COMPETITION COMMISSION

PROPOSED ACQUISITION OF LONDON STOCK EXCHANGE PLC BY DEUTSCHE BÖRSE AG OR EURONEXT NV

Provisional findings report

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The Competition Commission has excluded from this published version of the provisional findings report information which the inquiry group considers should be excluded having regard to the three considerations set out in section 244 of the Enterprise Act 2002 (specified information: considerations relevant to disclosure). The omissions are indicated by ✂.

Provisional findings report

Proposed acquisition of London Stock Exchange plc by Deutsche Börse AG or Euronext NV

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Summary

1. On 29 March 2005 the Office of Fair Trading (OFT) referred the proposed acquisition of London Stock Exchange plc (LSE) by Deutsche Börse AG (DBAG) or Euronext NV (Euronext) to the Competition Commission (CC) for investigation and report. The references were made under section 33(1) of the Enterprise Act 2002 (the Act). We are required to publish our final report by 12 September 2005.

2. Exchanges are centralized marketplaces where investors buy and sell securities, either directly or through intermediaries. In addition to being carried out on an exchange's electronic order book (on-book), equities trades can be executed away from the order book (off-book). Off-book trading can be conducted using alternative trading systems (ATSs), over the counter through bilateral deals, or internalized by brokers.

3. Exchanges earn revenue in a variety of ways, including by charging issuers an initial fee for listing and an ongoing annual charge for maintaining that listing. Once an equity has been admitted to trading, the exchange provides a platform to match the offers and bids of the trading firms under rules set by the relevant regulator and the exchange. Exchanges generally charge trading firms for membership of the exchange and for on-book trading, as well as for reporting trades executed away from the order book (where this is required). Exchanges also provide a series of ancillary services, including market information services and information technology (IT).

4. When equity trades have been executed, clearing and settlement begins. Clearing houses prepare payment or security transfer orders, and establish final positions for settlement. Two key functions commonly associated with clearing are the central counterparty (CCP) function and netting. A CCP guarantees the fulfilment of trading

obligations by becoming the common counterparty to the buyer and seller in each trade. Netting is the offsetting of trading obligations. Settlement services for equity trades include two key functions: the delivery of securities in return for a cash payment (settlement function), and the registry function, which is the maintenance of the central register of the owners of a security. Once a trade has been settled, custodian banks may provide additional services, such as holding and safekeeping securities for customers, transmitting transfer orders and processing corporate actions. They may also offer related banking services such as securities finance. We refer to these activities collectively as custody and banking services.

5. There are different business models for post-trade services in equity markets that reflect varying levels of vertical integration between trading, clearing and settlement services. The vertically-integrated model, which sees the integration of all three activities under one organization, is at one end of the spectrum, whilst at the other end is the vertically-disaggregated model in which all three activities are performed by separate organizations.

6. Exchanges, trading firms, investing institutions and providers of post-trade services must comply with laws and regulations aimed at supporting the efficient functioning of securities markets while maintaining investors' confidence in those markets. The regulatory framework for the financial sector in the UK, including securities listing and trading, is set out in the Financial Services and Markets Act 2000 and the related rules of the Financial Services Authority (FSA). EU directives play an important role in setting the regulatory framework for financial services, including the listing and trading of securities.

7. DBAG is a German company which demutualized in 1992 and has been listed on the Frankfurt Stock Exchange since 2001. DBAG operates a vertically-integrated

business model in Germany. Clearing is performed by Eurex Clearing AG (Eurex Clearing), a 100 per cent owned subsidiary of Eurex Zurich AG (Eurex). Eurex, which operates the largest derivatives exchange in Europe, is a joint venture between DBAG and the SWX Group Zurich. Clearstream International SA and its subsidiaries (Clearstream), 100 per cent owned by DBAG, carry out settlement services.

8. Euronext is a Dutch public company with limited liability, which is listed on the Paris stock exchange. Euronext was formed in September 2000 from the merger of the Amsterdam, Brussels and Paris stock exchanges. It acquired the London International Financial Futures and Options Exchange (Euronext.liffe) and the Portuguese stock exchange in 2002. Clearing is provided for Euronext exchanges by LCH.Clearnet. At present, settlement services for Euronext in Brussels and Lisbon are provided through Euronext subsidiaries, while Euroclear plc (Euroclear) provides settlement services for Euronext's remaining exchanges through its subsidiaries.

9. LSE is a UK public limited company that demutualized in 2000 and listed on the London Stock Exchange in July 2001. LSE's product and services portfolio covers listing, trading, and the provision of market information. LSE has a limited presence in the derivatives sector through its majority ownership of EDX London Ltd (EDX). Clearing services are provided to members of LSE under contract by LCH.Clearnet Group Limited (LCH.Clearnet). LCH.Clearnet has outsourcing arrangements for netting with CRESTCo Limited (CRESTCo), which also provides settlement services to LSE.

10. DBAG announced on 13 December 2004 that it was in discussions with LSE with a view to making a recommended cash offer. Euronext confirmed its interest in a possible cash offer for LSE on 27 January 2005. On 6 March 2005, DBAG withdrew

its offer, but reserved the right to make an offer if Euronext or another third party were to announce an offer for LSE.

11. DBAG and Euronext have each advanced similar rationales for their proposed acquisition of LSE. Both have told us that a merger with LSE would realize significant cost savings through migrating the equities trading activities of the merged companies on to a single IT platform. There would also be synergies arising from reduced overheads as well as revenue enhancement opportunities.

12. We concluded that there was a relevant merger situation in respect of both DBAG and Euronext's proposed mergers with LSE. However, we will observe developments at DBAG with interest prior to the publication of our final report.

Listing services

13. We concluded that there was little, if any, competition between the parties in the provision of primary listing services to domestic companies, and that competition takes place on a global basis for secondary listing services and primary listing services to companies seeking listings outside their domestic market.

14. We concluded that the proposed acquisition of LSE by either DBAG or Euronext would not give rise to a substantial lessening of competition (SLC) either within the market for primary listings to domestic companies, or within the market for the provision of secondary listing services and primary listing services to companies seeking listings outside their domestic market.

Equities trading services

Market definition

15. We considered the substitutability of different trading platforms provided by exchanges, and, more importantly, the degree to which other forms of trading, such as off-book trading (including trading both off the order book and off the exchange altogether), were substitutable for trading on an exchange's order book.

16. We concluded that equities trading services should not form part of the same relevant market as derivatives trading and bond trading services.

17. A trading firm can execute a trade either through an exchange's order book or off-book. We looked at the trends in on-book and off-book trading, and their relationship to changes in fees. It was difficult to identify the impact of price changes, since the trends were influenced by a variety of internal and external factors. Our analysis indicated that on- and off-book trading tended to move together, and did not provide evidence of switching from one to the other. Nor could we identify any statistically significant relationship between price changes and trading value or volume.

18. Several parties told us that an increased trading fee would have the most significant impact on technical trading (including both statistical arbitrage trading and Direct Market Access), for which explicit trading costs constitute around two-thirds of the total trading cost for an average-sized trade. LSE said that the reduction in the volume of technical trading that would result from a trading fee increase would reduce overall liquidity and, by widening bid-ask spreads, increase total trading costs. This would drive other business off the order book for two reasons. First, wider bid-ask spreads would increase the volume and profitability of internalization. Second, reduced liquidity would make the exchange less attractive to other forms of trading. LSE argued that the consequent increase in implicit trading costs would result in a

further reduction in statistical arbitrage trading volumes, further increasing spreads and further increasing the amount of business that is internalized—ie a vicious circle would be created.

19. We considered the extent to which an increase in trading fees could lead to the creation of a vicious circle. Despite extensive discussions with main and third parties, we could not find factual evidence that enabled us to establish the existence of, or to quantify in any way, a competitive constraint from such a vicious circle. We therefore considered that the primary effect of an increase in trading fees might be a reduction in the volume of statistical arbitrage trading, and any effect on overall volumes of other trades would, in our view, be second-order. We concluded, on balance, given all of the evidence that we received, that the product market was the provision of on-book equities trading services.

20. We believed that the relevant market for equities trading services should include all exchanges currently placing a competitive constraint on the pricing and behaviour of LSE in the UK through the threat of head-to-head competition. As these constraints are exercised by the major exchanges in Europe and the USA, and because of the history of actual and planned expansion and entry, the geographic market should be defined to include Europe and the USA.

Horizontal competition

21. Network effects operating at the trading level make it very difficult for liquidity associated with trading in a particular equity to shift to an alternative exchange. These network effects do not prevent head-to-head competition between exchanges for trading the same set of equities, although the network effects would result in switching costs. Competition between exchanges manifests itself either through

direct head-to-head competition for the trading of equities currently conducted on LSE in the UK, or the threat of such head-to-head competition.

22. Trading on LSE, as on other exchanges in Europe, is concentrated in a small number of large trading firms. This degree of concentration has facilitated a higher degree of actual head-to-head competition between exchanges in recent years than would otherwise have been the case. There are two important consequences of this concentration of trading firms. First, the actions of a relatively small number of trading firms in transferring their trading activities from one platform to another would facilitate a shift in liquidity. Second, an exchange wishing to compete head-to-head with LSE could readily identify key trading firms and, more importantly, would need to gain the commitment of only a small number of them.

23. Whilst both DBAG and Euronext provided a competitive constraint on LSE, primarily due to the perceived threat of head-to-head competition in the UK, we concluded that there were other exchanges, including virt-x and the major US exchanges, as well as, to a lesser degree, off-book trading venues, which also provide a competitive constraint to LSE.

24. We concluded that the proposed acquisition of LSE by either DBAG or Euronext would not give rise to an SLC within the market for on-book equities trading services within the UK, by virtue of the removal of the horizontal constraint currently imposed on LSE by DBAG or Euronext alone.

Derivatives trading services

25. LSE has a limited presence in the derivatives sector through EDX. EDX mainly trades Scandinavian equities and equity indices derivatives.

26. We concluded that EDX did not compete in any significant way with either Eurex or Euronext.liffe. We did not consider that, in the absence of the proposed mergers, EDX was likely to represent a serious competitive threat in the short to medium term. We concluded that the proposed acquisition of LSE by either DBAG or Euronext would not give rise to an SLC within derivatives trading services in the UK.

Post-trade services

Foreclosure of trading services

27. The overwhelming majority of the evidence that we received, including evidence from LSE and Euronext, suggests that fully fungible access to the incumbent exchange's post-trade services is of critical importance for successful entry or expansion at the trading level, primarily because of the infrastructure costs of connecting to multiple systems and the costs associated with clearing trades through more than one CCP. We concluded that a potential competitor would be able to get fully fungible access to LSE's clearing services in the UK today.

DBAG/LSE merger

28. We concluded that the proposed DBAG/LSE merger would lead to the introduction of Eurex Clearing as LSE's provider of clearing services, and that DBAG had control over Eurex Clearing. The merged entity would have the incentive and ability to foreclose entry and expansion in the UK at the trading level. Given the importance of the threat of entry or expansion at the trading level as one of the constraints on LSE's behaviour, we expect control by the merged entity over clearing services would result in an increase in the costs to trading firms of switching trading platform, raising barriers to entry and hence reducing the threat of entry or expansion at the trading level.

29. Such foreclosure would allow the merged entity to reduce the attractiveness of LSE's offer, by increasing prices or reducing levels of service or innovation beyond the levels they would otherwise have been at in the absence of the proposed DBAG/LSE merger. We concluded that the proposed acquisition of LSE by DBAG may be expected to give rise to an SLC in the market for the provision of on-book trading services within the UK because of the ability and incentive to foreclose entry or expansion to other providers of trading services.

Euronext/LSE merger

30. We considered the merged entity's influence over LCH.Clearnet should Euronext acquire LSE. LSE does not currently have any material influence over LCH.Clearnet. Euronext has a 41.5 per cent shareholding in LCH.Clearnet, with its voting rights capped at 24.9 per cent. It has four of the 18 board seats. Over 60 per cent of LCH.Clearnet's total fee income is currently dependent on the clearing of trades made on exchanges owned by Euronext. Despite its importance to LCH.Clearnet as a customer, Euronext told us that it had no ability or interest in controlling LCH.Clearnet.

31. In recognition of user concern about the possible ongoing influence of Euronext over LCH.Clearnet, strict governance arrangements were put in place at the time of the LCH.Clearnet merger. We acknowledged that the governance arrangements between Euronext and LCH.Clearnet, taken in isolation, appeared to be robust. However, we have taken account of the merged entity's significant shareholding and four seats on the board. At present LSE accounts for less than 10 per cent of LCH.Clearnet's total fee income; the merged entity would have around two-thirds of LCH.Clearnet's total fee income as a result of LSE's proposed merger with Euronext. We considered that, on balance, we would expect the merged entity to have the ability to influence LCH.Clearnet's strategic decisions in its favour.

32. Euronext said that its past actions in the case of LSE's Dutch Trading Service (DTS) supported its argument that it did not exert any influence over LCH.Clearnet. LSE approached Clearnet to provide clearing services for DTS and Euronext did not exert its influence to stop Clearnet doing so. However, we noted that the losses that the merged entity would incur as a result of successful competition against LSE following the proposed Euronext/LSE merger would be much greater than the losses Euronext would have envisaged with DTS. Hence, the merged entity might be expected to adopt a different attitude to competition against LSE in the future. We considered that, in order to protect its substantial investment in LSE, the merged entity would have a strong incentive to influence adversely access to clearing services in the UK.

33. We concluded, on balance, that the merged entity would, despite LCH.Clearnet's governance arrangements, have the incentive and ability to foreclose entry and expansion in the UK at the trading level in the event of the proposed Euronext/LSE merger going ahead. Such foreclosure would allow the merged entity to reduce the attractiveness of LSE's offer, by increasing prices or reducing levels of service or innovation beyond the levels they would otherwise have been at in the absence of the proposed Euronext/LSE merger. We concluded, therefore, that the proposed acquisition of LSE by Euronext may be expected to give rise to an SLC in the market for the provision of on-book trading services within the UK because of the ability and incentive to foreclose entry or expansion to other providers of trading services.

Clearing services

34. Clearing services are provided to members of LSE under contract by LCH.Clearnet. Individual customers are unable to choose an alternative CCP to that appointed by the exchange.

35. In 2003 the incumbent provider, London Clearing House, retained the LSE clearing contract with a 25 per cent reduction in clearing fees. However, we considered that there were specific circumstances regarding this tender and note the limited competition for clearing services more generally.

36. We concluded that the proposed acquisition of LSE by either DBAG or Euronext would not give rise to an SLC within clearing services in the UK.

Settlement services

37. Settlement services are usually provided by a single entity for each exchange. At present CRESTCo is the default provider of the settlement function for trades conducted on LSE and for legal and regulatory reasons it is the only provider of the registry function in the UK. We concluded that there was little competition at present in the provision of settlement services in the UK.

38. We concluded that the proposed acquisition of LSE by either DBAG or Euronext would not give rise to an SLC within settlement services in the UK.

Custody and banking services

39. We considered the provision of custody and banking services. We were told that users can choose from a broad range of entities such as custodian banks as well as International Clearing and Securities Depositories for the provision of custody and banking services.

40. We concluded that the proposed acquisition of LSE by either DBAG or Euronext would not give rise to an SLC in the provision of custody and banking services in the UK.

Other areas

41. The exchanges provide proprietary market information, such as real-time pricing and trading volume data, and non-proprietary market information, such as indices and historical information. Given that the exchange is the sole provider of proprietary information, and given the large number of competitors for the provision of non-proprietary information, we did not expect the proposed acquisition of LSE by either DBAG or Euronext to result in an SLC in this area.

42. We considered the possible impact of either proposed merger on regulation and any resulting impact on competition. We noted the FSA's statement of February 2005 which raised the possibility that a new owner of LSE might decide to operate LSE from another EU member state, with consequences for the operations and regulation of LSE's markets.

43. Both DBAG and Euronext provided us with details of the commitments they would give to maintain UK RIE status for LSE. We also considered whether DBAG or Euronext would have the incentive to remove LSE's RIE status. Both told us that it would not be in their interest to do so, since users would react negatively and might switch business away from LSE.

44. The FSA told us that in practice, in particular given the stated positions of the bidders, it considered the likelihood of the regulation of LSE's markets moving to another EU member state to be remote, at least in the short term.

45. We therefore concluded that neither DBAG nor Euronext would be likely to seek to remove the UK's RIE status as a result of their proposed mergers. We did not find it necessary to consider whether the loss of UK RIE status to LSE would have an effect on competition.

Provisional conclusions

46. We provisionally concluded that the proposed acquisition of LSE by DBAG and the proposed acquisition of LSE by Euronext in each case constituted arrangements in progress or contemplation which, if carried into effect, would result in the creation of a relevant merger situation. We also provisionally concluded that the proposed acquisition of LSE by DBAG would be expected to result in an SLC within the market for the provision of on-book equities trading services within the UK because of the ability and incentive to foreclose entry or expansion to other providers of trading services; and that the proposed acquisition of LSE by Euronext would be expected to result in an SLC within the market for the provision of on-book equities trading services within the UK because of the ability and incentive to foreclose entry or expansion to other providers of trading services.

Provisional findings

1. The references

1.1 On 29 March 2005 the OFT referred the proposed acquisition of LSE by DBAG or Euronext to the CC for investigation and report. The references were made under section 33(1) of the Act. Our terms of reference are set out in Appendix A. We are required to publish our final report by 12 September 2005.

1.2 This document, together with its appendices, constitutes our provisional findings in respect of both references. We are required to notify our provisional findings to the parties (LSE, DBAG and Euronext) under the CC's Rules of Procedure. Further information, including our industry background paper, non-sensitive versions of written submissions, and summaries of third-party arguments and views, can be found on our web site.[1] We refer to these documents as appropriate.

2. Industry background and the companies

2.1 In this section we describe the major features of the exchange industry, including trading and post-trade services, the regulatory environment in which the industry operates, and the companies that are the subject of this inquiry.

Trading services

2.2 Exchanges are centralized marketplaces where investors buy and sell securities, either directly or through intermediaries. Securities include, amongst others, equities, bonds and derivatives:

(a) An equity is an instrument that signifies an ownership position in a company, and represents a claim on its proportional share in the company's assets and profits.

[1] www.competition-commission.org.uk.

In most cases, it also provides the owner with voting rights in relation to certain corporate decisions.

(b) A bond is an interest-bearing instrument issued by a government or corporation that also requires payment of the principal at a certain date.

(c) A derivative is a financial instrument, the price of which is directly dependent upon (ie 'derived from') the value of one or more underlying securities, such as equity indices, debt instruments, or commodities, and has no direct relationship with the underlying company.

2.3 At the end of December 2003 there were 54 regulated cash and derivatives exchanges[2] operating throughout the world with a total market capitalization of listed equity securities of over US$31 trillion and equity trades valued at more than US$33 trillion.[3] Of this, the turnover of European equities exchanges was around 30 per cent (over US$10 trillion[4]).

2.4 In addition to being carried out on-book, equities trades can be executed away from the order book. We define all such trades in the remainder of this report as off-book, whether reported to the exchange or not. Off-book trading can be conducted using ATSs such as electronic communication networks, over the counter (OTC) through bilateral deals, or internalized by brokers. Internalizers can either match two or more customer orders within their own books, or take a principal position against a customer order. Around two-thirds of equities trading, nearly 100 per cent of bond trading, and nearly 90 per cent of derivatives trading in the UK takes place off-book.[5] The availability of off-book alternatives depends to some extent on the country—the

[2]A cash exchange lists and trades equities and bonds.
[3]Source: World Federation of Exchanges, *The Significance of the Exchange Industry*, July 2004.
[4]Source: World Federation of Exchanges, *Equity derivatives and cash equity trading*, December 2004.
[5]All percentages quoted are by value. The figure for equities trading refers to the proportion of trading carried out away from the order book but reported to the exchange, and does not include trading off the exchange. The figure for the share of derivatives trading taking place off-book is a worldwide figure (Source: Bank for International Settlements, December 2000). The difficulty of estimating off-book trading shares is discussed further in paragraph 4.38.

concentration rule in France, for example, restricts the opportunities for non-regulated entities to compete with national exchanges (see paragraph 2.35).

2.5 Figure 1 provides a schematic overview of the value chain for equities exchanges. The initial offering of equities to investors is referred to as the primary market, while subsequent trading of those equities is referred to as the secondary market.

2.6 The main services offered by exchanges in the primary market are:

(a) listing services for equities; and/or

(b) admission of equities to trading.

2.7 Listing services are concerned with the flotation of new issues, either when a company is first listed through an initial public offer (IPO), or when a listed company decides to raise further capital through a secondary public offer. Exchanges earn revenue by charging issuers an initial fee for listing and an ongoing annual charge for maintaining that listing. Once listed on an exchange, equities are admitted to trading.

2.8 In the secondary market, the main services offered by exchanges are:

(a) equities trading services; and

(b) market information services.

2.9 Once an equity has been admitted to trading, the exchange provides a platform to match the offers and bids of the trading firms,[6] under rules set by the relevant regulator and the exchange. Exchanges generally charge trading firms for membership of the exchange and for on-book trading, as well as for reporting trades

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[6]Trading firms must be 'members' of the exchange in question.

executed away from the order book (where this is required). Trade reports enable the exchange to ensure that trading remains transparent and orderly.[7]

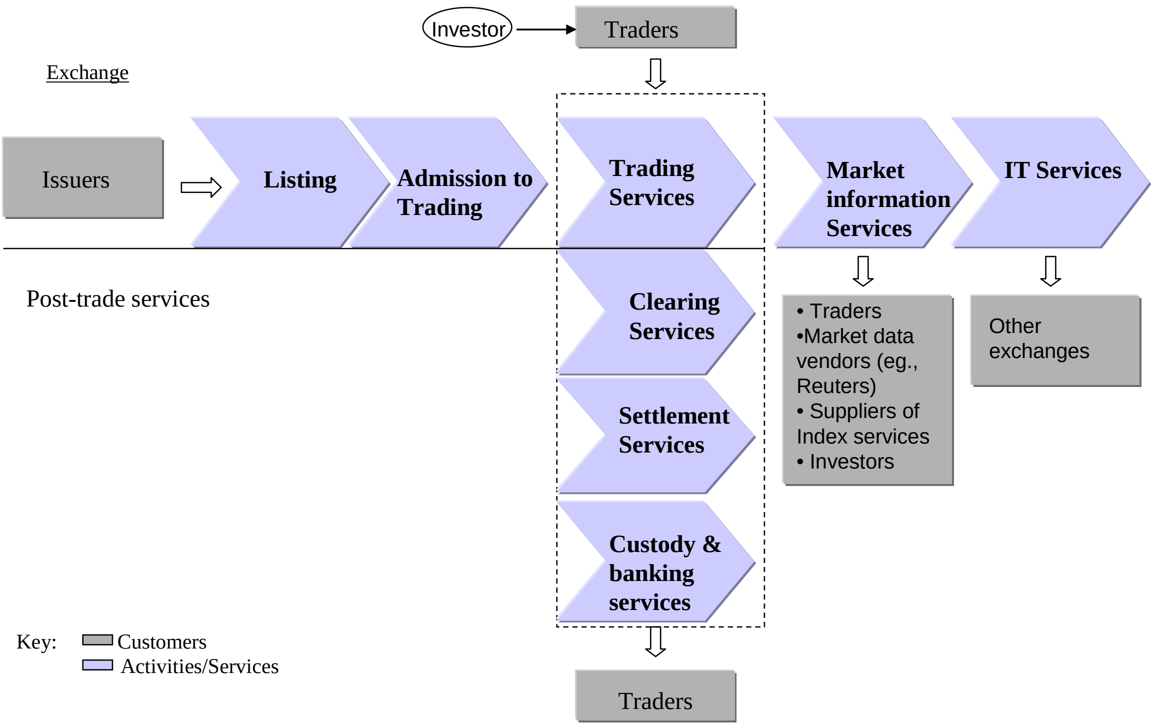
2.10 Exchanges also provide a series of ancillary services, including market information services and IT. Revenue is generated by processing market data and related information, and selling this on to customers. Some exchanges also derive revenue from the sale of their software solutions.

2.11 The value chain for derivatives exchanges is different from that of an equities exchange in several ways. For example, there is no equivalent to the listing service that an equities exchange provides to issuers (derivatives contracts are created by the exchange or by market participants), and contracts are generally settled via a cash payment, reducing the need for settlement services.

[7]In the case of LSE, trade reporting enables it to comply with its statutory obligations under the Financial Services and Markets Act 2000 (FSMA).

FIGURE 1

Value chain for equities exchanges and related services



Source: CC's analysis.

2.12 The shift to electronic trading by most exchanges in the 1990s was a key development in the evolution of trading markets. Trading on exchanges had historically been undertaken by traders meeting on the floor of the exchange to conduct business. The shift to an electronic format for the most liquid shares allowed traders to enter buy and sell orders in an electronic order book which automatically matched trades.

2.13 The overall trend towards electronic trading, and, in particular, the benefits of increased productivity and security, encouraged the adoption of electronic order books across Europe. In the UK, electronic order book services were first offered by Tradepoint in 1996. LSE adopted an electronic order book in 1997.

2.14 The development of electronic trading has facilitated the adoption of more sophisticated trading technologies and strategies by the exchanges' customers.

‘Black box’ or statistical arbitrage trading uses trading algorithms programmed into computer systems to generate buy and sell orders automatically where profitable arbitrage[8] or other trading opportunities are identified. This type of trading generally involves large numbers of small orders and accounts for an increasing proportion of total trading on many exchanges, particularly LSE (see section 4). Electronic order book trading has also facilitated the development of Direct Market Access (DMA) whereby investors are able to access the electronic order book directly via terminals provided by exchange members.

2.15 Smart order routing is also starting to be developed by trading firms and technology providers as a means of ensuring that orders are directed to the exchange or ATS which provides the best price or execution for a client order (see paragraph 2.33). To date, this has been used primarily in the USA where best execution rules mandate price comparisons across different trading platforms.

2.16 Trading on an exchange can be undertaken by exchange members either on their own behalf (as principals) or on behalf of a client (as agents). Trading on the three exchanges under discussion is concentrated on a small number of large financial intermediaries that generally combine both principal and agency trading activities. For LSE, fewer than five [✂] of the largest customers account for more than 20 per cent of trading activity on the exchange (by volume and value), and fewer than ten [✂] of the largest customers account for more than 50 per cent of trading activity (see paragraphs 5.114 to 5.123).

2.17 Clients for whom agency trading is undertaken on the exchange include a range of wholesale investors—such as pension funds, insurance companies, hedge funds and others. Retail business in the UK, however, is largely executed outside LSE’s

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[8]Arbitrage trading is a trading strategy that seeks to profit by exploiting price differences in identical or similar financial instruments.

electronic order book by Retail Service Providers (RSPs). The RSPs internalize much of their retail client business and, in some cases, offset their overall position on LSE's order book.

2.18 In order to operate successfully, a trading market must be liquid. A market is liquid when investors are able to buy or sell an asset without materially affecting the market price. Greater liquidity in a market is generally manifested as narrower 'bid-ask' spreads,[9] greater immediacy of trades reducing the opportunity costs that would be incurred if the execution of an order is delayed, and lower market impact of large orders.[10]

2.19 Both primary and secondary markets exhibit network effects. In other words, there are benefits to both buyer and seller of trading where there are other buyers and sellers. Each investor gains from the presence of other investors trading on the same platform. This is because the presence of larger numbers of traders tends to bring liquidity to the market. The listing decisions of companies can also generate indirect network effects, since listed companies benefit from the presence of investors and equity analysts and vice versa. The impact of network effects is discussed further in paragraph 5.58.

2.20 The total cost to an exchange member of trading on the exchange will consist of both explicit costs, including trading, clearing and settlement fees, and implicit costs, including the bid-ask spread and market impact costs.

2.21 An investor trading through an intermediary (ie an exchange member acting as an agent) will pay a commission that reflects the cost of trading, described above, as

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[9]The bid-ask spread is the difference between the best bid and offer prices at a given moment in time. The spread gives a measure of trading costs.
[10]The market impact measures the impact of a given trade on the market price relative to the price level that prevailed before the corresponding order was placed. Large orders are likely to have a greater market impact than small orders.

well as the intermediary's own costs. LSE told us that exchange fees accounted for less than 5 per cent ([✂]) of the total cost of an average order book trade for those investors using an intermediary. If DMA services are used, exchange fees accounted for 10 to 15 per cent ([✂]) of the total cost of an average trade. LSE also told us that, for trading firms carrying out technical trading proprietary business, LSE fees accounted for around two-thirds of the explicit costs of a trade ([✂]).

2.22 Further details on the mechanics of trading are set out in the industry background paper on the CC web site.

Post-trade services

2.23 When equity trades have been executed, clearing and settlement begins. Clearing houses prepare payment or security transfer orders, and establish final positions for settlement. Two key functions commonly associated with clearing are:

(a) the CCP function; and

(b) netting.

2.24 A CCP guarantees the fulfilment of trading obligations by becoming the common counterparty to the buyer and seller in each trade. The CCP thus bears the risk of default of the buyer and seller and allows them to trade anonymously. CCP services were first introduced in derivatives where positions remain open for some time, but have since become common in equities trading.

2.25 There are two types of netting. Margin netting is the netting of counterparties' exposures between trade execution and settlement. From the point of view of an individual counterparty, margin netting enables significant reductions in the capital required to cover exposure to a CCP. From the CCP's perspective, netting the CCP's overall exposure to a counterparty enables the CCP to reduce collateral requirements.[11,12] Settlement netting allows all trades involving the same parties and securities to be offset against each other so that a balancing payment is made, reflecting the net value of all the different purchases and sales of the individual security. According to Euronext, settlement netting can reduce the number of settlement instructions by up to 90 per cent.[13]

2.26 Settlement services for equity trades include two key functions: the delivery of securities in return for a cash payment (settlement function), and the registry function, which is the maintenance of the central register of the owners of a security. Whilst both functions are generally undertaken by the national central securities depository (CSD), the registry function can only be undertaken by the CSD. The settlement function can also be undertaken by custodian banks or international central securities depositories (ICSDs),[14] which may act as intermediaries between the investor and the CSD, settling trades through appropriate book entries in customers' accounts, and holding a single account with the CSD.

2.27 Once a trade has been settled, custodian banks may provide additional services, such as holding and safekeeping securities for customers, transmitting transfer orders and processing corporate actions (eg notification to customers of actions announced by the issuer such as dividends, share splits, etc). They may also offer related banking services such as securities finance. We refer to these activities collectively as custody and banking services.

[11] Margin netting could theoretically also offset risk across products, but this is not currently the case in the UK.
[12] Collateral is defined as the financial or tangible assets pledged by a borrower to secure an obligation. If the borrower defaults, the collateral is used to repay the obligation.
[13] For UK equities, margin and settlement netting is carried out by the settlement provider, CRESTCo, under contract to LCH.Clearnet.
[14] There are two ICSDs: Euroclear Bank and Clearstream Banking SA and AG. Euroclear Bank is owned by Euroclear, and Clearstream Banking SA and AG are owned by Clearstream. They were originally set up to settle Eurobonds.

2.28 There are three main business models for post-trade services in equity markets, all of which allow straight-through processing of trades.[15] The different models reflect different levels of vertical integration between trading, clearing and settlement services. The vertically-integrated model, which sees the integration of all three activities under one organization (for example, DBAG in Germany), is at one end of the spectrum, whilst at the other end is the vertically-disaggregated model in which all three activities are performed by separate organizations (for example, LSE/ LCH.Clearnet/CRESTCo in the UK). In between these two models, there is the US model in which clearing and settlement are performed by a single CCP.

2.29 Further details on post-trade activities can be found in section 4 (market definition), in Appendix B, and in the industry background paper on the CC web site.

Regulatory environment

2.30 Exchanges, trading firms, investing institutions and providers of post-trade services must comply with laws and regulations aimed at supporting the efficient functioning of securities markets while maintaining investors' confidence in those markets.

2.31 The regulatory framework for the financial sector in the UK, including securities listing and trading, is set out in the FSMA and the related rules of the FSA. Under the FSMA, the FSA is responsible for the oversight of exchanges, such as LSE, as well as trading firms and investing institutions, and the clearing and settlement infrastructure. The FSA is also the competent authority for oversight of securities listing in the UK in its capacity as the UK Listing Authority (UKLA). Local regulation is a combination of EU-based and national legislative rules.

[15]Straight through processing is the fully automated completion of clearing and settlement processes based on trade data, that is only once entered into the system manually.

2.32 FSA oversight of exchanges in the UK may either be through the Recognized Investment Exchange (RIE) regime, whereby an exchange is exempt from the requirement to seek authorization from the FSA provided that it meets certain conditions; or alternatively under the Authorized Firm regime. A similar exempt Recognized Clearing House (RCH) regime operates for clearing houses. There are two avenues by which exchanges not located in the UK may offer services in the UK. First, exchanges based in another EU member state and operating as an EU-regulated market can place access facilities in other member states without requiring further authorization from these states. Second, a non-EU exchange can operate in the UK by seeking Recognized Overseas Investment Exchange status (ROIE) from the FSA for its existing overseas exchange.[16]

2.33 Firms dealing on behalf of investors (intermediaries) have to comply with FSA rules, including the best execution rules. Under the current best execution rules, firms must take reasonable care to ascertain the price which is the best available for the customer, in the relevant market at the time, for trades of the kind and size concerned, and deal at a price which is no less advantageous, unless it is clearly in the customers interests to do otherwise.[17]

2.34 EU directives, such as the Investment Services Directive, play an important role in setting the regulatory framework for financial services, including the listing and trading of securities. Under the EU's Financial Services Action Plan, a number of additional directives are being developed and implemented that will develop this framework with a view to further integrating EU financial markets. These directives include the Market Abuse Directive, the Prospectus Directive, the Transparency

[16] The FSA said there were 11 entities recognized as ROIEs (as at 5 May 2005), including SWX (the Swiss stock exchange) and NASDAQ (a US share trading market).
[17] The FSA has been conducting a consultation to update the approach to best execution. The Markets in Financial Instruments Directive (MiFID) defines best execution as the best possible result for the client taking into account price, costs, speed, likelihood of execution and settlement, size, nature or any other consideration relevant to the execution of the order (Article 21, Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments.

Directive and, most importantly for this inquiry, the MiFID. The development of a Clearing and Settlement Directive is also under discussion, although this remains outside the current framework of the Financial Services Action Plan.

2.35 MiFID, which is due to be implemented by 2007, will result in changes to the rules on matters such as best execution, order handling, conflicts of interest and information disclosure. Many parties have told us that the implementation of MiFID will have a particular impact in certain European countries—for example, France—where it will require the abolition of concentration rules which currently limit the capacity for trades to be conducted away from the order book. It will also align the regulation of stock exchanges and ATSs in certain areas, for example trade reporting and increase the number of entities entitled to accept trade reports. Several parties have told us that the implementation of MiFID will be less likely to have a major impact on securities trading in the UK, although Euronext told us that the change to best execution brought about as a result of MiFID may, in particular, be expected to have a significant impact in the UK.

2.36 Further details on the relevant regulatory environment are set out in Appendix C.

Deutsche Börse AG

2.37 DBAG is a German company which demutualized in 1992 and has been listed on the Frankfurt Stock Exchange since 2001. It has a market capitalization of €6.8 billion.[18] Turnover for the year ended 31 December 2004 was €1.5 billion. DBAG employed 3,262 people at 31 December 2004 of whom 43 per cent were employed in IT.

2.38 DBAG's product and services portfolio in Germany covers the entire value chain from listing and trading of equities and derivatives to the settlement of trades and the

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[18] As at 14 April 2005.

provision of market information. Appendix D shows the proportion of turnover by core area for the year ended 31 December 2004. 40 per cent of revenue was from banking, settlement and custody services, 28 per cent from derivatives and clearing, and 15 per cent from cash trading and listing, with the remainder associated with IT and the provision of market data.

2.39 DBAG operates a vertically-integrated business model in Germany. Equities trading takes place on DBAG's electronic platform Xetra and, to a much lesser extent, its floor trading system Xontro. Clearing is performed by Eurex Clearing, a 100 per cent owned subsidiary of Eurex. Eurex, which operates the largest derivatives exchange in Europe, is a joint venture between DBAG and the SWX Group Zurich (SWX: operator of the Swiss Stock Exchange). DBAG has a 50 per cent shareholding and an 85 per cent economic interest in Eurex. Clearstream International SA and its subsidiaries (Clearstream), which have been 100 per cent owned by DBAG since July 2002, carry out settlement services. Appendix E sets out DBAG's ownership structure.

Euronext NV

2.40 Euronext is a Dutch public company with limited liability, which is listed on the Paris stock exchange. Euronext was formed in September 2000 from the merger of the Amsterdam, Brussels and Paris stock exchanges. It acquired the London International Financial Futures and Options Exchange (Euronext.liffe) and the Portuguese stock exchange in 2002. It has a market capitalization of €3.4 billion.[19] Turnover for the year ended 31 December 2004 was €0.9 billion. Euronext employed

[19]As at 14 April 2005.

2,511 people at 31 December 2004 of whom 43 per cent were employed in GL Trade.[20]

2.41 Euronext's product and services portfolio covers listing and trading in equities, derivatives trading, provision of market information and IT solutions and support. Trading takes place on Euronext's electronic platform, NSC. Clearing is provided for Euronext exchanges by LCH.Clearnet, in which it has a 41.5 per cent shareholding,[21] with voting rights capped at 24.9 per cent. Settlement services for Euronext in Brussels and Lisbon are provided through Euronext's subsidiaries CIK SA/NV (CIK) and Interbolsa SA respectively, while Euroclear provides settlement services for Euronext's remaining exchanges through its subsidiaries.[22] Euronext has stated its intention to divest its interests in settlement activities and has signed a letter of intent with Euroclear in relation to the sale to Euroclear of the Belgian CSD, CIK. Appendix E sets out Euronext's and Euroclear's ownership structures.

2.42 Appendix D shows the proportion of turnover by core area for the year ended 31 December 2004. 36 per cent of revenue was from derivatives, 23 per cent from cash trading and listing, and 22 per cent from software solutions, with the remainder associated with the provision of market data, clearing and settlement services.

London Stock Exchange

2.43 LSE is a UK public limited company that demutualized in 2000 and listed on the London Stock Exchange in July 2001. It has a market capitalization of £1.2 billion[23].

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[20] GL Trade is a provider of e-software solutions. Euronext is the major shareholder in GL Trade, with a direct and indirect shareholding of 40.4 per cent.
[21] Euronext's shareholding in LCH.Clearnet comprises 24.9 per cent ordinary share capital and 16.6 per cent Redeemable Convertible Preference Shares (RCPS). If not previously sold by a third party and hence converted into ordinary shares, the RCPS will be redeemed by LCH.Clearnet in December 2008, subject to regulatory approval and LCH.Clearnet having sufficient distributable reserves.
[22] Its subsidiaries include Euroclear France, Euroclear Nederland and Euroclear Bank. Euroclear Bank supplies a settlement function for Euronext exchanges in its capacity as an ICSD.
[23] As at 14 April 2005.

Turnover for the year ended 31 March 2005 was £0.3 billion. LSE employed 519 people at 31 March 2005 of whom 4 per cent were employed in IT.[24]

2.44 LSE's product and services portfolio covers listing, trading, and the provision of market information. Appendix D shows the proportion of turnover by core area for the year ended 31 March 2005. 54 per cent of revenue was from cash trading and listing and 43 per cent from information services, with the remaining 3 per cent from derivatives.

2.45 LSE provides companies with two primary markets on which to list their equities: the Main Market for established firms, and the Alternative Investment Market (AIM) for smaller-cap firms with growth prospects. As at 31 March 2005 there were 1,789 companies admitted to trading on the Main Market and 1,127 on the AIM. LSE has several platforms for trading, including its electronic order book—SETS—for the most liquid securities; SETSmm, a hybrid system providing an order book together with competing market makers who post firm quotes; and the Stock Exchange Automated Quotation system (SEAQ), a quote display system.[25]

2.46 EDX is a 76 per cent/24 per cent joint venture between LSE and OMX AB (OMX; see paragraph 5.6) offering trading in derivatives based on Scandinavian equities and clearing services for OTC European equity derivatives. EDX was established in 2003 from the equity derivatives business of the OM London Exchange. Turnover for the year ended 31 March 2005 was £6.8 million. Appendix E sets out LSE's ownership structure.

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[24] Note: LSE outsources much of its IT provision.

[25] LSE's other trading platforms for equities are: SEATS Plus, a hybrid service comprising quotes and an order book; International Order Book (IOB), an electronic order book with no CCP; the International Bulletin Board (ITBB), an electronic order book with registered market makers; the International Retail Service (IRS), a competing quotes system; and the DTS, an electronic order book with CCP.

3. The proposed mergers

History of the proposed mergers

3.1 In recent years the trend has been one of industry consolidation. During the past five years, consolidation in Europe has progressed, for example, through the formation of Euronext, which merged the French, Dutch, Belgian and Portuguese exchanges (see paragraph 2.40) and of OMX, which consolidated the Swedish, Finnish, Danish, Latvian, Estonian and Lithuanian exchanges (see paragraph 5.6). The Vienna stock exchange has also recently acquired a majority stake in the Budapest stock exchange. In post-trade services, Euroclear acquired CRESTCo in 2002, and LCH and Clearnet[26] merged in 2003. More recently in the USA there have been significant moves towards consolidation with the proposed acquisition by NASDAQ of the US ECN, Instinet and NYSE's proposed merger with Archipelago.

3.2 Prior to the current merger proposals there have been several attempts to secure greater cooperation and/or consolidation between European stock exchanges involving the parties to our inquiry. In 1998, the European stock market alliance was formed, with LSE, DBAG, and exchanges from Paris, Amsterdam, Brussels, Madrid, Milan and SWX. Through this mechanism, the exchanges sought to cooperate in the development of a common rule book. However, little progress was made, and in 2000, a full merger between LSE and DBAG was proposed (the so-called International Exchanges, or iX, merger), and Euronext chose to proceed with its own merger.

3.3 Third parties told us that the iX merger did not go ahead because of *(a)* customer opposition to the planned business model, whereby a single liquidity pool would have been created with blue chip equities traded in London and growth equities traded in Frankfurt, and *(b)* the disruption caused by an unsolicited bid for LSE by the OM

[26]Banque Centrale de Compensation SA, trading as Clearnet.

Group. In 2003, a further transaction was discussed between LSE, DBAG [✂], which involved, inter alia, the proposed replacement of the London Clearing House (LCH) by Eurex Clearing as the provider of CCP services to LSE.

3.4 In terms of the current merger proposals, DBAG announced on 13 December 2004 that it was in discussions with LSE with a view to making a recommended cash offer. On the same day, LSE confirmed DBAG's approach to LSE's Board with a view to making a cash offer of 530 pence a share. LSE rejected this proposal but invited DBAG to hold discussions regarding the possibility of an agreed transaction. On 20 December 2004, Euronext announced that it had made an approach to LSE with a view to entering preliminary discussions about a possible offer.

3.5 On 27 January 2005, DBAG announced the details of a proposed pre-conditional offer of not less than 530 pence a share. It notified this proposal to the OFT on 31 January 2005. The sole precondition was that LSE's board give an unqualified and unconditional recommendation to shareholders to accept the DBAG offer. LSE rejected this offer.

3.6 Euronext confirmed its interest in a possible cash offer on 27 January 2005 and submitted a filing to the OFT the following day. LSE stated that it was willing to continue to hold discussions with potential bidders. On 9 February 2005, Euronext announced the key elements of its potential bid for LSE.

3.7 On 6 March 2005, DBAG withdrew its offer, but reserved the right to make an offer if Euronext or another third party were to announce an offer for LSE.

Structure of the proposed mergers

DBAG/LSE merger

3.8 In its press release dated 27 January 2005, DBAG said that LSE would continue to be regulated as an RIE by the FSA and established market models, including the AIM market, would be supported and maintained. Sterling would remain the trading currency for UK equities and London would be promoted as the primary destination for the listing and trading of UK and non-European equities.

3.9 DBAG stated that it intended to agree a long-term arrangement with CRESTCo to ensure continuity in its services for clearing and settlement. It also stated that it would offer an immediate one-year extension of the existing contract with LCH.Clearnet for CCP services in return for a material price reduction for the benefit of exchange members.

3.10 DBAG said that it intended to offer LSE customers immediate cost reductions as follows:

(a) current tariffs for electronic order book trading would be reduced by 10 per cent and would be capped at the new levels for at least five years. After this, tariffs would not exceed current levels;

(b) DBAG would offer to provide LCH.Clearnet's services at a price 50 per cent lower than the current price charged by LCH.Clearnet, with this offer being conditional on the necessary customer approvals and that of the LSE Board post-merger (see paragraph 3.11*(b)*); and

(c) in the area of information services, a 10 per cent discount would be offered to customers subscribing to a combined UK and German data package.

3.11 In addition, DBAG would put in place the following governance arrangements at LSE and DBAG group level:

(a) LSE would have 15 or so directors, including two DBAG nominees and two LSE executives. The balance would be either customer representatives or independent non-executive directors. One of the independent directors would be LSE chairman;

(b) any 'operational changes' to the London market that could have a material impact on customers would be initiated and approved by LSE's Board, and approved by DBAG's Executive and Supervisory Boards;[27]

(c) DBAG would nominate seven individuals with close ties to the City of London for election to its Supervisory Board; and

(d) the Executive Board members responsible for the equities, derivatives and clearing businesses of the merged entity would be based in London.

Euronext/LSE merger

3.12 Euronext, in announcing key elements of its potential proposal to acquire LSE on 9 February 2005, stated that LSE would continue to be an RIE regulated solely by the FSA. Euronext would provide a long-term commitment to retain UK RIE status. Euronext would seek a dual primary listing for the merged entity in London and Paris.

3.13 Euronext stated that it would maintain an open post-trade architecture, and offered fee reductions of 10 per cent on UK cash trading (which it would not increase from this reduced level) as well as a 10 per cent fee reduction for customers using a combined data package. We note that these proposed fee reductions are equivalent in percentage terms to those offered by DBAG for these services.

3.14 In terms of governance, the combined Euronext/LSE group would adopt a single tier board consistent with UK practice, with 12 non-executives, including an independent chairman and deputy chairman, user representatives and four executives. LSE would

[27] DBAG told us that changes to LSE's trading platform, and changes to the post-trade institutional arrangements, would both be operational changes requiring both initiation and approval by LSE's Board.

have an independent board of 15 or so with an independent chairman. The LSE Board would include two Euronext nominees. The remainder would be LSE executives, customer representatives and independent directors.

Rationale for the proposed mergers

3.15 DBAG and Euronext have advanced similar rationales for their proposed mergers. Both said that their proposed mergers would involve creating the leading European equity platform with the potential for further growth both within Europe and internationally, as well as responding to the increased integration of EU capital markets, and taking advantage of cost and revenue synergies.

3.16 Both DBAG and Euronext have told us that a merger with LSE would realise significant cost savings through migrating the equities trading activities of the merged companies on to a single IT platform. There would also be other synergies arising from reduced overheads as well as revenue enhancement opportunities, particularly in derivatives.

3.17 More specifically, DBAG has identified annual pre-tax revenue and cost synergies of at least €100 million achievable by the third year following the proposed merger, comprising €75 million in cost savings and €25 million in revenue increases. The majority of the foreseen cost savings are in reduced IT expenditure.

3.18 Euronext has identified pre-tax cost and revenue synergies of €203 million, comprising €152 million of cost synergies and €51 million of revenue synergies. The majority of the cost savings identified by Euronext are also in the area of IT expenditure.

Jurisdiction

3.19 The two references were made to the CC under section 33 of the Act. The first question that we have to decide in each case is whether arrangements are in progress or contemplation which, if carried into effect, will result in the creation of a relevant merger situation. For present purposes, a relevant merger situation arises where two or more enterprises cease to be distinct and the value of the turnover in the UK of the enterprise being taken over exceeds £70 million.

3.20 None of the parties sought to argue that we do not have jurisdiction. In our view there can be no doubt that the acquisition of LSE by either DBAG or Euronext would constitute 'enterprises ceasing to be distinct' within the meaning of section 26 of the Act. In each case the activities of businesses previously separate would be brought under 'common ownership and control'. Nor is there any doubt that the turnover of LSE in the UK in the relevant period exceeded £70 million.

3.21 However, it is less obvious that there are arrangements in progress or contemplation by which either Euronext or DBAG will acquire LSE. During the course of our inquiry there was no actual bid for LSE from either Euronext or DBAG for the CC to assess. Although DBAG has recently made a bid for LSE, that bid was withdrawn before the references were made to the CC. Because DBAG has made and withdrawn a bid for LSE it is subject to restrictions imposed by the City Code on Takeovers and Mergers as to when it can make a subsequent bid. DBAG cannot make a bid for LSE until September 2005, unless Euronext bids for LSE. Euronext has not yet made a bid of any sort for LSE (see paragraphs 3.4 to 3.7).

3.22 DBAG withdrew its bid for LSE on 6 March 2005. On 14 March 2005 it issued the following ad hoc statement:

> Deutsche Börse is considering a possible offer for the London Stock Exchange in the event that Euronext or another third party announces an offer but it confirms it will not make an offer unless Euronext or another third party were to announce an offer for the London Stock Exchange or in such other circumstances as are permitted by the UK Takeover Code.

3.23 On 29 March 2005 the OFT referred the anticipated acquisition by DBAG of LSE to the CC. In the weeks after the reference was made, newspaper reporting suggested a considerable degree of discontent among shareholders of DBAG at the prospect of the proposed acquisition of LSE. This discontent came to a head on 9 May 2005 when the departure of both the Chief Executive and Chairman was announced. This discontent was despite DBAG's Chief Executive being reported in the Financial Times of 4 May 2005 as stating: 'We have no intention of even considering a bid for LSE. We would only do it after extensive consultation with our shareholders and after getting their support. There are no sinister plans behind the curtain.'

3.24 On 11 May 2005 we held our first hearing with DBAG. At that hearing DBAG told us that the DBAG's position was the same as it had been on 14 March 2005. We accepted that DBAG was unlikely to be able to clarify the status of its intentions towards LSE immediately after the resignation of its Chief Executive. We asked DBAG to clarify its position after its AGM, which was to be held on 25 May 2005. On 30 May 2005, senior management repeated DBAG's statement of 14 March 2005: an offer for LSE was being considered, but was contingent upon an offer by Euronext of another third party, or such other circumstances as were permitted by the UK Takeover Code.

3.25 We questioned DBAG further about its intentions at our second hearing with them on 8 June 2005. DBAG said that:

(a) an acquisition of LSE was an option that DBAG was considering;

(b) several shareholders had publicly stated that they did not object in principle to the acquisition of LSE;

(c) the price of the bid remained an open question;

(d) shareholder opposition had in the past been at least in part to the cash nature of DBAG's bid, and other financing options were available to DBAG; and

(e) although DBAG lacked a Chief Executive, an appointment might be made by the end of June.

3.26 In our view, although the threshold that must be met for there to be a merger in contemplation is a low one, there are minimum requirements. Broadly, there must be genuine consideration given on the part of the acquirer to entering into a transaction. Further, its interest in the transaction must be real; the acquirer must intend to enter into the transaction within a reasonable period of time; and the acquirer must be capable of bringing the transaction about. Matters such as shareholder opposition and the absence of a Chief Executive are therefore of direct relevance to the question of whether or not there is a merger in contemplation. Although, as at mid-July 2005, DBAG had yet to appoint a Chief Executive, we are assured that DBAG's Executive Board is in a position to launch a bid for LSE should it decide to do so.

3.27 We are satisfied at this provisional stage that DBAG has shown that there is a merger in contemplation. However, DBAG only just crosses the threshold and we will observe developments in DBAG's management and in its relationship with its shareholders between now and the time of our decision with considerable interest. Given our findings as to the turnover of LSE and the effect of an acquisition resulting in enterprises ceasing to be distinct, we provisionally conclude that there is a relevant merger situation in relation to the proposed acquisition by DBAG of LSE.

3.28 Euronext has stated on a number of occasions that it is considering making an offer for LSE, although it has yet to submit a price (see paragraphs 3.4 to 3.7). At our second hearing with Euronext on 14 June 2005 we asked Euronext about its intentions in respect of LSE. Euronext said that its Chief Executive had restated to Euronext's shareholders on 1 June 2005 that a bid for LSE was in contemplation.

3.29 In our view, the fact that Euronext has not made a bid for LSE does not prevent us from finding that Euronext is contemplating doing so. We consider that the facts indicate that Euronext has reached the threshold necessary to establish a merger in contemplation. We provisionally conclude that Euronext's interest in LSE is such that it qualifies as the contemplation of arrangements that will result in the creation of a relevant merger situation.

4. Market definition

4.1 This section sets out our definition of the relevant product and geographic markets for the supply of listing services, equities trading services, and post-trade services. We have not formally defined any other markets, including those for derivatives trading services and information services, as we did not consider the provision of these services to be relevant to our competitive assessment.

4.2 The CC's guidelines state that the key to market definition is the extent to which customers can readily switch between substitute products.[28] We have also taken into account the ease with which suppliers can switch to supplying alternative products, although supply-side substitutes would generally be regarded as potential entrants unless switching costs were low and switching could take place within one year.

[28] CC2—*Merger References: Competition Commission Guidelines*, June 2003.

Listing services

4.3 Cash exchanges, such as LSE, provide listing services for equities and bonds.[29] The following section considers the relevant market for equity listing services. We have not defined the market for bond listings as this was not relevant to our competitive assessment. In the remainder of this report we use the term 'listing services' to refer to listing services for equities.

4.4 Listing allows firms to raise capital through an initial sale of equities (an IPO) as well as subsequent equity issues (see paragraph 2.7). Companies can be listed on more than one exchange. A company's first listing on an exchange is referred to as its 'primary listing'; subsequent listings on other exchanges are called 'secondary listings'.

4.5 We considered whether the capital raised through an equity issue was substitutable for capital raised through other means, such as a bank loan or private equity. To understand the reasons behind a stock market flotation, we considered the results of a survey of companies that listed on the main market or AIM between July 2001 and November 2002, conducted on behalf of LSE:[30]

(a) 71 per cent of respondents said that the main reason for seeking a stock market flotation was 'to raise funds to continue growing the business';

(b) 11 per cent of respondents said that the main reason was to 'increase the company's profile and credibility';

(c) 11 per cent said that it was to 'allow exit of venture capital investors';

(d) 5 per cent said it was to 'use shares for future acquisitions'; and

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[29] Listing is a pre-condition for the security to be traded not only on-book but also off-book. According to DBAG, many traders, even when operating over the counter, are either prevented by law (as in Germany) or simply prefer not to trade in unlisted securities.

[30] *Going Public 2 – a survey of recently floated companies*, LSE with Eversheds. Foreign companies and investment trusts together made up 40 per cent of the companies that listed on the main market and AIM during the survey period. These companies were excluded from the survey.

(e) 5 per cent said it was to 'provide share options for directors and staff'.[31]

4.6 These results suggested that companies listed for a variety of reasons. For those companies whose primary objective in listing was not raising funds (a maximum of one-third of the respondents to the survey), other sources of finance would not be substitutable for an equity listing.

4.7 We considered whether, in cases where raising funds was the primary purpose of a listing, alternative sources of finance were equally substitutable. We conclude, however, that this is unlikely to be the case: there are limits to the substitutability of debt for equity, and other sources of equity may place constraints on owners, for example, by providing a less liquid form of capital than an equity listing, or resulting in the imposition of both constraints and pressures that would not result from an IPO.

4.8 As a result, we conclude that the listing services provided by exchanges are not constrained by the availability of other capital raising options and hence the product market is the provision of equities listing services. This is consistent with the OFT's conclusion in its Issuer Fees report in which it considered whether increases in issuer fees had a significant adverse effect on competition. Further, the OFT noted that listing fees form such a small proportion of the total cost of an IPO that it is unlikely that they would be a significant factor for a firm choosing between a public flotation and some other form of finance.[32]

4.9 In relation to the relevant geographic market for primary listing services, companies list on the exchange that raises the capital required at the least cost. In general, this will be where the company has a strong market presence and a good reputation so

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[31]The responses sum to more than 100 per cent because some respondents gave more than one answer.
[32]*London Stock Exchange issuer fees: Report of the OFT's investigation*, Office of Fair Trading, OFT713, March 2004, paragraph 3.13.

that investors are familiar with their product or services, and where there is good analyst coverage of their sector—generally their domestic market. This is the phenomenon of 'home bias'. For these companies, exchanges outside the UK are not substitutable.

4.10 According to LSE, around 95 per cent of UK companies with public listings are listed on LSE.[33] In its report on Issuers Fees, the OFT found LSE to be 'the primary source of price formation in UK equities, with … over 98 per cent of UK domiciled, publicly traded companies admitted to trading on its markets'. It concluded that 'for UK companies which decide to raise capital by issuing equity for public trading in the UK there is no substitute for LSE, which is the only primary market in the UK where new equity issues are admitted to trading'.[34] Several third parties confirmed that home bias dominates the choice of listing venue and most UK companies do not have a realistic choice of venue.[35]

4.11 We considered whether home bias may decrease in the future as investors and companies become more international and have more options as to where to list. However, we received no evidence to suggest that the factors that currently determine choice of listing venue are likely to change significantly in the future, nor that home bias will not continue to influence UK companies' choice of listing venue. We did not consider there to be a possibility of supply-side substitution, and hence we conclude that the market for primary listing services includes only the home exchange.

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[33]See LSE response to the CC market questionnaire, paragraph 5.2.
[34]*London Stock Exchange Issuer Fees: Report of the OFT's investigation*, Office of Fair Trading, OFT713, March 2004.
[35]For example, one customer [✂] told us that: 'Few UK companies consider a choice of alternative venues for listing' and a trade association [✂] said: 'Cross-border competition for listing remains also weak as most companies tend to list on their home market'. The Quoted Companies Alliance (QCA) told us that it believed home bias to be more important for small companies than for large companies.

4.12 We also considered the appropriate market definition for secondary listings or listings of international companies without an established home market. From a demand-side perspective, different exchanges can be seen as substitutes for these services. For example, one major LSE customer told us that there was competition between LSE, Euronext, and DBAG for international issues by emerging country issuers, although the parties told us that competition was mainly between the USA and the UK. This is discussed further in paragraphs 5.26 to 5.31. Once again, we did not consider there to be a possibility of supply-side substitution.

4.13 DBAG told us that the relevant market included listing services for all securities and all market segments, but did not include alternative methods of raising capital. Euronext said that it was appropriate to consider the market for domestic listings in the UK separately to the market for listings by foreign issuers. LSE considered there to be a national market for the provision of issuer services.

4.14 Based on the evidence set out in paragraphs 4.4 to 4.12, we conclude that the relevant market is the provision of primary listing services to domestic companies, which, in the case of the UK, includes only LSE. We also conclude that the provision of secondary listing services and primary listing services to companies seeking listings outside their domestic market constitute separate relevant markets with an international geographic dimension.

Equities trading services

4.15 We first considered whether the relevant market for trading services should include listing services and/or post-trade services. We then examined the product and geographic dimensions of trading services.

4.16 The network effects between listing and trading services arise from companies seeking to list where there is a concentration of traders, and more traders in turn being attracted by the opportunity to trade in new equities (see paragraph 2.19). The existence of these externalities does not, however, in itself warrant inclusion of these two services in the same market.

4.17 Despite these externalities, we conclude that trading services are in a separate market from listing services for two reasons. First, we received no evidence to suggest that listing and trading fees are jointly determined because of this externality. Second, it is not necessary for an exchange to provide both listing and trading services. For example, virt-x in the UK, while offering a trading service for UK equities, does not offer a listing service. Similarly, LSE's DTS offers a trading service without a parallel listing service. This conclusion was consistent with the OFT's report on Issuer Fees.[36]

4.18 Complementary services, such as trading and post-trade services, may be part of the same market when customers have to use these services together and determine their choices by reference to the total cost of services.

4.19 We conclude, however, that such a grouping is not appropriate in this case. Main and third parties all argued that the markets should be separate, and several third parties stressed the importance of separate charging mechanisms for trading and post-trade services. On the supply side, trading and post-trade services do not have to be provided by the same company. Some exchanges, for example DBAG, provide all these complementary services while others, like LSE, only provide trading services (see section 2).

[36]See paragraph 3.33 of OFT's Issuer Fees report, which concluded that 'the appropriate market definition is the issuer services for the issuing and public trading of UK equity, or, alternatively, exchange services to issuers of UK equity.'

4.20 Furthermore, supply-side substitution between post-trade and trading services would not be straightforward. The supply of trading services requires a significantly different infrastructure from the supply of clearing or settlement services. Switching supply from post-trade to trading services would require significant time and investment.

4.21 For these reasons, we conclude that trading services represent a separate market to both listing and post-trade services. This conclusion is consistent with the submissions of both main and third parties.

Trading services: product dimension

4.22 In looking at the product dimension of the trading services market, we considered the substitutability of different trading platforms provided by exchanges, and, more importantly, the degree to which other forms of trading, such as off-book trading, were substitutable for trading on an exchange's order book. The degree of substitutability may differ between exchanges. For the purposes of our analysis, we focused in particular on LSE as this is the exchange on which the majority of UK customers conduct their business.

4.23 There are two main difficulties in relying on an empirical application of the SSNIP[37] test to define the relevant market for trading services in this case. First, different trading firms have seen differing impacts of any historical changes in fees implemented by exchanges. Paragraphs 5.18 and 5.20 set out the complexities of fees charged by exchanges and the difficulties in comparing them. Second, there have been various important structural changes affecting different exchanges (such as the introduction of CCPs, and Euronext's mergers and consequent fee harmonization). These factors limit our ability to interpret the impact of relative fee changes between exchanges. However, we used the SSNIP test methodology to

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[37] Small but significant non-transitory increase in price.

look more generally at the likely response of trading firms to a change in trading fees, and used this to define the relevant markets. In doing so, we took into account two types of demand response—the first based on the choices faced by an individual trading firm, and the second based on the choices faced by trading firms acting collectively.[38]

4.24 To make identification of the relevant market a useful tool in our assessment of the competitive effects of the proposed mergers, we have drawn on our analysis of existing competition, found in section 5, for the purposes of our market definition, and include in the relevant market those elements which, from the demand or supply side, closely constrain the competitive behaviour of LSE. In particular, the impact of collective action by trading firms is addressed in detail in section 5, when we assess the competitive effects of the proposed mergers and discuss buyer power.

4.25 We considered the impact of a change in trading fees, since this is the key variable under the direct control of LSE. We acknowledge that the level of trading fees is only one element in traders' decisions to direct their trades to a particular trading venue. Traders will take into account the total cost of trading, including both the explicit and implicit costs of trading, with implicit costs being significantly higher than explicit costs. However, our market definition and competitive assessment necessarily focus on fees, and not on other variables (such as other determinants of the total cost of trading) that are not under the direct control of the exchange.[39] We could not base our market definition on factors relating to the implicit costs of trading, since the focus of our analysis is on whether and in what way substitute services and competing exchanges currently constrain the ability of LSE to raise its fees (or otherwise relax its competitive efforts).

[38] We note DBAG's comment that a stock exchange's costs are largely fixed, so that losing trading volumes does not appreciably reduce costs.
[39] We note that an exchange might be able to influence implicit costs indirectly (for example, through decisions on fee structures and levels of investment).

Substitutability of trading platforms

4.26 Equities, derivatives and bonds are typically traded on separate platforms, suggesting that economies of scope are not strong enough to warrant inclusion in the same market. Furthermore, derivatives, equities and bonds are rarely substitutable from the purchaser's point of view, and any substitution between these products would not be based on the relative fees paid to the different exchanges. From the point of view of trading firms acting collectively, as explained in paragraph 5.78, derivatives and bond trading platforms do not provide a sufficiently close constraint on exchange trading platforms to warrant their inclusion in the relevant market.

4.27 On the supply side, a platform offering trading services in one product (eg equities) would have to incur non-trivial costs over a year or more in order to supply trading services in another product (eg derivatives).

4.28 We conclude, therefore, that equities trading services should not form part of the same relevant market as derivatives trading and bond trading services. The parties agreed with this conclusion. We discuss the market for derivatives trading services further in paragraphs 4.60 to 4.61.

Substitutability of types of trading

4.29 A trading firm can execute a trade either through an exchange's order book or off-book. We used the term off-book to encompass any trading that takes place off the exchange's order book (either off the order book[40] or off the exchange altogether[41]). The remainder of this section describes these different forms of trading and discusses the extent of substitutability of trading conducted on an exchange's order book with trading conducted off-book. Further details are included in Appendix F.

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[40]A trade which is conducted off the order book, but not off the exchange, is one that is executed away from an exchange's order book (SETS or SETSmm in the case of LSE), but under the rules of the exchange, and is reported to it.
[41]A trade which is conducted off the exchange is neither executed on the exchange's order book nor reported to the exchange.

4.30 There are three main mechanisms for executing a trade off-book (see paragraph 2.4):

(a) internalization;

(b) direct broker to broker trading; and

(c) ATSs.

We describe each of these in more detail below.

4.31 Internalization is a practice whereby a trader matches orders between its customers or takes the other side of a customer order itself. In this way the trader does not use the exchange's order book, although the exchange price will generally be used as the reference price in determining the trade price. Internalization allows a trader to benefit by:

(a) avoiding trading and clearing fees;[42]

(b) reducing settlement fees through in-house netting of orders; and

(c) retaining the spread between bid and offer prices and realizing trading profits (where the trader is taking a trading position by acting as a counterparty to customer orders).[43]

4.32 Direct broker-to-broker (or bilateral) trading is the term used when two firms arrange a trade between themselves without using the exchange's order book. By trading off-book, traders may achieve a lower cost of trading in explicit terms (through reduced trading and clearing fees) and may also benefit from reduced implicit costs (in particular through reduced market impact). Bilateral trading may also achieve greater immediacy for large trades. Several third parties told us that bilateral trading is more common for large block trades, where the primary consideration is to avoid market impact. Again, although bilateral trading does not use the order book directly, the

[42] We note that the benefit of avoiding trading and clearing fees must be offset against the increased back office costs of such transactions.
[43] There is also a risk associated with taking a trading position and the trader may realize losses as a result of adverse market movements.

exchange price will generally be used as the reference price in coming to an agreed price for any trade.

4.33 A wide variety of trading systems falls under the ATS classification. ATSs, in general, operate as a means of bringing traders together. However, they differ significantly in terms of how they facilitate trading:

(a) Bulletin boards (eg TradeCross, WETRA): traders publish bids and conduct negotiations using bulletin boards, but execute their trades bilaterally.

(b) Crossing systems (eg POSIT, Liquidnet): prices on crossing systems are imported from elsewhere, usually the relevant exchange. Crossing systems allow the identification of the two sides to a trade. Trades take place on the crossing system itself.

(c) Market maker systems (eg CATS-OS, Tradelink): trading is guaranteed by ‘market makers’ who continuously quote bid and ask prices for certain securities. Trading will again take place on the system.

(d) Order-driven systems (eg Instinet): the system identifies the best match for an order. The trade itself takes place on the exchange’s order book.

4.34 The majority of off-book trading in the UK is undertaken through bilateral trading and internalization. According to LSE data, only a very small percentage [✂] of equities trading is undertaken through ATSs. Instinet submitted that the small proportion of trading on ATSs, both in the UK and other European countries such as France and Germany, could be attributed to the efficiency of the exchanges’ electronic order book systems, and the lack of competitive advantage that ATSs have relative to the exchanges compared with other countries, notably in the USA where ATSs have a market share as high as 30 per cent.[44] LSE told us that the lack of

[44] Deutsche Bank Research, nr. 47. *Alternative trading systems: a catalyst of change in securities trading*, 11/1/2005.

success of ATSs (or ECNs) in Europe was due to effective competition between exchanges and ATSs.[45]

4.35 Some third parties pointed to the regulatory barriers that prevent ATSs competing effectively with regulated exchanges. These include trade reporting rules and stamp duty regulations in the UK. All parties said, however, that the implementation of MiFID should allow ATSs to compete more effectively with exchanges in future.

4.36 The parties argued that the different types of trades currently conducted off-book could, in principle, be conducted on-book and vice versa, and should therefore be considered to form part of the same product market:

(a) Large trades could be split into multiple trades and executed on-book through iceberg orders.[46] LSE said that iceberg orders had increased from a very small percentage [✂] of the volume traded on-book in 2003 to 5 to 10 per cent [✂] by the end of 2004. In addition, the market share (by value) of very large off-book orders[47] has declined from between 5 and 10 per cent ([✂]) of the total value of SETS in 1998 to a very small percentage [✂] in 2005. LSE said that while off-book execution could give greater immediacy, on-book execution may result in a better price.

(b) For those larger customers with the ability to internalize trading, whether trading on their own account or on behalf of smaller customers, internalization which involved crossing customer orders would almost always be considered to be the preferred option because of the benefits described in paragraph 4.31. However, Euronext said that internalization might not always be possible currently due to best execution requirements. LSE said that internalized trading often involved the bank acting as principal, even if only whilst searching for a suitable customer

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[45] [✂].
[46] Iceberg orders allow traders to submit large orders with only a proportion of the order being made public at a time, thereby addressing market impact issues.
[47] Worked Principal Agreements (WPAs) are very large orders (>75 times the average order size).

order against which to cross an order. As a result the internalizer was balancing the likelihood of profiting from internalization against the cost of trading on the order book.

(c) Statistical arbitrage trading is generally considered to be restricted to on-order book systems. Euronext and DBAG said that this form of trading could be conducted through any electronic trading platform, including ATSs. However, at the current time, we understand that this type of trading is not executed off-book in any significant volumes.

4.37 LIBA told us that ‘off-exchange trading and internalization constituted at best partial substitutes for electronic on-exchange trading’, and did not constitute a ‘sufficient, systematic and effective alternative source of competition such as to warrant their inclusion in the relevant market’.

4.38 We looked at the trends in on-book and off-book trading, and their relationship to changes in fees (see Appendix F).[48] LSE and DBAG submitted that off-book trading in the UK makes up around two-thirds of total equities trading by value, although the exact figures are unclear because of uncertainty about the total number of trades (particularly trades that are not reported to the exchange). It was difficult to identify the impact of price changes, since the trends were influenced by a variety of internal and external factors. Nevertheless, our analysis indicated that on- and off-book trading (by volume and value) tended to move together (ie when one increased the other increased and vice versa), and did not provide evidence of switching from one to the other. Nor could we identify any statistically significant relationship between price changes and trading value or volume.

[48]In this analysis, off-book data was limited to trades conducted away from, but reported to, the exchange.

4.39 We also noted that there was little relationship between the fee changes for on- and off-book. DBAG said that ‘it would be fanciful to suggest that competition from on-[book] trading (with such fees being determined by the LSE) imposes any constraint on LSE’s off-book reporting fees (with such fees also determined by LSE)’ and stated that ‘as to what constrains the LSE’s trade reporting fees, it is certainly not LSE’s own on-[book] trading fees set by the LSE, but the fact that LSE faces competition in trade reporting’. We agree that the fact that LSE determines one of the components of the cost of off-book trading, limits the constraint that off-book can place on on-book trading fees. The argument that trade reporting fees are influenced not by the level of trading fees but by competition in trade reporting is consistent with our view that different competitive processes determine the fees for on- and off-book trading.

4.40 We considered the sensitivity of on-book trading volumes to changes in trading fees. The total cost of trading includes a range of other explicit and implicit costs, and the trading fees are a small proportion of overall trading costs (see paragraphs 2.20 to 2.21). LSE said that the increase in order book trading (and consequent reduction in bid-ask spreads) as a result of the introduction of volume discounts on SETS in 2004, and the introduction of less liquid equities onto SETSmm, demonstrated the sensitivity of trading volumes to trading fees.

4.41 Several parties told us that an increased trading fee would have the most significant impact on technical trading (including both statistical arbitrage trading and DMA), for which explicit trading costs constitute around two-thirds ([✂]) of the total trading cost for an average sized trade. This type of trading is growing rapidly and currently makes up around 40 per cent of LSE’s order book, with a large proportion of that [✂] representing statistical arbitrage trading.

4.42 LSE said that increased trading fees would result in:

(a) a decline in the volume of statistical arbitrage trading (as this business cannot be conducted off-book in any significant way); and

(b) a decline in DMA trading which might lead to a reduction in volume of trading on the order book, since clients, who had previously traded directly on the order book, would use an intermediary who might choose to place the trade on or off the order book.

4.43 LSE said that the reduction in the volume of technical trading that would result from a trading fee increase would reduce overall liquidity and, by widening bid-ask spreads, increase total trading costs. This would drive other business off the order book for two reasons. First, wider bid-ask spreads would increase the volume and profitability of internalization. Second, reduced liquidity would make the exchange less attractive to other forms of trading. LSE argued that the consequent increase in implicit trading costs would result in a further reduction in statistical arbitrage trading volumes, further increasing spreads and further increasing the amount of business that is internalized—ie a vicious circle would be created.

4.44 LSE stated that the interaction between on- and off-book trading is supported by evidence for the virtuous circle. This, according to LSE, included the increase in order book trading and the reduction in bid-ask spreads following the introduction of volume discounts on SETS in 2004 (see paragraph 4.40), the views of market participants included in the minutes of the strategic fee review group (see paragraph 4.46) and the high volume traded on SETS and SETSmm both in their first months of operation and after the introduction of the CCP service in 2001. Further 'secondary' evidence included, according to LSE, the increase in use of iceberg orders and the decline in very large off-book orders (see paragraph 4.36). Finally the opposition of large customers to any reduction in tick sizes[49] is consistent with internalization being more profitable for wider bid-ask spreads.

4.45 We considered the extent to which an increase in trading fees could lead to a greater degree of substitution between on- and off-book trading than implied by considering such an increase in isolation, because of the creation of a vicious circle. We acknowledged that certain types of trading, in particular technical trading, appeared to display a degree of sensitivity to the level of trading fees. This may have contributed to a reduction in bid-ask spreads, making on-book trading potentially more attractive (the virtuous circle). However, it was not clear whether the increases in on-book trading originated from new trading, or from trading that was previously conducted off-book. Furthermore, as set out in paragraph 4.38, a variety of factors influence trading volumes and the effect of fees on trading is difficult to isolate. Finally, the relevant test to establish a constraint from off-book trading is to assess whether an increase in fees would reduce volumes of trading on-book and create a vicious circle, rather than the reverse argument concerning the virtuous circle. Despite extensive discussions with main and third parties, we could not find factual evidence that enabled us to establish the existence of, or to quantify in any way, a competitive constraint from such a vicious circle. We therefore considered that the primary effect of an increase in trading fees might be a reduction in the volume of statistical arbitrage trading, and any effect on overall volumes of other trades would, in our view, be second-order.

4.46 We sent a questionnaire covering a range of issues to the largest trading firms using LSE.[50] We received information from eight of these trading firms, and followed up with telephone calls designed to develop our understanding of the questionnaire

[49] The tick size is the minimum change in the price of an equity.
[50] Accounted for around 80 per cent (by value and number) of trades on LSE in 2004/05.

responses, particularly in relation to the decision to trade on- or off-book.[51] We received conflicting evidence on the role of exchange fees in the choice of trading venue. Whilst all trading firms found it difficult to give precise indications of their likely behaviour, a larger number of trading firms provided statements to the effect that they could not vary the amount of trading they conduct on LSE's order book to any meaningful degree. A smaller number said that they could to some extent, or would have an incentive to do so.[52] We also considered a series of documents reporting discussions of LSE's strategic fee review Group which included, for example, background to LSE's price setting. These documents included a number of statements indicating, among other things, that internalization would continue to grow but that exchange pricing was not a key driver or barrier to this activity, and that there was increasing sensitivity to costs as automated trading increased. On balance, the evidence that we received regarding the role of exchange fees in the choice of trading venue tended to support the view that on- and off-book trading were two separate markets. Further details of the analysis carried out relating to on- and off-book trading are set out in Appendix F.

4.47 We also considered whether the available evidence from the parties' consideration of competitive strategies might influence our view of the product market definition. In particular, we considered:

(a) LSE's strategic review (Project Caesarea) undertaken in the second half of 2004; and

(b) Euronext's plans to trade UK equities in London (Project Tiger).

We also noted that trading volume information for both virt-x and ATSs is provided regularly to LSE management.

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[51]Accounted for almost half (by value and number) of trades on LSE in 2004/05.

[52]Paragraph 12 of Appendix F describes this in more detail. A summary of responses to the trading questionnaire is on the CC web site. The need to aggregate responses and to summarize the replies to each individual question makes it difficult to interpret the replies of each individual respondent.

4.48 LSE provided us with a draft proposal from a leading strategy consultant and a board paper stating the scope of Project Caesarea. The board paper states that the objectives of Project Caesarea were 'To provide an overarching structure—a Strategic Roadmap—within which to compare possible strategic paths … '. This included general work on the 'strategic framework', on clearing and settlement, on DTS and Eurosets, technology and other issues. The strategy project was intended to analyse the interaction between these elements with a view to informing action on a number of issues, including corporate activity.

4.49 We noted that the Project Caesarea papers do not include a consideration of the various forms of off-book trading as a constraint. However, LSE told us that this was because the project was designed to address growth opportunities, particularly in non-UK equities, rather than carrying out a competitive assessment. We note that the papers focused heavily on competition between exchanges and identified price pressures from such competition.

4.50 Euronext's Project Tiger analysis focused on a comparison between its own product offer and LSE, and calculated its forecast market share as a percentage of LSE's. The documentation provided by Euronext did not show that it analysed or considered competition from off-book trading in the UK in its evaluation of its chances of success. However, Euronext told us that Project Tiger was only one of several strategic initiatives that it was considering in the second half of 2004, and that it had also devoted resources to pursuing initiatives designed to improve the competitiveness of its electronic order book relative to off-book trading venues.

4.51 In addition, several of the strategy documents provided by the parties referred to initiatives by exchanges aimed at gaining off-book volumes by setting up specific platforms that could compete directly with certain off-book services (eg DBAG's Xetra

XXL). These types of initiatives indicated to us that, in order to attract volume from off-book services, exchanges set up platforms that are differentiated from the exchange's order book in addition to lowering order book fees.

4.52 We consider that the documentation that we have seen relating to the parties' competitive strategies (see paragraph 4.47) provided inconclusive evidence as to the definition of the relevant product market.

4.53 The discussion in paragraphs 4.29 to 4.52 was relevant to the demand response based on the choice faced by an individual trading firm. We discuss the constraint posed by trading firms acting collectively to encourage or respond to head-to-head competition by off-book alternatives in section 5 (see paragraph 5.78). We did not consider that this constraint was sufficient to include off-book alternatives in the relevant market. In terms of supply-side substitutability, we considered that the providers of off-book trading platforms could not readily replicate LSE's trading platform without incurring significant cost, particularly when compared with providers of on-book trading platforms, which already had knowledge and expertise in this area.

4.54 We noted that the OFT defined on-exchange trading as a separate market in its decisions to make the current references to us.[53] The Bundeskartellamt also indicated that it believed there to be separate markets in its decision on the proposed DBAG/LSE merger.[54]

4.55 We conclude, on balance, given all of the evidence that we received, that the product market is the provision of on-book equities trading services.

[53]Note that the OFT used the term 'on-exchange' to cover trading that we have termed 'on-book'.
[54]LSE argued that the framework used by the Bundeskartellamt to reach its conclusion that there were separate markets for on- and off-book trading in Germany would support a finding of a single market for on- and off-book trading in the UK (excluding that component of off-book trading that is not reported to LSE, which LSE refers to as off-exchange).

Trading services: geographic dimension

4.56 Our geographic market definition also adopts the methodology set out in paragraphs 4.22 to 4.25 for the product market. We did not consider that an individual trading firm would switch trades in a particular security to another exchange in response to a 5 per cent increase in exchange fees, primarily due, once again, to network effects. The main parties, and almost all third parties, agreed that liquidity in a given security tended to concentrate on a single national exchange.

4.57 As explained in paragraph 5.34, in the context of the exchange business, which is characterized by significant network effects, the key constraint provided by other exchanges is through the threat of head-to-head competition. This is particularly relevant given the high concentration of trading firms and the bargaining power that they can exercise. Trading firms that act collectively increase the range of options open to them. Such collective action can be initiated by the trading firms themselves, or can be induced by a competitor to the incumbent exchange seeking to exploit any customer dissatisfaction. In both cases, the high concentration of trading firms improves the trading firms' negotiating power vis-à-vis the incumbent exchange (see paragraphs 5.114 to 5.123). We therefore take into account the likelihood of collective action in our consideration of the impact of a 5 per cent increase in trading fees. We believe that the threat of head-to-head competition from existing exchanges described in section 5 operates to constrain the incumbent's prices to a significant degree (see paragraph 5.60) and therefore that the home countries of these exchanges should form part of the geographic market.

4.58 The history of actual and planned expansion and entry in Europe summarized in Appendix H shows several instances in which exchanges from Europe and the USA have set up competing platforms in different European countries. Furthermore, in some cases, European exchanges have been involved in ventures in the USA (for example Eurex US, see paragraph 5.66).

4.59 In conclusion, as explained in paragraph 4.24, we believe that the relevant market for equities trading services should include all exchanges currently placing a competitive constraint on the pricing and behaviour of LSE in the UK through the threat of head-to-head competition. As these constraints are exercised by the major exchanges in Europe and the USA, and because of the history of actual and planned expansion and entry, the geographic market should be defined to include Europe and the USA.

Derivatives trading services

4.60 Exchange traded derivatives fall into six product areas: equity derivatives; equity index derivatives; capital market or long-term interest rate derivatives; money market or short interest rate derivatives; commodity derivatives, and currency derivatives. Derivatives exchanges may trade products in only a selection of these areas and liquidity for each product tends to be concentrated on one exchange. Exchanges tend not to compete directly with each other but may impose a competitive constraint through the threat of launching a trading service for a specific derivative contract in direct competition with an existing exchange. In comparison with equities trading, however, substantially greater volumes of derivatives trading occur off-book.

4.61 The extent to which off-book trading of derivatives, or the threat of head-to-head competition by a new derivatives exchange, represent a competitive constraint to an incumbent exchange, turns on many of the same issues discussed above in relation to equities trading. This includes the degree of substitutability between on- and off-book trading of derivatives and the responsiveness of trading volumes to increases in exchange fees. For the purposes of our inquiry, however, we did not need to conclude on the market definition for derivatives trading services.

Post-trade services

4.62 Paragraph 4.21 concluded that trading and post-trade services represented separate markets. We also considered whether clearing and settlement services were in separate markets to one another. We conclude that they are for two reasons. First, on the demand side, customers do not have to use these services together and they determine their choice by reference to the cost of each service, not by reference to the total cost of post-trade services. On the supply side, we received evidence to suggest that the infrastructure for settlement services is significantly different to the infrastructure for clearing services and expansion from one service to the other would require considerable investment. Main and third parties agreed with this conclusion.

Clearing services

4.63 Clearing services constitute a business characterized by high fixed costs and a large capital base. Euronext said that there were considerable economies of scale and scope that could be generated from clearing the widest possible range of products and providing clearing services to the widest possible number of trading platforms. The benefits include reduced operational and capital investment costs, better risk management, wider cross-margining and collateral calculation, wider netting, and streamlined settlement.

4.64 The exchange must have suitable clearing arrangements in place for its members. In practice this is facilitated if the CCP for on-book trading is a Recognised Clearing House. As a result of this requirement, individual customers are unable to choose an alternative CCP to that appointed by the exchange. Therefore, from the perspective of the individual customer, there is no demand side substitution.

4.65 In appointing a provider of clearing services, the exchange has, to some degree, a choice of alternative clearing service providers. This is demonstrated by LSE’s tender of the contract for its clearing services in 2003, which suggests that competition for clearing services takes place at the behest of the exchange. As a result of this tender, LSE received bids from a number of alternative providers of clearing services, including Eurex Clearing, [✂]. We therefore considered whether these alternative providers constitute a sufficient competitive constraint on the incumbent clearing service provider to be included in the relevant market.

4.66 As set out in paragraph 5.100 there were specific circumstances regarding the tender of the LSE contract in 2003, and we conclude in paragraph 5.104 that there is limited competition for clearing services. We conclude that the current constraint from these alternative providers is not sufficient to warrant their inclusion in the relevant market. Therefore, from a demand perspective, the market for these trades is limited to the services offered by the incumbent CCP, LCH.Clearnet.

4.67 DBAG said that it did not believe that clearing should be seen as a natural monopoly, and referred to the fact that LCH.Clearnet provided separate clearing functions to virt-x and LSE (see paragraph 5.143). virt-x told us that although its customers have a choice of clearing systems between SIS x-clear and LCH.Clearnet, choices were made primarily along national lines reflecting the commercial realities in which trading firms operated.

4.68 Whilst it may be possible in theory for alternative clearing arrangements to be set up by other CCPs, clearing in most countries is undertaken by one entity. Customers would incur a variety of costs in relation to additional set up costs, greater collateral requirements and higher costs of settlement (see paragraph 5.90), and would therefore be unlikely to support the use of an alternative CCP. Furthermore, as noted in paragraph 4.64, the provider of clearing services is appointed by the incumbent exchange, limiting the scope for supply-side substitution.

4.69 We conclude that the relevant market is the provision of clearing services to LSE.

Settlement services

4.70 Paragraph 2.26 set out the two key functions within settlement services: the settlement and registry functions. Custodian banks and ICSDs may provide additional custodian and banking services.

4.71 Settlement services are usually provided by a single entity for each exchange, in part for historical reasons. Although CSDs, ICSDs and custodian banks can all provide the settlement function via an account with the national CSD, there do not seem to be close substitutes for this function from a supply-side perspective. With regard to the registry function, there are regulatory and capital requirement barriers to substitutability. As the UK CSD, CRESTCo maintains the central registration of securities and any alternative provider of the registry function would need to be recognized by the Treasury and FSA. Euroclear and DBAG told us that there are significant legal and regulatory barriers to entry for the provision of the registry function in the UK and an industry expert told us that the registry function is a natural monopoly. One third party told us that the settlement and registry functions were the most capital intensive part of the value chain, due to complexity and risk management requirements. There are no obvious substitutes to settlement services from either a demand-side or a supply-side perspective.

4.72 We conclude that the relevant market is the national provision of settlement services.

Custody and banking services

4.73 We also considered the provision of custody and banking services (see paragraph 2.27). There are many alternative suppliers of these services. For the purposes of our inquiry, however, we did not need to conclude on the definition of the relevant market.

Information services

4.74 The exchanges provide proprietary market information, such as real-time pricing and trading volume data, and non-proprietary market information, such as indices and historical information.

4.75 An exchange is the sole provider of its proprietary market information, which is generated on its exchange. This information is not substitutable for market information from another exchange.

4.76 Supply of non-proprietary information is likely to be part of a wider financial services data market. For the purposes of our inquiry, however, we did not need to conclude on the definition of the relevant market.

Conclusions on market definition

4.77 We conclude that the competitive assessment of the proposed mergers should be undertaken by reference to the following relevant markets:

(a) the provision of primary listing services to domestic companies, which, in the case of the UK, includes only LSE. The provision of secondary listing services and primary listing services to companies seeking listings outside their domestic market constitute separate relevant markets with an international geographic dimension (see paragraphs 4.3 to 4.14);

(b) the provision of on-book equities trading services within the UK and more widely, to include Europe and the USA (see paragraphs 4.15 to 4.59);

(c) the provision of clearing services to LSE (see paragraphs 4.62 to 4.69); and

(d) the national provision of settlement services (see paragraphs 4.70 to 4.72).

5. Assessment of the competitive effects of the proposed mergers

5.1 We are required under the Act to decide whether either or both of the proposed mergers may be expected to result in an SLC within any market or markets in the UK for goods or services.[55] In this section we look at the competitive effects of the proposed mergers. We first describe the other current or potential providers of trading and post-trade services, and then discuss factors affecting competition in the relevant markets, including market shares, fee structures, and network effects. We then discuss the levels of existing competition in the relevant markets including the opportunities for market entry and expansion. Following a discussion of the counterfactual, we examine the competitive effects of the proposed mergers. In doing so, we concentrate on two issues that have emerged as the most important during our inquiry. These are, first whether the loss of the constraint currently imposed by DBAG or Euronext on LSE would, of itself, give rise to an SLC. Second, whether, should DBAG or Euronext acquire LSE, there would be a reduction in the constraint imposed on LSE at present by all the exchanges within the same geographic market as LSE. This leads to our conclusion as to whether we expect an SLC or SLCs as a result of the proposed mergers.

Other providers of trading and post-trade services

5.2 We outline here other providers of trading and post-trade services (see paragraphs 2.37 to 2.46 for a description of DBAG, Euronext and LSE). Paragraphs 5.33 to 5.80 (trading services) and 5.86 to 5.112 (post-trade services) discuss in more detail the existing level of competition in the relevant markets.

5.3 Aside from the parties, the key providers of on-book equities trading services are:

(a) other regulated or non-regulated exchanges in the UK eg virt-x;

(b) other European exchanges, eg OMX; and

[55] Section 36(1)(b).

(c) US exchanges, eg NYSE, NASDAQ.

We received no evidence to suggest that other exchanges (for example from Asia) had attempted to enter in the past or had a particular interest in entering the UK in the future. During the past ten years, no exchange from outside Europe and the USA has attempted to compete in Europe for trading services (see Appendix H). We therefore did not consider exchanges outside Europe and the USA further in the remainder of this report. We also outlined possible new entrants to the equities trading services market, and the key providers of derivatives trading services.

5.4 virt-x is the only UK RIE to trade equities other than LSE. It had a turnover of £40.6 million in 2004. It is the successor to Tradepoint, which was set up in 1995 as an electronic trading platform in competition to LSE. virt-x is now owned by SWX and is the home exchange for the trading of Swiss blue chip equities. virt-x also markets itself as a trading platform for pan-European blue chips, but has achieved limited liquidity outside its core market segment of Swiss equities. virt-x told us that its customers had a choice of clearing systems between SIS x-clear and LCH.Clearnet, but that choices were made primarily on national lines. It has no economic interest in any post trade services used by virt-x. virt-x competes with LSE for UK trade reporting where it has captured a market share of around 10 per cent (by number) of the trades reported by RSPs.

5.5 Ofex is an independent company which operates the Ofex market. This has been prescribed by HM Treasury as a market to which the market abuse regime applies. It has a similar regulatory status to AIM and serves the needs of smaller companies. It was launched in 1995 and is listed on AIM with a market capitalization of £5.5 million.

It lists 136 companies and quotes 140 securities with a total market capitalization of £1.5 billion.[56]

5.6 OMX is a Swedish company listed on the Stockholm Stock Exchange and also on the Copenhagen and Helsinki Stock Exchanges. Its exchanges division operates exchanges and CSDs in the Nordic and Baltic region: Stockholm, Copenhagen, Helsinki, Riga, Tallinn and Vilnius. It lists 510 companies in total. The OMX exchanges are also closely integrated with the Oslo and Icelandic exchanges through the 'NOREX' alliance. OMX also has a technology division which provides technology, outsourcing and processing services, primarily for financial markets. In London, it owns 24 per cent of EDX, the other 76 per cent being owned by LSE. EDX offers trading services with three linked derivatives exchanges—Stockholm (offering both Swedish and Finnish products), Copenhagen and Oslo—and accounts for some 30 per cent of the total trading volume in Scandinavian derivatives. EDX also offers an OTC clearing service for over 100 European blue chip equity and index futures and options.

5.7 Other European exchanges include SWX in Switzerland, Bolsas y Mercados Espanoles (BME) in Spain, the Borsa Italiana in Italy and the Wiener Börse in Austria. These are all both smaller than the three exchanges that form the parties to this inquiry, and are also still mutually owned.[57] Both the Italian and the Spanish exchanges are part of vertically-integrated models similar to that of DBAG.

5.8 The two major US exchanges are NYSE and NASDAQ. NYSE is the world's most liquid equities market, listing 2,768 companies (at the end of 2004) with a total market capitalization of around US$20 trillion. NYSE still operates a trading floor, and

[56]Details of market capitalization, numbers of companies and securities as at 4 May 2005.
[57]We note that the Spanish exchange is currently demutualizing, and LSE told us that the Italian exchange also has plans to demutualize.

is member owned, although on 20 April 2005 it announced a proposed merger with Archipelago Exchange, an all-electronic stock market in the USA. This proposed merger would result in the NYSE becoming a publicly-listed company, and would give NYSE an enhanced capability in electronic trading.

5.9 NASDAQ is the largest US electronic stock market. It is a publicly-traded company, listing a wide range of equities which tend to be more growth-oriented than those on other exchanges. Despite its smaller market capitalization than NYSE, it lists approximately 3,300 companies and, on average, trades more equities a day than any other US market. On 22 April 2005, NASDAQ announced that, together with a consortium of institutional investors, it had agreed to acquire Instinet, the institutional brokerage and electronic trading network controlled by the Reuters Group (Reuters), for a consideration of US$1.9 billion. Following the proposed acquisition, NASDAQ has agreed to divest all of Instinet's institutional brokerage assets, including all of its UK operations.

5.10 Some information providers also supply trading services. The two main information providers are Bloomberg LP (Bloomberg) and Reuters, who both provide trading services in fixed income securities. Other firms provide trading technology, but do not provide trading services. One example is Computershare Limited (Computershare). Some software companies are familiar with trading technology as they provide 'exchange connectivity'. These, according to LSE, include Royalblue Group PLC (Royalblue), Misys PLC, and Sungard Data Systems Inc.

5.11 The four largest derivatives exchanges globally (by value of turnover) are the Chicago Mercantile Exchange, Euronext.liffe, the Chicago Board of Trade, and Eurex. Further details of derivatives exchanges are set out in our industry background paper on the CC web site.

5.12 With regard to post-trade services, the key providers (in addition to those owned by DBAG described in paragraph 2.39) are:

(a) providers of clearing services, for example LCH.Clearnet, SIS x-clear, Depository Trust and Clearing Corporation (DTCC); and

(b) providers of settlement services, for example Euroclear.

5.13 LCH.Clearnet provides clearing services to LSE, Euronext and other exchanges including the London Metal Exchange (LME). It was formed through the merger of the Euronext subsidiary Clearnet and the London Clearing House, approved by the OFT in 2003.[58] The majority of its equities clearing revenue is derived from Euronext and LSE, with only a small amount from virt-x. LCH.Clearnet is owned by a combination of Euronext (41.5 per cent shareholding, voting rights capped at 24.9 per cent) and other exchanges (3.6 per cent), users (45.1 per cent), and Euroclear (9.8 per cent). However, it told us that, subject to Board approval, it plans to redeem the Euronext RCPS by 2008 at the latest. Users will then represent the largest single category in its ownership structure, although Euronext will remain substantially the single largest shareholder.

5.14 Euroclear provides settlement services to LSE (through CRESTCo). It also owns the Dutch and French CSDs. As set out in paragraph 2.41, Euronext and Euroclear have signed a letter of intent for the full takeover of CIK, the Belgian CSD, by Euroclear. Euronext has a 2.43 per cent direct shareholding in Euroclear and a further indirect shareholding through its ownership of shares in Sicovam Holding SA, which owns 13.1 per cent of Euroclear. LSE has a 0.6 per cent shareholding in Euroclear.

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[58] *Anticipated merger of Banque Centrale de Compensation SA and the London Clearing House Ltd: The OFT's decision on reference under section 33 given on 11 August 2003*, Office of Fair Trading, August 2003.

Market shares and other structural factors

5.15 This section sets out the key structural characteristics of the trading and post-trade services markets relevant to our competitive assessment.

5.16 Market shares can often give a good indication of the relative market power of different suppliers, and can assist in the assessment of the impact of any proposed merger. In this case, however, market shares are not a good direct indicator of the market power of exchanges because they will, to a great extent, simply reflect the relative size of the capital markets associated with each exchange. However, we note that, in terms of the value of equities traded on-book in Europe, Euronext accounts for 23 per cent of the total value of equities traded on-book in Europe, LSE for 20 per cent, and DBAG for 14 per cent. Of the other European exchanges, the BME has a market share of 13 per cent and Borsa Italiana has a market share of 12 per cent. virt-x and SWX have a joint market share of 7 per cent, and OMX has a market share of 6 per cent.[59] If we look more broadly at market shares as a percentage of the total value of equities trading in North America and Europe (including both on- and off-book trading, since no breakdown was available), NYSE accounts for 34 per cent, NASDAQ for 26 per cent, LSE for 15 per cent, Euronext for 7 per cent and DBAG for 5 per cent.[60]

5.17 In terms of the post-trade services markets, LCH.Clearnet is the sole provider of clearing services for LSE and CRESTCo is the sole provider of the registry function for UK trades. We were told by LCH.Clearnet that virtually all on-book trades (99.99 per cent) in UK equities settle in CRESTCo.

[59]Market shares based on the total number of equities traded multiplied by their respective matching prices (Source: FESE, January–June 2005).
[60]World Federation of Exchanges data, 2004.

5.18 With regard to pricing at the trading level, exchanges use a complex structure of fees to charge for their trading services (see Appendix G). Trading fees generally have both a fixed and a variable component. The fixed component charged by the exchanges is paid annually. The variable component depends on both value and volume of trading through complex tariff schemes. These may include volume discounts, or caps to maximum fees. Furthermore, trading fees may differ for 'passive' or 'aggressive' orders which respectively provide or subtract liquidity from the order book.[61] Exchanges also differ in the elements of a trade for which they charge: they may, for example, charge only one 'leg' of a trade (either the one buying or selling), or both.

5.19 Clearing and settlement fees also generally have both a fixed and a variable component. The fixed component is generally a membership fee and/or annual fee, whereas the variable component depends on the value or volume of trades (clearing), on the number of trades or instructions (settlement).

5.20 Given this complexity, it is very difficult to compare fees across exchanges. It would be necessary to make assumptions about the pattern of trading that would inevitably be non-representative of actual trading, since trading patterns are highly diversfied among trading firms. It is also difficult to compare prices over time as changes in fee structures affect different trading firms in different ways depending on their specific trading pattern.

5.21 Other key structural characteristics of the market include the signficance of network effects, the importance of liquidity, and the concentrated nature of trading firms. These are discussed elsewhere in this report and are also relevant to our

[61]Each trade executed on the order book has one aggressive party (the party which hits an order) and one passive party (the party whose order is hit) during continuous trading.

assessment of the existing levels of competition and the impact of the proposed mergers.

Existing levels of competition

Listing services

5.22 We consider first existing competition in primary listing services for UK companies. We then consider competition in secondary listing services and primary listing services to companies seeking listings outside their domestic market.

5.23 The implication of home bias for the listing of equities (see paragraph 4.9) is that most UK companies do not consider listing on an exchange in another country to be an effective and realistic alternative to listing on LSE. Furthermore the listing fee appears to be of limited relevance to the decision on where to list. It is likely that choice of venue will continue to be determined by home bias rather than by listing fees in the future.[62]

5.24 Several parties told us that listing fees were not an important factor in companies' choice of listing venue. Euronext estimated that listing fees accounted for around 2 to 3 per cent of the cost of an IPO and less than 1 per cent of the annual cost of maintaining a listing on an exchange. QCA confirmed the view that listing fees were low relative to the total cost of an IPO: 'If you are trying to raise £5million, the cost can be anything up to £500,000. A lot of that is in advisory fees, and the actual Stock Market fees are really quite small against that.' LIBA said that 'listing costs themselves have very limited influence on competition between exchanges' and a major LSE customer [✂] said that 'the most important factor is the location of the

[62]There are different choices of listing venue within the UK. Companies can choose to list for example on Ofex instead of AIM or LSE's Main Market. This may translate into some competition for listing certain types of companies (eg small- and medium-sized companies) between these UK venues.

investor base'. Important non-price factors include the regulatory environment and liquidity on the exchange.

5.25 Consequently demand for listing is inelastic. This lessens the parties' ability to influence customers' choice of listing venue through listing fees.[63] This was confirmed in the OFT Issuers Fees report[64], where the OFT noted that very few (if any) companies decided to stop being traded on LSE in response to the increase in LSE's annual listing fees in 2002/03. Equally, third-party evidence does not suggest that there is currently competition between the parties to list UK companies. For example, a major LSE customer [✂] told us that it was not aware of any examples of companies considering the parties as alternative listing venues. We conclude that there is little, if any, competition in the provision of primary listing services to domestic companies.

5.26 We received evidence to suggest that there is competition between exchanges to attract the listing of those companies who either do not have a well-developed home exchange or require access to international pools of capital, companies without a clear 'home exchange' (eg some high-tech companies), or secondary listings. For example, a major customer [✂] told us that competition exists between LSE, Euronext and DBAG for international issues by emerging country issuers who target international investors and select a listing market with the required regulatory structure.

5.27 However, the parties told us that there was little, if any, competition between them to list non-UK companies. Euronext told us that there was no material competition for non-UK companies seeking a non-domestic listing (primary or secondary), because:

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[63]It should also be noted that, whilst LSE and Euronext set their own listing fees, DBAG does not currently control the listing fees to its customers. This is because of the public law distinction in Germany which results from the separation of the stock exchange (FWB) and the company operating the exchange (DBAG). The stock exchange (FWB) decides the admission of securities to the Official and Regulated Markets.

[64]*London Stock Exchange issuer fees: Report of the OFT's investigation*, Office of Fair Trading, OFT713, March 2004.

(a) fees are only one of a wide array of factors that determine listing venue;

(b) any competition for secondary listings of non-UK companies is mainly between LSE and NYSE; and

(c) LSE's profile means that there is little 'shopping around' within Europe, because LSE is the predominant venue for international listings in Europe.

5.28 Euronext said that it was only aware of two non-UK companies in recent years that considered LSE and Euronext as potential alternative listing venues. Both had a direct connection with the Benelux countries, so that Euronext was considered the natural listing venue.

5.29 DBAG acknowledged that there might be hypothetical competition between itself and LSE for the listing of companies domiciled in third countries, but told us that there were no such cases known to date. It told us that 'analysis of the origin of non-UK companies whose shares are listed on LSE shows that this is not attributable to competition of the exchange centres of London and Frankfurt, but rather the attractiveness of the British capital market'.

5.30 LSE has told us that 'developed market companies (eg UK, USA) will tend to float on their home market, whereas emerging market companies (eg Russia, China or India) often seek a listing on a developed capital market, such as the US or the UK'.

5.31 Furthermore, the OFT, in its decisions on the proposed mergers[65] noted that the most prevalent incidence of secondary listing competition (for non-UK companies) was between LSE and US venues (NYSE and NASDAQ) and conclude that, as with

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[65]*Anticipated acquisition by Euronext NV of the London Stock Exchange plc: The OFT's decision on reference under section 33 (1) given on 29 March 2005,* Office of Fair Trading, April 2005. *Anticipated acquisition by Deutsche Börse AG of the London Stock Exchange plc: The OFT's decision on reference under section 33 (1) given on 29 March 2005,* Office of Fair Trading, April 2005.

primary listings, liquidity is more important in the choice of listing venue than issuers fees.

5.32 Based on the evidence set out in paragraphs 5.26 to 5.31, we conclude that competition takes place on a global basis for secondary listing services and primary listing services to companies seeking listings outside their domestic market.

Equities trading services

5.33 In section 4 we outlined the two main potential constraints that might be present in the market for equities trading services—competition from off-book trading and competition from other exchanges. In this section we analyse the levels of existing competition, before assessing the likely horizontal effects of the proposed mergers in paragraphs 5.131 to 5.132. We also take this analysis of competitive constraints into account in our market definition for the provision of equities trading services in section 4, concluding that off-book trading is outside the relevant product market, and other exchanges in Europe and the USA are part of the relevant geographic market.

5.34 The network effects described in paragraph 2.19 are a critical influence on competition between exchanges, leading individual trading firms to use the same exchange for the overwhelming majority of trading of the same set of equities. These network effects do not prevent head-to-head competition between exchanges for trading the same set of equities, although the network effects would result in switching costs (see paragraph 5.58). As a result, competition between exchanges manifests itself either through direct head-to-head competition for the trading of equities currently conducted on LSE in the UK, or the threat of such head-to-head competition.

5.35 With regard to direct competition, a competitor may offer a service with sufficient incentives to induce trading firms to overcome the disadvantages associated with switching costs. LSE would have to react with sufficient incentives to prevent trading firms from switching. In relation to the threat of head-to-head competition, LSE would want to pre-empt the risk of liquidity shifting by keeping its customers content, using the factors under its control (level and structure of exchange fees, levels of service, and quality of the trading platform). Given the nature of this constraint, we would expect to see only occasional attempts to shift liquidity to a competitor, because the threat of such a shift would normally be sufficient to constrain an exchange's behaviour. In paragraphs 5.37 to 5.80 we discuss each of these forms of competition in turn.

5.36 We can identify two broad strategies that can be adopted to engage in head-to-head competition with an incumbent exchange, which could lead both to a shift in liquidity and/or induce the incumbent exchange to react by improving its offer. The first consists of offering broadly the same type of service as the incumbent, at a lower price. In order for this strategy to succeed, the competitor needs to be able to afford to offer a sustainable incentive to switch liquidity in the form of a lower price. The second strategy focuses on product differentiation and aims to capture market share from the incumbent by introducing an offer which is seen as superior to the incumbent by a significant number of its users. In any attempt to shift liquidity there may be elements of both strategies as firms attempt to offer both a better and cheaper service. Such attempts to compete with the incumbent exchange may be carried out by existing competitors or by new entrants. We describe all such cases of head-to-head competition, together with other entry attempts in Europe since 1995, in Appendix H.

Head-to-head competition

5.37 There have been two major examples of head-to-head competition being either planned or implemented in Europe in the past two years: the competition for Dutch equities, through LSE's DTS and DBAG's Dutch Stars initiative, and the aborted plan by Euronext to launch Project Tiger to trade UK equities. We discuss each of these in turn.

5.38 LSE launched DTS on 24 May 2004 to offer electronic order book trading in the top 50 Dutch equities, as an alternative to trading on Euronext Amsterdam. Trading fees were up to 50 per cent lower than those offered by LSE for domestic trading. LSE said that the decision to launch DTS followed approaches by Dutch trading firms that were unhappy with the service that they were receiving from Euronext. Customers said that they were dissatisfied with Euronext for a variety of reasons, including the market model, fees, poor customer service and performance (Euronext's trading platform was relatively unreliable and suffered considerable outages). According to LSE, DTS offered 'an alternative to Euronext, in particular because trades on DTS and Euronext Amsterdam are fungible as clearing services are provided to both parties by LCH.Clearnet'.

5.39 LSE obtained commitments from a number of large trading firms to trade on DTS. Initially it achieved a certain success, despite heavy discounting of prices by Euronext in reaction to LSE's offer (see paragraph 5.43). In May 2004, DTS achieved a market share of between 10 and 15 per cent [✂], and there were instances of certain Dutch equities being traded extensively on DTS on certain days.[66] However, the service did not, on a sustained basis, achieve the market share [✂] that had initially been forecast. LSE told us that on 27 April 2005, the DTS share was very low, at [✂].

[66] LIBA Members said that there were some instances of 50 or 60 per cent of the volume of certain equities being traded through DTS.

5.40 Euronext argued that the circumstances that facilitated the launch of DTS were exceptional, and arose from the high level of dissatisfaction among certain Dutch trading firms following the Euronext integration, the open post-trade architecture which allowed access to common clearing and settlement services to DTS, and the aggressive nature of LSE’s price offer. Notwithstanding these exceptional circumstances, DTS received very limited support, and liquidity did not shift. Euronext also said that DTS pricing initiatives were ‘purely temporary’. We note, however, that Euronext’s econometric analysis of average trading fees between December 1999 and December 2004 suggests that Euronext Amsterdam’s fees reduced by approximately 30 per cent as a direct result of DTS.[67]

5.41 LSE identified three main reasons underlying DTS’s failure to achieve the necessary initial momentum to induce a switch in liquidity:

(a) Euronext fee cuts;

(b) technical implementation difficulties; and

(c) unusually low levels of trading in Dutch equities.

Trading firms referred to technical difficulties and the need to undertake significant investment in smart order routing technology.

5.42 Thus, in terms of LSE’s return on investment, the DTS service has not been a success. Despite relatively low set up costs [✂], given the very low market share achieved, we believe it unlikely that DTS is profitable. At LSE’s announcement of its preliminary results to analysts on 19 May 2005, LSE said that, ‘with an average market share of less than 2 per cent since launch, we would need to see increased levels of trading to meet our expectations’.

[67] LECG *Efficiency gains from the integration of exchanges: CC econometric questions*. 8 June 2005.

5.43 However, we note that in competitive terms, DTS appears to have generated a significant response from Euronext, at least in the short term. Between January 2004 and May 2004, Euronext introduced three separate price changes:

(a) harmonization of Euronext tariffs across its various exchanges, which in the Netherlands resulted in lower prices for larger trading firms and higher prices for smaller ones;[68]

(b) a further lowering of all fees by 10 to 25 per cent from April 2004. Passive orders were discounted by 50 per cent, and trading firms only charged for passive orders up to their first 60,000 trades. The latter changes appear to have been specifically directed at keeping liquidity on Euronext; and

(c) a temporary reduction in price from May until July 2004. This further reduced marginal fees (by 10 to 40 per cent over the second change, depending on volume).

On 1 February 2005 Euronext introduced a revised harmonized tariff.

5.44 [✂] DG Competition is currently investigating Euronext's price cuts [✂].

5.45 DBAG was also involved in competition for Dutch equities after being approached by Dutch market participants.[69] It relaunched its revised offer for Dutch equities (Dutch Stars) in November 2003. This initiative has not enabled DBAG to increase its market share in Dutch equities, which has averaged around 1 per cent since the launch of its original Dutch offer in 2001.

5.46 DBAG said that its involvement was not an example of head-to-head competition and that its initiative was a marketing exercise with a minimum budget, targeted at German retail investors, and providing an additional distribution channel for Dutch

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[68]Both LSE and Euronext said that the harmonization of Euronext tariffs in 2004 was not a consequence of DTS.
[69]Presentation to the Customers and Markets Committee 'Dutch Cash Market Initiative: Proposal for Dutch stock market entry'. 1/7/2003.

traders. We noted that in a presentation on their ‘Proposal for Dutch stock market entry’, DBAG said that it was prepared to offer significant incentives[70] to attract new customers. It was not clear to us whether these were German retail investors or not. In summary, we considered that DBAG’s Dutch Stars initiative was more than the marketing exercise described by DBAG. However, we note that, for new customers, DBAG’s offer suffered from the disadvantage that DBAG did not use the same post-trade architecture as Euronext Amsterdam (see paragraph 5.92).

5.47 The second example of planned head-to-head competition concerns Euronext’s plans to enter the UK (‘Project Tiger’), which was announced by Euronext at its annual report presentation in March 2004.

5.48 Euronext told us that during 2004 it had set up a small working group to look at the feasibility of launching a low-cost London-based UK trading service. It told us, however, that following an analysis of the UK cash trading market and the prospects of diverting liquidity from LSE, Euronext’s Management Board concluded that Project Tiger was not commercially viable and that there was no business case for a competing Euronext service in the UK.

5.49 LIBA members told us that Euronext had carried out extensive implementation work for the launch of a service to compete with LSE. From May to December 2004, detailed discussions took place with potential customers, either as part of a group or in individual bilateral meetings, covering platform functionality, connectivity and order routing issues, and plans for the launch.

5.50 Our analysis of Euronext’s internal documents on Project Tiger showed that: customers had started allocating some resources to ‘Tiger implementation’; meetings

[70]These incentives included lower settlement fees for Dutch shares, free coverage of hardware costs and a refund of 70 per cent of net revenue above €50,000 a month to trading firms active in Dutch trading.

took place with the regulators and LCH.Clearnet; and post-trade service options were discussed with CRESTCo. A launch date had been set for June 2005.

5.51 However, according to Euronext, its Management and Supervisory Boards concluded that ‘any such initiative was certain to fail since it did not offer a sufficiently differentiated service’. It also lacked the requisite degree of user support essential for success.

5.52 We looked at the Project Tiger business case provided by Euronext. Euronext forecast Project Tiger to break even [✂] years after its launch, and achieve positive payback during year [✂]. We estimated that the inclusion of the regulatory costs associated with running as a UK RIE would increase the periods required for break-even and payback. In addition, the margin generated would probably be below current margins on similar business streams. These figures were based on an assumption that the project could achieve a market share significantly above that achieved by DTS [✂]. We conclude that, whilst this was a serious study, evidenced by the Euronext’s public announcement and the level of discussions with potential customers and suppliers, this business model would not be successful under existing competitive conditions.

5.53 Most parties have argued, and we agree, that the example of DTS in particular illustrates the fact that liquidity is difficult to shift. The main difficulty in shifting liquidity is caused by the network effects that operate at the trading level. There is a general consensus, with which we agree, that network effects operating at the trading level make it very difficult for liquidity associated with trading in a particular equity to shift to an alternative exchange (see paragraph 5.58).

5.54 However, further conclusions can be drawn about the implications of DTS and Project Tiger for future attempts to engage in head-to-head competition with LSE in the UK. LIBA members told us that each attempt at head-to-head competition allowed further learning by exchanges and trading firms and made the next attempt more likely to succeed.

5.55 In order to put these examples of head-to-head competition in context, we next consider the competitive constraint posed by the threat of such competition.

Threat of head-to-head competition

5.56 This section reviews the threat of head-to-head competition to LSE, including the nature of that threat (see paragraphs 5.57 to 5.61) and the organizations which provide the threat (see paragraphs 5.62 to 5.78).

5.57 A major European exchange [✂] told us that the possibility of liquidity shifting is taken very seriously by stock exchanges. In addition, another major European exchange [✂] referred to ‘the dramatic potential consequences for the exchange’s business if liquidity is lost, ie any reduction in top line revenues will have an immediate and direct impact on profitability’; and further noted that ‘even a small possibility of losing liquidity creates a strong behavioural incentive on the exchange’.

5.58 The threat of head-to-head competition and of entry more generally is mitigated to some extent by the costs that different competitors would incur in setting up a competing platform and providing the necessary incentives to shift liquidity. As set out in paragraph 2.19, network effects make a liquidity shift hard to achieve, and in this sense represent a switching cost for customers. These costs imply that in order for liquidity to shift, the incentives for trading firms have to be substantial. These incentives may take the form of lower trading costs or incentive payments by the entrant exchange. However, for exactly the same reasons, the potential benefits for a competitor to induce such a shift are proportionately higher. Once gained, it will be hard for the incumbent exchange to win these customers back.

5.59 We considered the necessary conditions for switching to take place. A strategic review conducted on behalf of a major European exchange [✂] identified seven conditions:

(a) the new entrant must provide lower pricing and better quality of services;

(b) the new services must be able to be delivered by the entrant at a low cost;

(c) the customers must be dissatisfied with the incumbent provider;

(d) there must be a powerful, concentrated customer group, which has the ability to switch its trading business from the existing venue to the new provider;

(e) this customer group must move in a coordinated fashion;

(f) there must be no regulatory or political barriers in place fettering the entrant; and

(g) there must be full access to existing clearing and settlement infrastructure.

We broadly agree with these conditions and have used them to assess the likely success of possible competitors listed in paragraphs 5.3 to 5.10, taking into account LSE's ability to react quickly to any threat of head-to-head competition. We have considered those conditions under the control of the potential competitor—primarily conditions *(a)* and *(b)*, and, in some respects, condition *(g)*. The competitor may also have some ability to influence the likely collective action of potential buyers (conditions *(d)* and *(e)*—see paragraphs 5.114 to 5.123), although this is to a large extent a function of those trading firms operating in the UK. Condition *(f)* depends on the regulatory arrangements in the UK (see paragraphs 2.30 to 2.36), although the competitor may have some choice in the regulatory status selected.

5.60 [✂] considered London to be particularly susceptible to these conditions arising. However, it considered that the major barrier to head-to-head competition in the UK was the level of satisfaction of LSE's customers. LSE believed that it should continue actively to manage its customers' relations and in particular continue to review its trading fees in order to protect itself from head-to-head competition by its main competitors. This shows how competitors can constrain LSE's behaviour without engaging in head-to-head competition. LSE provided us with internal documents which assumed a reduction in its trading fees by between 5 and 10 per cent [✂] in 2005/06 and considered that there was a 50 per cent chance that additional pricing pressures would require a further [✂] per cent decrease. Both of these assumed price reductions were designed to keep customers satisfied, and 'to minimize the possibility of a price-based interest in switching'.

5.61 We return to the discussion of the importance of access to the incumbent's clearing (and settlement) platform (condition *(g)*) in paragraphs 5.88 to 5.97. However, we note the overwhelming view that this is an essential pre-requisite for successful head-to-head competition at the trading level.

5.62 We looked at the organizations which might constitute a credible threat to LSE from the list of possible competitors in paragraphs 5.3 to 5.10. The following paragraphs discuss those which might be credible as head-to-head competitors should LSE's offer deteriorate, and, in particular, if customer dissatisfaction led to collective action on the part of trading firms. This bargaining power is described in more detail in paragraphs 5.114 to 5.123.

5.63 We first considered the credibility of the two bidders as potential head-to-head competitors in the UK. We then assessed the credibility of other European and US exchanges.

5.64 We considered both Euronext and DBAG to represent a credible threat as potential head-to-head competitors in the UK. They are both large and profitable companies with a diverse product offering, capable of offering a comparable service to that offered by LSE on similar platforms, and in a position to compete with LSE over an extended time period (conditions *(a)* and *(b)*); and they have many large customers in common. Many major trading firms would already have connections in place that would allow them to access LSE, DBAG and Euronext platforms, thus facilitating expansion by DBAG and Euronext in the UK. In addition, we note that DBAG, Euronext and LSE were the only trading platform providers to offer a competing service for the trading of Dutch equities.

5.65 Euronext has two other features which makes it, in our view, a credible threat in the UK. First, it shares a common clearing and settlement platform with LSE (condition *(g)*). Second, it has extensive experience of integrating multiple exchanges into a successful business model. In addition, it is familiar with the UK regulatory regime, and it has a derivatives platform in the UK (Euronext.liffe), which might enable it to realize synergies and hence compete head-to-head more easily and profitably. It also had plans in the form of Project Tiger, which, whilst shelved, could be resurrected (albeit in a different form) should conditions in the UK alter.

5.66 We believe that DBAG also has two features in addition to those listed in paragraph 5.64 which are worth noting. First, we believe that its domestic base in Germany is protected from competition by its ownership of clearing and settlement services, and hence DBAG would be less vulnerable to retaliation. Second, we note that DBAG has been prepared to expand outside Germany in the past (Eurex US).[71]

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[71]We also received internal evidence from Euronext which supported the idea that DBAG was a competitor to LSE and to Euronext (Source: SWOT analysis of Deutsche Börse, by Marketing Strategic Research, September 2002).

5.67 We next considered the credibility of other exchanges that have been raised with us as credible threats by third parties. These include the two major US exchanges, NYSE and NASDAQ, in particular, as well as some of the other European exchanges such as OMX and SWX. We also considered the possibility of the other existing UK equities RIE, virt-x, expanding to compete more directly with LSE.

5.68 We first considered the position of NYSE and NASDAQ. As set out in paragraphs 5.8 and 5.9, both are currently involved in possible mergers of their own, which, we were told, would make them more credible threats to LSE. Both are large, profitable organizations, with the depth of pocket to compete head-to-head with LSE. NYSE was likely to become a publicly-listed company as a result of the announced merger, would enhance its electronic trading capability and enable it to compete globally. NASDAQ has demonstrated an interest in Europe in the past, most recently in the form of direct equity ownership participation in NASDAQ Europe and NASDAQ Deutschland (see Appendix H). Both already have existing relationships with many of LSE's major customers, and LSE told us that the heads of many trading desks in London were expatriate US citizens, and as a result often had a previous relationship with US exchanges. LSE also told us that both NYSE and NASDAQ had expressed clear intentions to expand into European markets.

5.69 We did not consider any of the factors associated with NYSE or NASDAQ which make head-to-head competition in the UK difficult to be insurmountable. We noted that both NYSE and NASDAQ's possible mergers would take some time to implement, and hence neither would be likely to consider competing head-to-head in the UK in the short term. There are also significant regulatory differences between the USA and Europe. NASDAQ told us that if it were to attempt to compete in Europe it would be in partnership with an existing exchange, which would help overcome these issues.

5.70 The other major European exchanges have the ability to operate broadly similar electronic platforms and have a number of shared customers. In general, with the possible exception of OMX (which has a market capitalization of around half of LSE's and previously attempted to expand in the UK through a hostile bid for LSE in 2000), we thought it unlikely that they would have the necessary scale and resources to engage in competition with LSE (conditions *(a)* and *(b)*) (see paragraph 5.6). Given the level of investment required to compete with LSE, and the difficulty of shifting liquidity, the competitor might need to be able to sustain losses for several years (see, for example, the Project Tiger discussion in paragraph 5.52). Nevertheless, if customer dissatisfaction was sufficiently intense, they might provide a competitive alternative.

5.71 We considered whether customers would be likely to switch to virt-x if they were dissatisfied with LSE, rather than encourage another major exchange to compete in the UK. virt-x is already present in the UK, and has major UK equities admitted to trading. We noted the success of virt-x's competing trade and transaction reporting service, which, we were told, has caused LSE to reduce its prices for trade reporting.[72] However, third parties told us that virt-x did not currently provide a serious competitive constraint on LSE's trading service. It was primarily a niche business focused on the trading of Swiss equities, and was unlikely to attract significant trade flows for other equities. One third party told us that this was in part due to its fragmented clearing and settlement system (see paragraph 5.4). Nevertheless, we believe that virt-x represents a current competitive constraint, with the potential to develop further, particularly given its use of LCH.Clearnet as one of its post-trade services provider (condition *(g)*). This was reinforced by one respondent to our trading questionnaire which said that it considered virt-x and

[72]virt-x's press release of 21 June 2005 said that, since the introduction of its trade reporting service, LSE members had experienced two price reductions, totalling 35 per cent for low volume users and up to 60 per cent for the largest firms. Those switching to virt-x had reduced their reporting charges on average by over 80 per cent.

Euronext to be the most credible competitors to LSE due to their common access to LCH.Clearnet. It might also be easier for trading firms to switch business to an existing RIE than to sponsor head-to-head competition by an alternative exchange. We also noted that virt-x might provide a partnership opportunity for another exchange to enter.

5.72 LSE stated that system and information providers were also possible entrants as they either operate trading platforms (eg Bloomberg and Reuters) or have significant familiarity with trading technology (Computershare, Royalblue and others), and in most cases already have a network of connections with major financial clients. Whilst these features may give such firms a basis for entry, they appear to us to be less credible than existing exchanges in their ability to induce liquidity to switch. Their lower familiarity with operating an exchange business, relative lack of established connections with the trading firms and lack of immediate access to clearing and services suggest that they would be less able to satisfy conditions *(a)*, (*b)* and *(g)*. However, they too might represent a partnership opportunity for an entrant exchange.

5.73 Both DBAG and Euronext told us that they should not be considered as the most likely entrants in the event of customer dissatisfaction at LSE. Both argued that off-book alternatives provided a significant competitive constraint on LSE, and also pointed to several other potential competitors, including NYSE, NASDAQ, and the other larger European exchanges. DBAG said that it did not believe that anyone would enter the UK by opening up a second liquidity pool. It considered it more likely that others would be interested in buying LSE, but the stickiness of liquidity meant that any threat of entry was not credible. DBAG emphasized that it had never had any plans to enter the UK, no customer had ever approached DBAG requesting it to do so, and it had no plans to enter in the future, even with customer support. The past experiences of attempted entry (eg virt-x in the UK, NASDAQ Deutschland [✂]) did not provide a rational basis for entry to be profitable.

5.74 Euronext said that it did not believe that there would be a business case for entering into a sustained price war with an incumbent exchange. It considered that undifferentiated entry was difficult in a market with network effects, and thought differentiated entry (eg entry by an ATS) was more likely to pose a credible threat to LSE. However, to the extent that other exchanges might enter, it argued that any well organized exchange could be an entrant, and the pool of potential entrants should not be limited to Euronext and DBAG. It also argued that it had decided not to go ahead with Project Tiger due to the difficulties associated with a national exchange attracting sufficient trading volumes to support a viable new service. It said that there was no realistic prospect of any UK equities trading platform being launched by Euronext in the foreseeable future. 'We are simply not a potential entrant in London.'

5.75 Euronext also argued that the DTS and Project Tiger episodes confirmed that entry into the UK by any national exchange was unlikely. In its view the major constraints on Euronext and LSE were based on trading firms' ability to employ off-book alternatives. To the extent that trading firms might want to sponsor market entry by another national exchange, the most likely credible candidates in addition to Euronext were DBAG, NYSE and NASDAQ.

5.76 LSE told us that it had never suggested that the threat of entry posed by DBAG and Euronext did not form an effective and strong constraint on its behaviour. It said that there were a large number of other parties which created equally effective and strong constraint on its behaviour. LSE argued that these included other European cash, commodity and bond exchanges, US cash, derivatives and commodity exchanges, and systems and information service providers, as well as de novo entrants.

5.77 Whilst we acknowledged DBAG's and Euronext's argument that they do not have plans to launch a competing business in the UK today, we did not consider this to be the only consideration in our assessment of the potential for head-to-head competition. Our consideration turns on whether the other exchanges posed a credible threat of head-to-head competition should LSE's offering in the UK deteriorate, and customers become dissatisfied. Experience in the market to date suggested that, whilst head-to-head competition was not straightforward, exchanges regarded the threat of head-to-head competition as a serious possibility in framing their business strategies, both short and long term, and we saw no reason to believe that this would not be the case in the future.

5.78 Finally we looked at the competitive constraint in response to collective action by trading firms posed by off-book trading mechanisms. The opportunity for trading firms to set up their own exchange, is discussed in paragraph 5.122. We noted the evidence from LIBA on the capacity of ATSs to be a source of technical innovation that could attract certain types of niche business from the exchange either temporarily or permanently, depending in part on the incumbent exchange's technical response. We did not consider, however, that ATSs would seriously challenge the incumbent exchange in the event of LSE's raising its trading fees. ATSs could, in theory, set up a rival exchange in response to collective action by trading firms, but we thought that ATSs had less direct expertise in exchange operation and would therefore have greater set-up costs than an existing exchange. ATSs would have to adapt their offer to provide an order driven platform that could support reliable trading for very high volumes, and in this sense we considered them to represent a less likely head-to-head competitor to LSE than existing exchanges. Some other trading platforms such as bond or derivatives platforms may have the depth of pocket to engage in head-to-head competition (see paragraph 5.11) with LSE, but would also be hindered by the lack of an existing equities trading platform and direct expertise in equities trading.

5.79 We conclude that the most important competitive constraint on LSE at present is the group of exchanges within the same geographic market as LSE. These include not only DBAG and Euronext, but also, for example, NASDAQ, NYSE and virt-x. It is, primarily, the threat that they will expand their services and compete directly with LSE which disciplines LSE, forcing it to maintain higher service levels and lower fees than would otherwise be the case. We note that it is not necessary to shift liquidity to have an impact on the incumbent exchange's trading fees. We have observed in the past that both actual head-to-head competition (see paragraph 5.43), and the threat of head-to-head competition (see paragraph 5.60), have acted as a constraint on trading fees, without a permanent shift in liquidity.

5.80 It is for this reason that, in considering the effects of the proposed mergers on equities trading services, we focus in particular on two aspects. First, we consider the impact of the loss of the existing horizontal constraint imposed on LSE by each acquiror (see paragraphs 5.131 to 5.132). Second, we consider the effect on the ability and incentive of DBAG or Euronext to foreclose entry or expansion into the UK to other providers of trading services, given DBAG's or Euronext's ownership or control of clearing services (see paragraphs 5.135 to 5.155).

Derivatives trading services

5.81 Competition for derivatives trading can take two forms, similar to competition for equities trading:

(a) direct (head-to-head) competition for the same derivatives contract; and

(b) threat of head-to-head competition.

5.82 LSE has a limited presence in the derivatives sector through its majority ownership of EDX. As set out in paragraph 2.46, EDX mainly trades Scandinavian equities and equity indices derivatives. Euronext told us that Euronext.liffe had only minimal levels of trading in derivatives related to certain high profile Scandinavian equities, specifically Nokia.[73] DBAG told us that this was also true of Eurex, with the exception of certain derivatives based on Finnish equities.

5.83 EDX also offers confirmation and clearing services for OTC traded derivatives. These services were launched in 2004 and 2005, and seek to assist traders in processing derivatives trades executed bilaterally. These services have had very limited use to date. There is competition for OTC clearing from others including Swapswire, DTCC and Euronext.Liffe.

5.84 We also considered whether, despite its small size currently, EDX represented an important potential threat to either Eurex or Euronext.liffe. LIBA members told us that EDX exerted a competitive influence on the derivatives market which was disproportionate to its market share. DBAG and Euronext, however, said that EDX was a niche operator in the derivatives business which, given its small size, would not be able to compete head-to-head with either Eurex or Euronext.liffe in the short to medium term.[74] [✂].

5.85 We therefore conclude that EDX does not compete in any significant way with either Eurex or Euronext.liffe.

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[73] Euronext told us that trading in such equities accounted for less than 0.2 per cent of the total volume of single-equity derivatives traded by Euronext.liffe in 2003.

[74] Euronext said that approximately 2 billion derivatives contracts were traded on European exchanges in 2003, of which Eurex traded in excess of 1 billion contracts, Euronext.liffe traded 695 million contracts and EDX traded 63 million contracts.

Post-trade services

5.86 Paragraphs 4.63 and 4.71 outlined the economic characteristics of clearing and settlement services. Both have high fixed costs and low marginal costs, benefit from economies of scale and scope, and therefore exhibit some natural monopoly characteristics. In addition, the provision of the registry function (which is part of settlement services) is closely linked to the national regulatory regimes. In general, we therefore consider existing competition for clearing and settlement services to be 'for the market' rather than 'in the market'.

5.87 In this section we first consider the extent to which access to the incumbent exchange's clearing and settlement services is necessary for successful head-to-head competition at the trading level, and, second, whether a competitor would achieve full fungibility from LCH.Clearnet for UK equities traded on LSE today. We then consider the extent of existing competition in the provision of clearing, settlement, and custody and banking services. Paragraphs 5.135 to 5.168 consider the likely impact of the proposed mergers.

Access to clearing and settlement for competition at the trading level

5.88 The overwhelming majority of the evidence that we received, including evidence from LSE and Euronext, suggests that access to the incumbent exchange's clearing and settlement services is of critical importance for successful entry or expansion at the trading level, primarily because of the infrastructure costs of connecting to multiple systems and the costs associated with clearing trades through more than one CCP. LSE considered access to the incumbent's clearing and settlement services to be a key condition of successful entry.

5.89 If access to the incumbent clearing and settlement services provider was not available, a competitor exchange could, in theory, make alternative arrangements for clearing and establish a link with the CSD for settlement services. We did not consider it likely that it would choose to establish its own clearing services, given their high fixed costs. However, an exchange could theoretically use the clearing services of another exchange, and link to the settlement systems in the UK.

5.90 Were a competitor exchange to use a different clearing system, however, customers wishing to trade on this exchange would incur additional set up costs, including additional links and user interfaces to a new system. They would also have a requirement for a higher collateral margin on trades (since customers having positions in the same security with more than one CCP would have to put up more margin than a customer using a single CCP)[75] and more trades would have to be settled (since settlement netting reduces the explicit costs of settlement by offsetting outstanding trades against the same CCP). Euroclear provided the only broad quantification of these additional costs, suggesting that large trading firms might increase their trading costs by around 20 per cent if obliged to split their trading activities equally between two competing order books with different CCPs. We therefore thought it unlikely that customers would support the use of an alternative CCP.

5.91 The importance of access to the incumbent exchange's clearing and settlement services is supported by evidence from past competitive attempts, including NASDAQ's attempt to expand into Europe. For example, NASDAQ told us that its experiences of entry into Europe demonstrated that clearing and settlement represented by far the biggest barrier to entry, particularly in Germany where, although NASDAQ had enjoyed a significant level of support from key German traders, the 'vertical silo' model meant that trades had to go through DBAG's clearing

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[75]Although it is possible in theory to cross-margin positions or exposures between CCPs and thereby reduce the additional costs of collateral requirements of clearing trades in the same equities through different CCPs, we were told that this is unlikely to happen in practice.

and settlement services. DBAG, however, said that its CCP and settlement services were offered to NASDAQ in Germany on the same basis as other customers when it tried to enter.

5.92 LSE's and DBAG's trading of Dutch equities has also been cited as an example of the importance of access to clearing and settlement services. LSE told us that DTS was attractive to Dutch market participants because:

(a) it used the incumbent exchange's clearing and settlement providers; and

(b) the transactions resulting from trading on DTS or Euronext were fungible (ie trades in the same equities across different exchanges could be netted) to the greatest degree possible.

A major LSE customer [✂] said that it would only switch liquidity to LSE's DTS and not to DBAG's Dutch Stars initiative because only DTS had the same clearing platform as Euronext.

5.93 Many other trading firms told us that clearing and settlement services were a crucial factor in choice of trading venue. Instinet told us that its smart order routing systems could compare prices on DTS and Euronext and split orders between them, because they had the same clearing and settlement providers, but could not include virt-x due to its fragmented clearing and settlement provision.

5.94 In contrast, DBAG argued that past entry attempts demonstrated that even where the competitor has a common clearing and settlement platform, liquidity does not shift. It cites the example of DTS, where market shares did not differ greatly between DTS and DBAG's Dutch Stars initiative.

5.95 We considered whether, in current circumstances, a potential competitor would be able to access LCH.Clearnet without interference from LSE. LSE told us that it did not have influence over LCH.Clearnet. Although LSE's CEO has a seat on the board,[76] LSE accounts for less than 10 per cent of LCH.Clearnet's total fee income, and it has no shareholding in LCH.Clearnet. We conclude that LSE does not have any material influence over LCH.Clearnet.

5.96 We considered whether, in the absence of either proposed merger, a potential competitor exchange in the UK would get fully fungible access to LCH.Clearnet which would allow margin and settlement netting across the two trading platforms, thus avoiding the additional margin and collateral costs described in paragraph 5.90. Implementation of fully fungible access by LCH.Clearnet would require consultation with LSE on changes to the exchange's rules. However, LCH.Clearnet told us that it would expect to provide this and cited the example of the Project Tiger experience. In that case LSE had agreed to make the necessary changes, the parties had discussed the mechanism that would be put in place, and the FSA had been advised of the intended process.

5.97 We conclude that users of an alternative provider of trading services would face higher costs of clearing and settlement than those incurred when trading on the incumbent exchange's platform unless the alternative provider could secure access to the services used by the incumbent exchange on competitive terms. We conclude that these costs are such that access to the services used by the incumbent exchange on competitive terms is a necessary condition for a shift in liquidity to be credible, although we note that access to common clearing and settlement services would not on its own be enough to ensure a liquidity shift. We also conclude that a potential competitor would be able to get fully fungible access to LSE's clearing services in the UK today.

[76] We note that LSE's seat on LCH.Clearnet's board is one of four seats allocated to Euronext.

Clearing services

5.98 Clearing services are provided to members of LSE under contract by LCH.Clearnet. LCH.Clearnet has outsourcing arrangements for netting with CRESTCo, which also provides settlement services to LSE.

5.99 The tender process for LSE's clearing services provides some evidence of competition for clearing services. In 2003 the incumbent provider, LCH, retained the LSE clearing contract with a 25 per cent reduction in clearing fees. LSE told us that three other firms also participated in the tender process, although two were quickly eliminated, leaving Eurex Clearing and LCH.Clearnet as the two primary contenders.

5.100 LSE told us that the 2003 tender for its clearing services was driven primarily by LSE's concern about the influence Euronext would have over the combined LCH.Clearnet Group following the LCH.Clearnet merger that was taking place at the time. It might therefore be considered to be a one-off event rather than indicating that there is, in general, competition for clearing services.

5.101 We noted that LCH.Clearnet was selected as the preferred bidder, despite an apparent price advantage in the Eurex Clearing offer.[77] We also noted that there was no commitment to put the service out to tender on a regular basis, and this had not been the practice in the past (although Euronext have said that it would be prepared to put it out to tender every three years to guarantee 'contestability').

5.102 We considered the likelihood of customers supporting a switch of clearing provider. [✂] at the time of the tender process, customers expressed no fundamental objection to the idea of moving to Eurex Clearing, provided LCH.Clearnet could continue to operate profitably and the Eurex Clearing offer was more economical

[77]We note that the Eurex Clearing offer was part of a broader transaction that would have involved LSE purchasing a significant shareholding in Eurex.

than LCH.Clearnet. Both LCH.Clearnet and Euroclear told us that the costs that would be incurred by trading firms were the exchange to switch clearing provider were not high, with the bulk of any cost arising from a change in the hardware or software. We were also told that the many trading firms which are members of multiple clearing houses would not incur such an additional level of expense. On the other hand, we considered that the estimated switching costs, whilst not high in absolute terms, could represent quite a high proportion of the trading firms' annual trading fees, and LIBA said that rearranging clearing arrangements for UK equities would carry considerable one-off costs.

5.103 DBAG also said that an alternative provider of CCP services could feasibly replace LCH.Clearnet in the UK. It said that the cost implications for customers of switching from LCH.Clearnet to another clearing house were minimal. DBAG said that, in contrast to replacing LCH.Clearnet, the replacement of the netting services outsourced to CRESTCo, together with settlement services, would be costly and risky. However, [✂] told us that netting could be implemented outside CRESTCo for about £2 million and in a relatively straightforward manner.

5.104 Taking into account the history of competition for clearing services, we conclude that competition for the clearing services market can only occur at the behest of the incumbent exchange.

Settlement services

5.105 Paragraph 5.86 outlined the monopoly characteristics of settlement services. At present CRESTCo is the default provider of the settlement function for trades conducted on LSE and for legal and regulatory reasons it is the only provider of the registry function in the UK.

5.106 Euroclear told us that settlement was not necessarily a natural monopoly. It would cost about £35 million for a new entrant (starting from scratch) to reproduce CRESTCo. It said that this was a small amount when set in the context of large banks' global investment in technology (US$1 billion per year). The costs would be lower if the new entrant was an existing settlement provider in another country.

5.107 Euroclear said that the only additional barrier for replacing settlement services (ie CRESTCo with Clearstream) would be the regulation of the registry function that CRESTCo performs. CRESTCo maintains the central registry function and any alternative entity would need to be recognized by the Treasury and FSA.

5.108 We considered whether it would be feasible for trading firms to switch settlement services from CRESTCo to an alternative provider. Euroclear told us that there would be some disruption for users if they had to change their technology interface, but that most large trading firms had multiple interfaces and would have very low switching costs between CRESTCo and the ICSDs. Although it is possible for ICSDs and custodian banks to internalize the settlement function, we understand that this practice is relatively limited and can only occur if both the transferor and the recipient of the securities happen to be its customers and only then if both customers' positions are held in the same account at the CSD level.

5.109 Despite the apparent lack of competition in relation to settlement services for the settlement of LSE trades, Euroclear argued that, in any case, settlement fees were currently constrained below the monopoly level by a number of factors:

(a) the user-ownership and governance structure of CRESTCo and Euroclear; and

(b) the threat that the exchange (LSE) or the CCP provider (LCH.Clearnet) could encourage trading firms to switch to another provider or supply these services themselves.

We received no evidence to suggest that user-governance and the threat of switching had constrained settlement services fees.

5.110 We conclude that there is little competition at present in the provision of settlement services in the UK. We consider the impact of the proposed mergers on settlement services in paragraphs 5.158 to 5.164.

Custody and banking services

5.111 We were told that users can choose from a broad range of entities such as custodian banks as well as ICSDs for the provision of custody and banking services. We have been told that effective competition depends on equal and non-discriminatory access to settlement infrastructure (ie CRESTCo as the national CSD in the UK). It has been put to us that common ownership of the ICSD and the UK CSD allows Euroclear to leverage this position to reduce competition from custodian banks in custody and banking services.

5.112 Notwithstanding these concerns, we consider that there is, at present, competition in custody and banking services. We consider the impact of the proposed mergers on custody and banking services in paragraphs 5.165 to 5.168.

Other areas

5.113 We also looked at the provision of market information. As discussed in section 4, exchanges are sole providers of proprietary market information. The parties told us that there were many competitors in terms of the provision of non-proprietary information. We consider the impact of the proposed mergers on the provision of market information in paragraph 5.169.

Buyer power

5.114 Trading on LSE, as on other exchanges in Europe, is concentrated in a small number of large trading firms (see paragraph 2.16). This degree of concentration has facilitated a higher degree of actual head-to-head competition between exchanges in recent years than would otherwise have been the case. Tradepoint, now virt-x, and DTS were both initiated with the direct involvement of trading firms. During Project Tiger Euronext was able to discuss its proposals with major trading firms currently active on LSE.

5.115 There are two important consequences of this concentration of trading firms. First, the actions of a relatively small number of trading firms in transferring their trading activities from one platform to another would facilitate a shift in liquidity. Second, an exchange wishing to compete head-to-head with LSE could readily identify key trading firms and, more importantly, would need to gain the commitment of only a small number of them. A shift of liquidity might be initiated either by a competing exchange obtaining separate commitments from a small but sufficient number of trading firms, or by the trading firms themselves deciding either to shift their trading to a different exchange or to sponsor the entry or expansion of another exchange. Trading firms might even decide to set up their own exchange, though we consider this to be the least likely eventuality (see paragraph 5.122).

5.116 Consequently, where in this report we refer to ‘collective action’ by traders we are not referring to a single specific course of action, but to a range of activities along a continuum which, at one extreme, might be no more than the simultaneous expression by large trading firms of dissatisfaction with the services provided by LSE. Any of the points along the continuum may, depending on circumstances, be sufficient to stimulate actual head-to-head competition between LSE and another exchange. In our view LSE is concerned to prevent these circumstances arising and to maintain customer support. It is not able to define different points along the continuum and plan to keep its customers satisfied but only to that point. LSE told us that it was important to maintain customer satisfaction so as to deny a competitor the key condition for successful head-to-head competition.

5.117 The number of firms whose commitment to trading on a different platform would be required to shift liquidity depends, at least in part, on the volume of trading that would need to shift in order to induce the remaining liquidity to switch (the tipping point). Some third parties indicated that a switch of 20 per cent of liquidity to an alternative platform would induce the remaining liquidity to switch. LIBA placed the tipping point higher at around 50 per cent. Whatever the precise tipping point, it is clear that a small number of trading firms could, through collective action, exert considerable influence on LSE.

5.118 The history of entry and expansion in Europe has shown that trading firms have often been involved in attempts to enter and compete head-to-head with the incumbent exchange (see Appendix H). Of the seven attempts to enter or expand in different countries in Europe during the past ten years, the company concerned is still operating in three cases, and although no lasting shift in liquidity has been achieved, these attempts have, in some cases, had a real impact on the competitive landscape. Notably, these include Tradepoint's introduction of electronic trading in the UK, and the launch of DTS which prompted substantial price cuts and improved levels of service from the incumbent exchange, Euronext Amsterdam. In response to our trading questionnaire, five out of eight of respondents told us that they had been involved in discussions about possible head-to-head competition between exchanges in the past two years, either on their own initiative or after being approached by another exchange.

5.119 We considered what mechanisms were in place to facilitate collective action by trading firms. We note that the user consultation forums established by the exchanges provide opportunities for discussions of collective action. The industry association, LIBA, also provides a forum for discussion of matters of common concern, in accordance with competition law. One trading firm pointed to the importance of collective action by buyers in 2003, stating that 'bilateral discussions [between the trading firm and LSE] were not making an impact and at that point LIBA members set up the Exchange Fees Working Party.' LIBA and its members also played a role in encouraging competition between exchanges. They took part in early discussions in relation to both DTS and Project Tiger.

5.120 The major obstacle to collective action by trading firms is that individual trading firms are competitors of one another. One trading firm told us that 'any business where we work with competitors can be complex as we all have our different competitive drivers.' The difficulty in agreeing who, as between trading firms, should bear the risk and, potentially, the cost of failure tended to suggest that collective action would be less than overt coordination. In addition, individual traders will have an incentive to trade where liquidity is, even if the trading firm that employs them may benefit in the longer term from a liquidity switch. Finally, several respondents to our trading questionnaire said that collective action only had limited success in terms of fee negotiations, although Euronext told us that users have successfully negotiated lower fees at several major exchanges.

5.121 We recognize that there are limits on collective action by trading firms and that these limits arise from both commercial and regulatory constraints. They might, for example, be constrained by best execution rules and client considerations in their ability to shift trading volumes. They would be likely, at least initially, to be limited to shifting only their proprietary trading volumes to a new exchange. DBAG said that the largest customers were predominantly 'sell side' customers, whereas liquidity requires a large pool of both large and small buyers and sellers, with smaller retail brokers being important buyers and sellers on behalf of institutions and individual investors.

5.122 Whilst direct entry by trading firms to set up their own exchange is, in theory, a possibility, we considered this to be the least likely eventuality since they do not have the relevant expertise and no such entry has taken place in the past ten years. Trading firms told us that this was not their core business, and they would be unlikely to consider it their preferred option. It would also be likely to require the greatest degree of coordination.

5.123 We conclude that, whilst there are difficulties associated with achieving collective action, trading firms have the incentive and ability to exert significant buyer power through collective action, primarily by sponsoring head-to-head competition in one of its different forms. This might range from giving individual commitments to a potential competitor, to sponsoring the expansion or entry of another exchange with access to clearing and settlement, should LSE's offer deteriorate.

Counterfactual

5.124 In deciding whether either of the proposed mergers gives rise to an SLC, we must, in each case, compare the competitive position in each relevant market should the proposed merger proceed with the competitive situation absent the merger (the counterfactual).

5.125 In the next section of the report we compare the competitive effects of each of the proposed mergers with the competitive conditions that would prevail should LSE continue as an independent entity. We saw no reason for there to be a counterfactual that supposed a less competitive situation than the continued independence of LSE. If both the proposed mergers resulted in an SLC in comparison with the continued independence of LSE, the counterfactual would be the continued independence of LSE and we would consider remedies against that yardstick. If, on the other hand, neither proposed merger resulted in an SLC when compared with the continued independence of LSE, or if only one proposed merger did, then we must consider whether the independence of LSE remains the most likely alternative to either merger. In these circumstances it might be necessary to compare the two bids, and remedies might be dictated by the differences between the two.

5.126 We received no evidence to enable us to form an expectation that LSE would be acquired by another party in the short to medium term. In addition, the evidence that we received from LSE demonstrates that it is a profitable business with a positive cash flow since 2000, and there is no reason for it not to be able to continue as a profitable independent company. LSE told us that this was the case.

5.127 LSE's publicly-stated strategy is 'to grow [its] existing business … through business development initiatives, joint ventures and alliances'. This strategy has been developed since de-mutualization by initiatives such as a new trading mechanism in the form of SETSmm and the introduction of a CCP, and acquisitions such as EDX and Proquote. [✂].

5.128 In assessing the counterfactual, we also relied on LSE's own assessment of its strategic growth options absent the proposed mergers. [✂].

5.129 The most important factors that we have taken into account in assessing the probable development of an independent LSE in the short to medium term are that:

(a) LSE will continue to invest in developing its technology;[78]

(b) EDX will continue to focus on Scandinavian trading and increase its OTC clearing service;

(c) a potential entrant would get fully fungible access to the clearing services provided to LSE by LCH.Clearnet (see paragraph 5.96); and

(d) LSE will remain a UK RIE.

Effects of the proposed mergers

Listing services

5.130 There is little evidence of competition between the parties for listing of domestic companies. In addition, there is competition on a global basis for secondary listing services and primary listing services to companies seeking listings outside their domestic market (see paragraphs 5.22 to 5.32). We conclude, therefore, that the proposed acquisition of LSE by either DBAG or Euronext would not give rise to an SLC either within the market for primary listings to domestic companies, or within the market for the provision of secondary listing services and primary listing services to companies seeking listings outside their domestic market.

Equities trading services—horizontal effects

5.131 Paragraphs 5.33 to 5.80 outlined the level of competition in the equities trading services market. Whilst both DBAG and Euronext provided a competitive constraint on LSE, primarily due to the perceived threat of head-to-head competition in the UK, we conclude that there are other exchanges, including virt-x and the major US exchanges, as well as, to a lesser degree, other off-book trading venues, which also provide a competitive constraint to LSE.

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[78]LSE has a Technology Road Map which would continue to be implemented.

5.132 We conclude, therefore, that the proposed acquisition of LSE by either DBAG or Euronext will not give rise to an SLC within the market for on-book equities trading services within the UK, by virtue of the removal of the horizontal constraint currently imposed on LSE by DBAG or Euronext alone.

Derivatives trading services

5.133 There is little evidence of competition between the parties for derivatives (see paragraphs 5.81 to 5.85). We did not consider that, in the absence of the proposed mergers, EDX was likely to represent a serious competitive threat in the short to medium term (see paragraph 5.129).

5.134 We conclude, therefore, that the proposed acquisition of LSE by either DBAG or Euronext would not give rise to an SLC within derivatives trading services in the UK.

Post-trade services

5.135 We next discuss four possible vertical effects of the proposed mergers:

(a) foreclosure of the market for trading services;

(b) reduction in competition for clearing services;

(c) reduction in competition for settlement services; and

(d) reduction in competition for the provision of custody and banking services.

Foreclosure of trading services

5.136 The economies of scale and network effects of clearing services were set out in paragraph 5.86. These factors create an incentive for a provider of clearing services to offer its services as widely as possible. However, we considered whether a CCP controlled by an exchange could be driven to refuse access, or make access more difficult, in order to foreclose competition at the trading level. As set out in paragraph 5.97, we 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 compared with that which would otherwise have been in place.

5.137 We identified a number of alternative mechanisms that would allow the vertically-integrated exchange to foreclose entry or expansion by restricting access to clearing and settlement:

(a) it could refuse to supply these services;

(b) it could discriminate in the terms offered for the provision of access to clearing and settlement, so that the potential competitor's costs would be higher than the incumbent's;

(c) it could frustrate the potential competitor by, for example, taking longer to deal with any issues raised or imposing constraints within, for example, the provision of technology; or

(d) it could cross-subsidize between the trading, clearing and settlement services by choosing to make more of its profits from clearing and settlement and hence raise artificially the price of clearing and settlement services.

We focused in particular on the impact of the exchange's influence over clearing services.

1. DBAG/LSE merger

5.138 We considered the merged entity's influence over LSE's clearing services as a result of the proposed DBAG/LSE merger.

5.139 In its proposed offer for LSE, DBAG stated that LCH.Clearnet would be offered a one year extension to its current contract in return for a material price reduction. It also stated that it would offer an alternative to LCH.Clearnet's CCP services, at a 50 per cent discount to the price currently being charged by LCH.Clearnet. LCH.Clearnet told us that it could not afford a 50 per cent fee discount and it would have to withdraw from the market or cross-subsidize its services from other markets under these circumstances. As a result we considered it more likely than not that Eurex Clearing would replace LCH.Clearnet as the provider of LSE's clearing services if the proposed DBAG/LSE merger went ahead. The merged entity would have an incentive to encourage Eurex Clearing not to make its services available to exchanges competing with it at competitive levels, since this would have an impact on the merged entity's success at the trading level.

5.140 We considered whether DBAG had control over Eurex Clearing. We noted SWX's 50 per cent shareholding in Eurex. DBAG, however, has majority control over the Eurex supervisory board, reflecting its 85 per cent economic interest in Eurex (based on the relative economic contributions of DBAG and SWX to Eurex earned from derivatives trading and clearing services). In addition, DBAG was in a position to offer Eurex Clearing's services at a 50 per cent discount to LCH.Clearnet. DBAG acknowledged that it had control over any offer made by Eurex Clearing regarding CCP services. We therefore conclude that DBAG has control over Eurex Clearing.

5.141 DBAG told us that its proposed governance arrangements (see paragraph 3.11) would be sufficient to guarantee that LSE would make an independent decision to replace its provider of clearing services based on its commercial interests. For the reasons given in paragraph 5.139, we considered that the commercial decision that the LSE Board would take would be to replace LCH.Clearnet with Eurex Clearing. Once Eurex Clearing was in place, the independence of LSE's Board would not affect the merged entity's incentive or ability to influence Eurex Clearing because of the alignment of LSE's incentives with the parent company, DBAG.

5.142 We considered whether, in practice, foreclosure of entry or expansion at the trading level was likely to occur. Many third parties expressed concern about the potential impact of DBAG's vertically-integrated model.[79] We noted that, should DBAG acquire LSE, the merged entity would have a strong incentive to foreclose entry or expansion at the trading level because of DBAG's substantial investment in LSE and its commercial incentive to protect such an investment. We also noted that, in 2005, DBAG reduced trading fees and changed clearing and settlement fees in a way that was described by analysts as 'revenue neutral'. Although DBAG argued that these changes reflected shifts in the underlying costs of providing these services, we consider that this demonstrates DBAG's ability to price differently, and to shift profits between trading, clearing and settlement services. DBAG, on the other hand, told us that it would have no more incentive or ability to influence the CCP than would exist under the horizontal model. In particular, DBAG said that a number of customers did not see a clear distinction between DBAG's business model and that of other exchanges. Further, it said that there is no evidence that its business model has had adverse affects on equities trading in Germany. DBAG emphasized that its CCP and settlement services were offered to NASDAQ in Germany on equivalent terms when it tried to enter the market, and provided settlement services to NASDAQ Deutschland. NASDAQ, however, has told us that DBAG frustrated its attempts to enter Germany.

5.143 DBAG also told us that it would only wish to offer limited CCP services at a 50 per cent discount to the price currently charged by LCH.Clearnet, and it would retain the existing arrangements with CRESTCo for clearing processing and settlement services. DBAG considers that an entrant exchange would be able to use LCH.Clearnet for CCP services because there are no appreciable network effects

[79]We note that the European Commission found that Clearstream infringed competition rules by refusing to supply cross-border securities clearing and settlement services and by applying discriminatory prices to Euroclear. Clearstream has appealed against the European Commission's decision and disputes both the claims that it refused to supply Euroclear or applied discriminatory pricing.

associated with CCP services in the UK. DBAG stated that LCH.Clearnet provides separate clearing functions to virt-x and LSE, since LCH.Clearnet does not 'net' the risk positions that trading firms have on different platforms, reinforcing DBAG's view that in principle nothing prevents trading firms from getting clearing services from different parties. However, LCH.Clearnet told us that margin positions were netted across virt-x and LSE, although settlement netting was not yet in place (see paragraph 2.25).

5.144 Moreover, DBAG considers that savings in collateral requirements arising from netting are minimal because:

(a) savings only arise if buy and sell imbalances can be offset across different equity exchanges, and such offsetting sums are comparatively small; and

(b) equities trades are settled within three days (unlike derivatives which may never be settled), and therefore the only saving is three days' interest on any modest reduction on collateral.

5.145 As set out in paragraph 5.97, we considered that a potential entrant or competitor to LSE in the UK would get fully fungible access to LCH.Clearnet today. Whilst we recognize that such an exchange might be able to use LCH.Clearnet for CCP services after the proposed DBAG/LSE merger to avoid switching costs associated with infrastructure arrangements, an entrant exchange would not be able to get a fully fungible solution unless it were able to access the CCP used by LSE (ie Eurex Clearing). Several third parties told us that there would be significant additional costs associated with splitting liquidity between two CCPs (see paragraph 5.90). Given the importance of the threat of entry or expansion at the trading level as one of the constraints on LSE's behaviour (see paragraph 5.79), we expect control by the merged entity over clearing services would result in an increase in costs to trading firms of switching trading platform, raising entry barriers and hence reducing the threat of entry or expansion at the trading level.

5.146 On the basis of the evidence set out in paragraphs 5.138 to 5.145, we conclude that the proposed DBAG/LSE merger would lead to the introduction of Eurex Clearing as LSE's provider of clearing services. The merged entity would have the incentive and ability to foreclose entry and expansion in the UK at the trading level. Such foreclosure would allow the merged entity to reduce the attractiveness of LSE's offer, by increasing prices or reducing levels of service or innovation beyond the levels they would otherwise have been at in the absence of the proposed DBAG/LSE merger. We conclude, therefore, that the proposed acquisition of LSE by DBAG may be expected to give rise to an SLC in the market for the provision of on-book trading services within the UK because of the ability and incentive to foreclose entry or expansion to other providers of trading services.

2. Euronext/LSE merger

5.147 In paragraph 5.95 we concluded that LSE did not currently have any material influence over LCH.Clearnet. In the following paragraphs we consider the merged entity's influence over LCH.Clearnet should Euronext acquire LSE.

5.148 Euronext has a 41.5 per cent shareholding in LCH.Clearnet, with its voting rights capped at 24.9 per cent. It has four of the 18 board seats.[80] Euronext and LCH.Clearnet both told us that, subject to Board approval and to LCH.Clearnet

[80]We note that Euronext's entitlement to four board seats (two due to its ordinary shareholding and two due to its RCPS shareholding) could decrease over time, either through a reduction in its ordinary shareholding, or through its RCPS holding either being sold to a third party or being redeemable by LCH.Clearnet.

having sufficient distributable reserves, Euronext's RCPS[81] in LCH.Clearnet would be redeemed by 2008 at the latest.

5.149 Over 60 per cent of LCH.Clearnet's total fee income is currently dependent on the clearing of trades made on exchanges owned by Euronext. Despite its importance to LCH.Clearnet as a customer, Euronext told us that it has no ability or interest in controlling LCH.Clearnet, as evidenced by its partial divestiture of Clearnet to LCH, and its ongoing reduction in ownership of its other clearing organizations (see paragraph 2.41). In addition, in recognition of user concern about the possible ongoing influence of Euronext over LCH.Clearnet, strict governance arrangements were put in place at the time of the LCH.Clearnet merger.

5.150 LCH.Clearnet's governance arrangements include a Committee of Independent Directors responsible for adjudicating on board members' perceived conflicts of interest, and for deciding whether any board member should be excluded from part of the Board meeting. LCH.Clearnet said that if any issues relating to Euronext or Euronext's competitors arose, the governance arrangements ensured that the Euronext directors on the board did not receive the relevant papers, nor take part in any relevant proceedings. LSE confirmed this to be the case. This Committee is also responsible for monitoring management's performance as regards the neutrality of its operations. We also note that in the LCH.Clearnet/ Euronext Clearing Agreement, LCH.Clearnet agree 'not intentionally to prefer one exchange or trading platform over another, or seek to cause an adverse effect on the competitive position of any exchange or trading platform … ' and 'to seek to avoid use of its fee policy in a manner that would affect competitive conditions between trading platforms'.

[81] Representing 16.6 per cent of the share capital, as defined by adding the issued ordinary share capital to the share capital created by conversion of the RCPS.

5.151 Several third parties raised concerns about Euronext's existing influence over LCH.Clearnet. LIBA said that 'although Euronext does not own or control its clearing and settlement organisations, as DBAG does, there are close links between them. … These financial links mean that Euronext has a continued and very substantial interest in the success of LCH.Clearnet.' Others told us that, despite these concerns, Euronext had not sought to exert its influence over LCH.Clearnet to date.[82]

5.152 We acknowledged that the governance arrangements between Euronext and LCH.Clearnet, taken in isolation, appeared to be robust. However, in considering the efficacy of governance arrangements we have also to consider the influences which those governance arrangements must withstand. We have taken account of the merged entity's significant shareholding in LCH.Clearnet which would be, by a substantial margin, the largest individual shareholding. Euronext's voting rights are currently capped at 24.9 per cent, Euroclear's at 9.8 per cent, and all other shareholders at 3 per cent each. The merged entity would, in addition, have four seats on the board, and a substantial share of LCH.Clearnet's total fee income.

5.153 At present LSE accounts for less than 10 per cent of LCH.Clearnet's total fee income; the merged entity would have around two-thirds of LCH.Clearnet's total fee income as a result of LSE's proposed merger with Euronext. Any potential entrant or competitor would not have the option to use an alternative provider of clearing services (see paragraph 5.145). We considered that, on balance, we would expect the merged entity to have the ability to influence LCH.Clearnet's strategic decisions in its favour.

[82]The 2003 OFT investigation of the merger of LCH and Clearnet concluded that there did not appear to be any strong incentive on the part of the merged entity to allow Euronext to influence strategic decisions in its favour as a result of its shareholding. In particular, the OFT noted that the governance structure limited Euronext's ability to discriminate in its own favour. However, the focus of our investigation is on whether LSE's ability to influence LCH.Clearnet would change should Euronext acquire LSE.

5.154 Euronext said that its past actions in the case of DTS supported its argument that it did not exert any influence over LCH.Clearnet. LSE approached Clearnet to provide clearing services for DTS, and Euronext did not exert its influence to stop Clearnet doing so, despite DTS being set up in competition to Euronext Amsterdam. However, we noted that the losses that the merged entity would incur as a result of successful competition against LSE, following the proposed Euronext/LSE merger, would be much greater than the losses Euronext would have envisaged with DTS in the Netherlands.[83] Hence the merged entity might be expected to adopt a different attitude to competition against LSE in the future. In addition, LSE was an existing customer of LCH.Clearnet[84] when it approached them for services for DTS, whilst the potential entrant or competitor might not be. We consider that, in order to protect its substantial investment in LSE, the merged entity would have a strong incentive to influence adversely access to clearing services in the UK.

5.155 We conclude, on balance, that the merged entity would, despite LCH.Clearnet's governance arrangements, have the incentive and ability to foreclose entry and expansion in the UK at the trading level in the event of the proposed Euronext/LSE merger going ahead. Such foreclosure would allow the merged entity to reduce the attractiveness of LSE's offer, by increasing prices or reducing levels of service or innovation beyond the levels they would otherwise have been at in the absence of the proposed Euronext/LSE merger. We conclude, therefore, that the proposed acquisition of LSE by Euronext may be expected to give rise to an SLC in the market for the provision of on-book trading services within the UK because of the ability and incentive to foreclose entry or expansion to other providers of trading services.

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[83]This would be less true if Euronext saw DTS entry as a forerunner to a more extensive Eurosets offer.
[84]Prior to 2003, LCH provided clearing services to LSE and Clearnet provided clearing services to Euronext. However, LCH and Clearnet were in the process of merging at the time that LSE approached Clearnet to provide clearing services for DTS.

Clearing services

5.156 The second possible effect of the proposed mergers would arise if the replacement of the vertically-disaggregated model with a more vertically-integrated model removed the competitive constraints on clearing such that LSE's clearing services provider was able to increase the price or reduce service levels in clearing services.

5.157 LSE's tender in 2003 effectively enabled LSE to increase competition in clearing and reduce the cost to trading firms. However, we consider that there were specific circumstances regarding this tender and note the limited competition for clearing services more generally. Furthermore, as set out in paragraph 5.104, the clearing provider is appointed by the exchange and competition in clearing services is therefore at the behest of the exchange. Given this, and because of the close complementarity between trading and clearing services, a vertically-integrated business would recognize that raising the cost of clearing would adversely affect its revenue from trading services. We conclude, therefore, that the proposed acquisition of LSE by either DBAG or Euronext would not give rise to an SLC within clearing services in the UK.

Settlement services

5.158 In paragraph 5.110 we concluded that there was little competition at present in the provision of settlement services in the UK. We received no evidence that LSE or LCH.Clearnet is able to exert any influence over the supply of settlement services.

5.159 In the case of the proposed Euronext/LSE merger, we considered that the proposed merger would not change Euronext's incentive or ability to internalize settlement. In the case of the proposed DBAG/LSE merger, however, we considered whether the merged entity would have the incentive and ability to internalize settlement services and whether this could be expected to result in an SLC for settlement services.

5.160 DBAG said that it would not internalize settlement services. It said that it (and its subsidiary Clearstream) did not have the technical capability to replicate the services offered by CRESTCo and the costs of adapting its existing systems would be significant. This is because settlement procedures are specific to national law, tax regulations and banking regulation.

5.161 Euroclear argued, however, that as a vertically-integrated entity, DBAG would have the incentive and ability to internalize settlement of trades conducted on LSE. DBAG would have an incentive to increase revenues and efficiencies using Clearstream to provide the settlement services. In terms of ability, DBAG would be able to internalize the settlement of LSE trades by offering clients of Clearstream the opportunity to settle on-book trades on the ICSD's books.[85] Euroclear argued that through its control of the CCP function, DBAG would be able to force LSE trade flow to settle through Clearstream.

5.162 Euroclear said that its replacement by Clearstream would have an adverse effect on competition because its ICSD is user-owned and user-governed and as such it acts in the best interests of members. However, as set out in paragraph 5.109, the extent to which user-ownership constrains the pricing of these settlement services is not clear, and, similarly, it is not clear whether prices would rise if the services were provided by Clearstream.

5.163 Further, LCH.Clearnet told us that virtually all UK trades on LSE are already settled through CRESTCo. As a result, even if DBAG were to internalize settlement of LSE trade flow through Clearstream, the market structure would not be significantly affected because it would effectively replace the settlement function provided by the CSD with one provided by an ICSD.

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[85]Euroclear said that the costs of internalizing settlement would not be prohibitive. It said that it had cost its ICSD [✂] to set up the arrangements for the internalization of settlement of LSE trades through its account in CRESTCo.

5.164 We conclude, therefore, that the proposed acquisition of LSE by either DBAG or Euronext would not give rise to an SLC within settlement services in the UK.

Custody and banking services

5.165 We considered whether either of the proposed mergers might be expected significantly to increase the incentive and ability of the settlement provider to leverage market power in settlement services to custody and banking services.

5.166 We received no evidence to suggest that LCH.Clearnet and LSE have been able to exert any influence over the provision of custody and banking services.[86] Further, CRESTCo is the default option for settlement of trades conducted on LSE and Euroclear already owns CRESTCo. It is not clear that a change in control or influence over trading and/or clearing services as a result of either of the proposed mergers would significantly enhance the ability of Euroclear to exert influence over the provision of custody and banking services.

5.167 If DBAG were to replace LCH.Clearnet with Eurex Clearing for CCP services, and internalized the settlement function through Clearstream, DBAG might have an incentive to leverage its position in the same way as outlined for Euroclear in paragraph 5.111. However, Clearstream would not control CRESTCo because Euroclear would still own it. Without ownership of the CSD it is difficult to see that DBAG would be able to influence the provision of settlement services, and hence custody and banking services.

[86]In its consideration of the acquisition of CRESTCo by Euroclear, the OFT noted that global custodians had raised the issue of restriction of access to CRESTCo as a result of the merger and that they were concerned that they should be given equal and fair access to all features of the CSD. The OFT concluded that 'these concerns do not appear to be borne out given that Euroclear will not be in a position to determine its status vis-à-vis the London Stock Exchange and the London Clearing House.'

5.168 We conclude, therefore, that the proposed acquisition of LSE by either DBAG or Euronext would not give rise to an SLC in the provision of custody and banking services in the UK.

Other areas

5.169 Paragraph 5.113 outlined the levels of competition in the provision of market information. Given that the exchange is the sole provider of proprietary information, and given the large number of competitors for the provision of non-proprietary information, we did not expect the proposed acquisition of LSE by either DBAG or Euronext to result in an SLC in this area.

5.170 We also considered the possible impact of either proposed merger on regulation and any resulting impact on competition. In paragraphs 3.8 and 3.12 we outlined the commitments that both DBAG and Euronext had given to maintain UK RIE status should either be successful in their proposed mergers. We noted the FSA's statement of February 2005 which raised the possibility that a new owner of LSE might decide to operate LSE from another EU member state, with consequences for the operations and regulation of LSE's markets.

5.171 Both DBAG and Euronext provided us with details of the commitments they would give to maintain UK RIE status for LSE. DBAG's proposed conditional offer for LSE of 27 January 2005 stated that LSE would continue to be solely regulated by the FSA. DBAG proposed that a commitment would be made under a deed executed by DBAG, and capable of enforcement in the courts. It would include obligations, unlimited in time, to ensure that no application was made by LSE for withdrawal of its status as an RIE, to ensure that LSE continued to comply with the requirements necessary to retain its status as an RIE, to ensure that DBAG would not materially adversely affect the continued operation of AIM, and to ensure that DBAG would not adversely affect the FSA as competent authority.

5.172 Euronext announced on 9 February 2005 that, in the event of its successful acquisition of LSE, it would provide a legally binding commitment that would preserve the status of LSE as a UK RIE. It told us that any change in LSE's UK RIE status would be viewed as unnecessary and unwelcome by many users. This was supported by evidence from all third parties which provided relevant comment. Euronext therefore proposed to set up a long lasting, legally binding commitment capable of independent enforcement, through a discretionary trust. The arrangements would be effective for 80 years.

5.173 We considered whether the arrangements proposed by DBAG or Euronext were likely to prove binding. Our initial analysis suggested this to be the case. Whether or not the commitments were binding, we also considered whether DBAG or Euronext would have the incentive to remove LSE's RIE status. Both told us that it would not be in their interest to do so, since users would react negatively and might switch business away from LSE. We thought that any cost savings that might be generated by switching regulation to the owner's home country, for example, would be more than offset by lost business.

5.174 We asked the FSA whether the possible bidders could move LSE outside the FSA's jurisdiction. The FSA told us that it had no powers to prevent the board of an RIE or parent company moving the location of the regulated market and thereby ceasing to operate with RIE status. It could, however, ensure that an RIE in the UK took decisions in accordance with good standards of corporate governance. In any case, the FSA told us that, in particular given the stated positions of the bidders, in practice it considered the likelihood of the regulation of LSE's markets moving to another EU member state to be remote, at least in the short term. This was supported by evidence from several third parties.

5.175 We therefore conclude that neither DBAG nor Euronext would be likely to seek to remove the UK's RIE status as a result of their proposed mergers. We have therefore not found it necessary to consider whether the loss of UK RIE status to LSE would have an effect on competition.

Provisional conclusions

5.176 We provisionally conclude that the proposed acquisition of LSE by DBAG and the proposed acquisition of LSE by Euronext in each case constitute arrangements in progress or contemplation which, if carried into effect, will result in the creation of a relevant merger situation. We also provisionally conclude that the proposed acquisition of LSE by DBAG may be expected to result in an SLC within the market for the provision of on-book equities trading services within the UK because of the ability and incentive to foreclose entry or expansion to other providers of trading services; and that the proposed acquisition of LSE by Euronext may be expected to result in an SLC within the market for the provision of on-book equities trading services within the UK because of the ability and incentive to foreclose entry or expansion to other providers of trading services.