jurisdictions, are well developed and observed
  - Differences in the business processes, e.g. netting and margining algorithms, give-up procedures and account structures can be resolved once a single governance process is in place

Vision: Single European CCP Group covering European markets; interoperable links within Group to deliver virtual consolidation

- Once structural barriers are overcome, possibly facilitated by intervention from public authorities, the industry will then be able to work towards delivering a single CCP group
- Regulatory fragmentation is likely to mean that separate wholly-owned subsidiary CCP legal entities operating under local legal and regulatory jurisdictions will remain for the foreseeable future
- In order to maximise economies of scale and scope, all group CCPs would share a single processing “factory”
- Where possible the same processes and systems should be leveraged to provide common processing across both derivatives and securities
- Subject to individual business cases, interoperable links can be maintained and established between Group-owned CCPs to enable users to consolidate their clearing activity at the single CCP of their choice within the Group

Ownership and financial barriers: Current ownership structures and financial models are a potential obstacle to consolidation

- Depending on the strategic model that an exchange has adopted, its competitive strengths, the existence of other impediments to competition, and the perceived regulatory stance, there can be powerful incentives for exchanges to maintain ownership of CCPs as a competitive barrier
- This may lead exchanges to require that users of trading services also use their own CCP, and frustrate the ability of another CCP to tender for the provision of clearing services
- Additionally where a CSD is in common ownership there can be an incentive to own the CCP to offset declines in settlement volumes from netting
- Other strategic models, such as that espoused by Euronext which led it voluntarily to sell part of its stake in Clearnet in 2003, may allow for the divestment of a CCP, but these are unusual and cannot be relied upon
- Given the added pressures to perform post IPO, exchanges may have an incentive to ensure that the profit-maximising CCP model continues under their separate ownership, which would mean the barriers to consolidation would persist
- Users believe that there should be controls on the profitability of CCPs, and are not prepared to buy profit-maximising CCPs whose valuation would be inflated as a result of the absence of user ownership or other constraints on profitability

CCP	Ownership	Markets served
CC&G	**86.4% Borsa Italiana** **14.6% Capitalia Group**	**Borsa Italiana markets**
CCP Austria	**50% Wiener Börse** **50% OeKB**	**Wiener Börse**
Eurex Clearing	**50% DBAG** **50% SWX**	**DBAG markets** **EEX**
LCH.Clearnet	**45% Euronext, LME & ICE Futures** **45% 122 users** **10% Euroclear**	**c. 17 exchanges and other trading platforms**
MEFFClear	**100% BME**	**BME markets**

Impact on competition

Restrictions on trading competition:

- Exchange ownership of CCPs may be used to deny access by a competitor to settlement netting and margin offsetting of its products with those of the incumbent, which is necessary for competition at trading level

Scope of influence:

- As well as direct ownership and governance influence, there can also be “soft biases” where influence could be exerted in favour of the owner/exchange including:
  - Encouraging a greater degree of ongoing compatibility of IT systems between the CCP and the owner exchange than between the CCP and other exchanges or other CCPs; and/or
  - Influencing the availability of personnel and other resources to deal with new service proposals

Application of barriers:

- These barriers may help to prevent both access to clearing and the ability of market forces to achieve consolidation

Interoperability: Interoperability between independent CCPs is clearly inferior as a target structure and is prevented by the same potential barriers and would raise costs

Continued fragmentation: the industry would continue to bear the cost of maintaining multiple CCPs

- The costs incurred in setting up interoperable links would be significant, and not viable, as they would require substantial IT investment yet would swiftly be rendered redundant as users sought maximum scale efficiency from a single provider by encouraging consolidation
- There would continue to be differing processing models (e.g. netting and margining algorithms and different account structures) at each CCP and the path to a uniform model would not be clear, increasing switching costs
- Convergence of standards would be slow and costly with a high level of structural uncertainty and thus high direct and indirect costs
- The need for CCPs to collateralise or otherwise manage the exposures generated between them would represent a further industry cost
- Differing approaches to risk management at each CCP, and the relative balance between user and shareholder support, would mean there would be no level playing field and could encourage potentially dangerous compromise of standards

Interoperability would not act as a stimulus to competition at trading level

- In practice, interoperability could be enabled technically through interlinking of CCPs. However, where one CCP remains under the ownership or influence of an exchange, that exchange may have the same incentives to impede access by a CCP serving, and in particular owned by, a competing exchange
- Those incentives present barriers preventing free access to a CCP by another CCP owned by a competing exchange, and may serve to obstruct that exchange from competing for trading services
- Costly regulation and strict governance standards may be required to enforce interoperability with a vertical silo, and even then is not likely to succeed. It is very difficult to regulate part of an integrated organisation in any case, and ex post regulation would follow far too late to prevent potential abuse
- Implementing management and accounting separation with a group would still leave scope for concealing potentially abusive behaviour

Remedies for removal of potential barriers: It is likely that public sector guidance, and possibly action, may be necessary in order to enable the market to overcome the identified barriers and achieve consolidation

- A stated public sector objective may be to achieve an outcome along the lines of the Competition Commission LSE Inquiry conclusion, which might provide the basis to dislodge the barriers thereby developing efficiency in post-trade services and competition at trading level
- To be effective, this might include both structural and behavioural conditions e.g. that:
  - any single shareholder group must be limited to less than 15% of the shareholding and voting rights in a CCP
  - no single shareholder group should be able to exert influence through the use of "soft biases"
- Active consideration could be given to appropriate ways to achieve this e.g. through application of competition law, for example Article 82, in relation to excessive pricing and refusal to supply; or possibly legislative action
- Further checks and balances may also be required to limit the potential effect of biases in cases where the operator of a regulated market or MTF is a shareholder in a CCP:
  - There should be explicit service contracts with RMs/MTFs for the provision of clearing services
  - Tariffs should be set independently of RMs/MTFs and settlement systems
  - Payments between the CCP and RMs/MTFs, and CSD tariffs for CCPs, must be transparent
- The authorities should not restrict consolidation of CCPs into a single pan-European entity
  - User ownership would limit profit-maximising tendencies and encourage consolidation; otherwise price regulation could be necessary

Pro-competitive effects of consolidation: A single European CCP would not lead to any significant loss of competitive pressure

Current competitive environment

- There is currently little genuine competition in clearing, therefore consolidation would not lead to any significant loss of competitive pressure on clearing fees
- It is only where the CCP has a contractual relationship with the exchange that competition is possible but then it may only be episodic
- A single consolidated CCP for the EU would be a positive step which competition policy in the financial services sector should favour:
  - A key issue in the sector is the encouragement of actual & potential competition at the trading level, and ensuring a level playing field between trading platforms
  - Within the UK, this was the focus of the Competition Commission in the LSE recent inquiry, with the remedies designed to ensure the neutrality of the CCP between trading exchanges (see slide above)
  - Exactly the same issues are applicable beyond the boundaries of a single member state, across the EU as a whole
  - User ownership, together with competition law, would ensure fair access

User demand

- There is good evidence of user demand for a single European CCP
  - LCH.Clearnet's research with its largest users shows an overwhelming preference for further consolidation

Alternative models

- The December 2005 report for Corporation of London by Bourse Consult stated that: "Most interviewees gave priority to the creation of a single European clearing house ... handling the trades from all the major markets"
- The alternative "interoperability" model between independent CCPs would not deliver the same benefits as
  - Full economies of scale would not be realised;
  - The need to manage exposures between CCPs would reduce the overall netting benefits and risk efficiencies;
  - The interconnection mechanism itself is likely to be complex and costly and would add to user costs; and
  - Innovation would be slowed by the providers having to develop new functionality in parallel
  - Without dilution of control by exchanges there would be no incentive on them to collaborate to build open links to their controlled CCPs

Ownership and governance: User ownership is likely to emerge as the preferred industry structure in the long term and should be encouraged

Reducing potential residual competition concerns and removing the need for economic regulation

- It would represent a self-regulatory solution, ensuring direct and appropriate discipline from the consumers in the process, thereby consolidating the pro-competitive effects

Ensuring the adoption of optimum risk policies

- Non-user shareholder control can lead to inefficiencies and high costs as external shareholders have different risk appetite to users
    - In case of a profit-maximising entity, this could lead to margins being set at too high a level, to protect external shareholders from the effect of a failure of the CCP
- With user ownership, there would be a better alignment/balance of user risk and shareholder reward
    - Margins/overall backing and returns would be set at the right level to reflect users' pricing of mutual risk
    - Management incentives would be more closely and directly aligned with users' risk appetite through direct shareholder incentivisation
- There should be representation in the governance structure of all key stakeholders as well as independent representation

Aligning the provision of risk capital & allocation of resources

- Shareholders are last in line if there is a need to provide support following a user insolvency
- In the absence of default funds market risk would be covered by shareholders: default funds at LCH.Clearnet and Eurex Clearing are a multiple of shareholders' funds
- As OTC business is likely to account for an increasing share of clearing business, there is a greater dependence on users for trade flow, further increasing tensions with exchanges which own CCPs

No loss of efficiency or innovation

- Majority user-owned and user governed CCPs are not demonstrably less efficient than profit-maximising CCPs
- Users as majority owners would have direct control over clearing fees and require a lower return on capital with fees being set closer to processing costs
    - The return on equity for a sample of integrated exchange-CCP groups ranges from 18-71% compared to 11% for LCH.Clearnet
- The US experience shows that exchanges with for-profit clearing houses tend to increase unit revenues
- User-owned CCPs (LCH, DTCC) have demonstrated their capability to innovate

Need for transitional arrangements

- In the short term there may be a need for transitional ownership arrangements with shareholders receiving an adequate return on their invested capital

Recap: Joint action is required to overcome potential barriers to competition in securities and derivatives trading

- **Full consolidation of CCPs serving all European markets and asset classes would deliver significant benefits**
- **Consolidation of CCPs, in all likelihood under user ownership, would have the greatest efficiency benefits and facilitate competition at trading level**
- **Although there are precedents for the transference of clearing and settlement infrastructures to user ownership (Euroclear, Clearnet, DTCC), differing business models may prevent further consolidation**
- **However there are potential barriers that are preventing the market realising these benefits**
- **Public sector guidance, and possibly intervention, to remove the structural – ownership and financial – barriers may therefore be necessary if a private sector solution is not found**
- **The European Commission should signal that it might seek to take action to overcome the barriers, whether through competition measures or legislation, in the absence of a market solution**
- **Unless market forces can demonstrate progress in overcoming the barriers without official action, the EC should follow through on this stated intention and enact the necessary provisions; measures under competition law may be appropriate**

Further information:

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