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. Full text of decision published 7 April 2005

PARTIES

1. **Deutsche Börse AG** (DBAG) operates the Frankfurt Stock Exchange (Frankfurter Wertpapier Börse, FWB). DBAG demutualised in 2001. The main business activities of the DBAG corporate group are: trading services in spot markets (which include listing and trading services); trading services for financial derivatives; the generation and distribution of information products; the provision of securities clearing, custody services and settlement of securities transactions (clearing and settlement); and the development, implementation and operation of IT solutions for financial markets and market participants.

2. **London Stock Exchange plc** (LSE) is a Recognised Investment Exchange (RIE) under the Financial Services and Markets Act 2000 (FSMA). LSE demutualised in 2000, and became a listed UK plc in 2001. LSE's main business activities are: trading services in spot markets (which include listing and trading services); the generation and distribution of information products; and the development, implementation and operation of IT solutions for financial markets and market participants. Through a joint venture with Stockholmbörsen, the LSE also operates a small derivatives exchange, EDX London (EDX). The total turnover of the LSE in the financial year ending 31 March 2004 was approximately £250 million.

TRANSACTION

3. DBAG announced on 13 December 2004 that it was in discussions with the LSE with a view to making a recommended cash acquisition offer for the LSE. Euronext N.V. (Euronext), operator of the French, Dutch, Belgian and Portuguese bourses, made a similar announcement on 20 December 2004. DBAG subsequently released more details by way of a proposed pre-conditional cash offer for the LSE on 27 January 2005. (Elements of this offer will be discussed below.)

4. DBAG withdrew its 27 January offer on 6 March 2005. At the same time, pursuant to the UK Takeover Code (Code), DBAG also expressly reserved certain rights to make an offer. On 14 March 2005, DBAG further announced that it was considering a possible offer for the LSE in the event that Euronext or another third party announced an offer, or in such other circumstances as permitted by the Code. It also noted that it had left its financing commitments in place.

5. The proposed transaction was notified to the OFT on 31 January 2005. The OFT's administrative deadline for a decision is 30 March 2005.

JURISDICTION

6. The proposed transaction is not a concentration with a Community dimension under Regulation 139/04 (the EC Merger Regulation, ECMR), because the combined worldwide turnover of the parties falls below the €2.5 billion threshold in Article 1(3) ECMR.

7. As a result of this transaction DBAG and LSE will cease to be distinct. The UK turnover of LSE exceeds £70 million, so the turnover test in section 23(1)(b) of the Enterprise Act 2002 (the Act) is satisfied. The OFT believes that it is or may be the case that arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation.

8. DBAG notified the proposed transaction for merger review in Germany on 7 January 2005. The Bundeskartellamt (Federal Cartel Office, FCO) is currently undertaking a second-stage merger investigation.

9. On 16 February 2005, the OFT decided not to request the European Commission to examine either the DBAG or Euronext proposed transactions pursuant to the case referral (i.e., jurisdictional transfer) mechanism of Article 22 ECMR.[1]

FOCUS OF INQUIRY

10. The LSE's activities focus primarily on the provision of on-exchange trading services for equities in the UK. It has three principal sets of services that generate revenue from three different (though potentially overlapping) customer groups:

    - listing services – fees charged to companies (issuers) for admission to trading on the LSE, including a charge for the initial public offering (IPO), and annual charges for facilitating ongoing or 'secondary' trading of that company's equity (i.e., shares, stock)

[1] See further www.oft.gov.uk/news/press+releases/2005/29-05.htm

- trading services – fees charged to brokers, dealers and investors, generally on a per-trade basis, for providing the central venue, or trading infrastructure, for trading of equities (and other securities) in the UK;[2] and

- information services – the sale of LSE-generated data, principally real-time price and quote data on traded securities, to various customers such as Reuters and Bloomberg, among others.

11. At present, the LSE has no legal or economic interest in post-trade services (clearing and settlement) for equities traded on its exchange. Since 2003, the LSE has also been a joint venture participant in EDX, a derivatives exchange based in London that trades futures and options in Scandinavian securities. EDX essentially comprises the former UK business of OM, operator of the Swedish stock exchange.

12. DBAG also provides services relating to listing, trading services for equities, other securities and derivatives, and information services. Unlike the LSE in the UK, DBAG also has interests in post-trade services at the national (German) and international level.

13. The OFT's investigation revealed no concerns among market participants in relation to trading or listing of any class of securities (e.g. bonds) other than equities. Accordingly, these other classes of securities are not discussed further (save some brief commentary below on derivatives trading).

14. This decision deals first, and primarily, with the merger's impact on the equity trading chain in the UK. Derivatives and information services are treated briefly thereafter.

EQUITY TRADING IN THE UK

Introduction

Organisation

15. For a company's share to change hands via the LSE, the following must occur. First, the share must be admitted to trading (for UK companies, this requires listing with the Financial Services Authority (FSA), followed by admission to the LSE). Second, the trade must be executed, via the LSE's centralised electronic order book, SETS,[3] at which point the LSE's direct involvement ceases. Third, the trade must be settled by CrestCo (Crest), operator of the UK's central securities depository (CSD). Although not a mandatory step, many equity trades are also

[2] The LSE also derives some revenue from reporting fees: these fees are charged for reporting of equities trades that, although conducted 'off-exchange' (so there is no trading fee), need to be reported to the LSE for market transparency reasons.

'cleared' before settlement. The LSE has a contract with the clearing house LCH.Clearnet (LCH) in this respect.

16. As discussed further below, the logic of network externalities (at the exchange and clearing levels), and the logic of having a single national securities registry, have led to a trading chain structure in which there is effectively a single provider at each level (at any one point in time). These considerations are of critical relevance to this merger inquiry in two respects; first, they impact the prospects for competition at each level; and, second, they affect the degree to which ownership or economic interests in one level impacts the prospects for competition at another, complementary level of the chain.

17. This sector is also subject to certain regulatory scrutiny. The FSA has certain regulatory powers affecting actual and potential participants, such as the granting of RIE and Recognised Clearing House (RCH) status, among others. The OFT also has specific powers relating to competition under FSMA. Finally, various EU harmonisation initiatives exist or are underway; of particular relevance is the Markets in Financial Instruments Directive (MiFID).[4] Regulatory impact has been taken into account in the assessment below where applicable.

Liquidity for equities

18. The following aspects of the liquidity concept are central to an understanding of the possible effect of the merger at the horizontal (exchange) level.

Liquidity and the 'value proposition' of a stock exchange

19. On flotation, the LSE summarised its position as follows: '*The Exchange is the primary source of price formation in UK equities with over 99 per cent by value of UK public trading transacted on the Exchange and over 98 per cent of UK domiciled, publicly traded companies admitted to trading on its markets*.'[5]

20. Price formation in this sense means establishing the effective 'market price' of shares. The notion of a market price has two dimensions: the amount that the seller is prepared to receive ('offer' price) and the amount that the buyer is prepared to pay ('bid' price). The larger and deeper the pool of willing buyers and

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[3] One of the LSE's other trading platforms, such as SETSMM, might also be used.
[4] Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments (OJ L 145/1 30 April 2004). MiFID establishes high-level organisational and conduct of business standards that apply to all investment firms. These include new standards for managing conflicts of interest, best execution, customer classification and suitability requirements for customers. MiFID also sets standards for regulated markets (i.e., exchanges) and multilateral trading facilities. The directive also sets out pre- and post-trade price transparency requirements for equity trading. MiFID is not yet in force.
[5] Cited in the OFT's report, *London Stock Exchange Issuer Fees*, March 2004 (OFT 713) (Issuer Fees Report), para. 3.51.

sellers, the lower the difference or 'spread' between the two prices is likely to be. Liquidity, principally measured in terms of the bid-offer spread (the narrower the spread, the higher the liquidity), may also be understood as the ability for an asset to be bought or sold immediately, without the sale significantly affecting the prevailing market price.

21. By offering a centralised 'market making' forum for equities trading, in which traders meet, the stock exchange model generates network externalities – it both harnesses trading demand, and hence liquidity, and stimulates it further. Moreover, as the exchange is a two-sided business, these externalities extend across both its issuer and trader customers, whereby each customer class benefits from the other. In other words: the more investors with capital to invest in shares trade on the exchange, the more issuers will be attracted to have their shares admitted, and the wider the corporate pool of equities available, the more attractive the exchange is to investors.[6]

Liquidity and equities trading costs

22. Liquidity – expressed in the size of spread – is also referred to as an 'implicit' trading cost. In the UK, the FSA obliges traders (brokers, dealers) to secure 'best execution' for trades on their client's behalf – i.e., the lowest buy price or highest sell price (referred to as the best execution mandate, below).[7] The network externality described above dictates that an illiquid market will result in unfavourable terms relative to a more liquid market, due to insufficient supply or demand for the shares, and may mean that a buy/sell order simply cannot be matched (i.e., there is no corresponding buyer or seller).

23. In all but the smallest value transactions, implicit trading costs (i.e., the amount of the spread on any given trade) will dwarf explicit trading costs by a ratio of 10:1

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[6] Issuer Fees Report, paras. 2.4-2.6. For issuers, the concentration of trading demand and thus liquidity in a single exchange venue translates into lower costs of capital. For the trading and investor community, the exchange platform provides an open and transparent price discovery mechanism reflecting aggregate supply and demand for a equity. Information asymmetries are avoided due to reporting requirements of exchange-listed companies. (In the UK, due to the relatively large volumes of off-exchange trading, the FSA also requires reporting of off-exchange trades to an RIE, either the LSE or virt-X). Narrow spread further benefits traders by (i) reducing the risk of being unable to execute large orders and (ii) providing profit opportunities deriving from small variations in price.

[7] Under the current best execution rules, firms must (a) take reasonable care to ascertain the price which is the best available for the customer in the relevant market at the time for transactions of the kind and size concerned; and (b) deal at a price which is no less advantageous, unless it is clearly in the customer's interests to do otherwise. MiFID will also require best execution in all EU Member States when it comes into force, although many third parties have noted that this is a term whose definition is in flux. Article 21 of the MiFID interprets best execution as encompassing many different elements including, *inter alia*, price, speed and likelihood of execution and settlement.

or more. Explicit trading costs include the trading fee, set by the exchange, and fees relating to post-trade services – namely settlement and clearing.

Liquidity and geographic dimensions of equities trading

24. Investor awareness and demand for company stock, and hence liquidity, has historically developed along national lines. One may speak – in aggregate – of liquidity for UK stocks being concentrated in the LSE. Similar correlations exist between domestic stocks and their exchanges elsewhere. To date, EU integration and globalisation has not undermined the historical, legal and cultural factors behind the nationalised character of liquidity for equities (although the picture is different for other securities not at issue here, such as Eurobonds).

Market definition

Listing

25. Exchanges provide a listing service to companies that seek publicly to raise capital from investors by listing on the exchange, generating capital for the issuer from the initial public offering (IPO) or subsequent share issues, and facilitating trading in the equities issued. Market inquiries point to a relevant distinction between primary listings (i.e., a company's initial listing, or IPO venue) and any subsequent or secondary listings.

26. Primary listings are usually made on a firm's 'home market' as, for the most part, this is where investor awareness of and interest in that company's stock, and hence liquidity in it, resides.[8] (This is true of UK and German companies.) A primary listing on the domestic market may be inappropriate only where the latter is generally illiquid (e.g., non-transparent, underdeveloped).

27. In respect of primary listings for UK equity issuers, and for the purposes of its FSMA inquiry into the LSE's issuer fees, the OFT defined a UK-wide market for issuer services for the issuing and public trading of UK equity (or, alternatively, exchange services to issuers of UK equity).[9] DBAG does not contest this definition, which third party inquiries in this case tend to confirm.

28. In respect of secondary listing for UK equity issuers, the weight of evidence in this case suggests that secondary listings, such as on the FWB, may best be regarded as complements to primary listings, allowing companies to seek new pools of capital. In any event, evidence suggests that UK companies seeking an additional listing primarily look to the U.S., seeking a listing on NYSE or quotation on NASDAQ, rather than on the FWB or other European markets.

[8] Issuer Fees Report, para. 3.39.
[9] Issuer Fees Report, para. 3.27 and para. 3.33.

29. In the absence of material competition between the parties in respect of either primary or secondary listings (see further below), the issue of market definition can be left open.

On-exchange trading services for equities

Product frame of reference

30. At present, both LSE and virt-X have RIE status. As such, there are two 'on-exchange' execution venues for equities trading in the UK: the LSE and virt-X. However, as noted, virtually all liquidity for equities in the UK resides with the LSE, leaving virt-X with only a negligible share of on-exchange trading of equities in the UK (around 1 per cent). Virt-X's potential as a post-merger constraint is discussed further below.

31. Trade execution of equities in the UK is also achievable by a variety of means aside from via an RIE. These other methods and venues, which also exist in other jurisdictions to varying degrees, are collectively referred to here as 'off-exchange.'

- *Alternative trading platforms/systems (ATPs/ATSs)* are not regulated stock exchanges, but operate an automated system that pools buying and selling interests (according to the system operator's rules) in a way that forms, or results in, an irrevocable contract.[10] ATSs that execute trades require post-trade services.

- *Bilateral trading* (sometimes known as 'over the counter' or 'OTC' trading) occurs between investors on a bilateral basis without public access to trade execution (i.e., it is only open to the two parties involved) but with price discovery (i.e., the prices at which trades occur are published).[11] OTC trades do not need clearing[12] but do require settlement (through Crest in the UK).

- *Internalisation* occurs where trading parties, typically financial institutions, match internally their own buy and sell orders and/or those of their clients.[13] Internalised trades need not be cleared and often do not require settlement.[14]

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[10] Examples of systems used by ATSs include: bulletin boards (e.g., TradeCross, WETRA); crossing systems (e.g., E-Crossnet, POSIT, Liquidnet); quote-driven market-maker systems (e.g., CATS-OS, Tradelink); and order-driven systems (e.g., Instinet).
[11] The UK, in contrast for example with Germany and France, has full post-trade transparency, meaning that all trades conducted OTC have to be reported. As noted above, the LSE charges a fee for this service.
[12] Although they may be cleared in order to capitalise on any network efficiencies available.
[13] The abovementioned post-trade transparency in the UK also applies to trades that have been internalised. Article 27 of MiFID requires transparency for internalised trades.
[14] The financial institutions that are internalising may be able to carry out some in-house netting of buy and sell orders, thus reducing the number of transactions that need to be cleared and/or settled.

32. In the Issuer Fees Report, the OFT concluded that customers would not switch between off-exchange and on-exchange methods of trading in response to relative price movements in the trading fees set by the LSE. The weight of evidence in this inquiry points to a similar conclusion.

33. Traders of equities in the UK already utilise other trading methods – to the extent permitted by the 'best execution' rule for clients – because their margins will tend to be higher off-exchange. As trading fees are a very small proportion of trading costs (implicit and explicit), substitution between execution methods will tend *not* to be driven by trading fee levels – what is in effect a small increase to a small proportion of cost. Rather, the on-exchange vs. off-exchange choice for traders is driven by factors that are beyond the direct control of the exchange. Accordingly, these other methods appear to have little if any disciplinary effect upon exchange trading fees.[15]

- ATSs are seen as an effective substitute only where stock-specific liquidity is inherently limited, i.e., for small cap stocks traded in low volumes. The relative illiquidity implies similarly high implicit trading costs for such equities on both the LSE and ATSs, making each an alternative (and which also renders LSE fees and other explicit costs proportionately a more significant differentiator).

- Internalised trades tend to be large block trades of blue-chip stocks whereas exchange trading tends to be smaller trades and arbitrage. The purpose of off-exchange trading is to take advantage of the market spread in the price. If a bank can match a buy and sell bid from its own customers then the market spread is a source of profit for the bank.

34. In sum, the various off-exchange alternatives to exchange-based (RIE) trading do not at this stage appear to pose sufficient pricing constraint on LSE fee levels to support an expansion of the relevant frame of reference. The product frame of reference used to inform the competitive assessment below is therefore the provision of on-exchange trading services for equities in the UK.

Geographic frame of reference

35. As noted, liquidity considerations have meant that UK (and other) customers currently rely almost exclusively on the LSE for on-exchange trading of equities in the UK (and, correspondingly, on DBAG in relation to equities trading in Germany). However, the key evidence in this case relates to competition for neither party's 'natural' equities base – namely Dutch equities. A discussion of how to characterize the interplay between Euronext, LSE and DBAG in relation to Dutch

[15] For the substantial proportion of traders' business that the best execution rule *does* oblige them to perform on-exchange, traders do appear to exhibit sensitivity to trading fee levels.

equities – either as supply-side substitution implying a wider-than-national geographic frame of reference, or as 'entry' into a 'national market' – does not assist the competition analysis in this case. Accordingly, this evidence, and its probative value for the merger assessment, is addressed directly in the horizontal assessment, below.

Post-trade services

36. Across the EU generally, post-trade clearing and settlement of trades between domestic counterparties has developed along national lines. Providers of such services are typically clearing houses, a national CSD, or in the case of cross-border trades, an international central securities depository (ICSD) or global custodian bank. The European Commission is currently leading a debate on the future structure of clearing and settlement arrangements at the national and cross-border level in the EU.[16] For present purposes, regulatory or private-sector driven structural changes are insufficiently certain in structure, scope and timeliness to affect the counterfactual in this case. Accordingly, analysis of the merger's impact on post-trade services will be with reference to the pre-merger *status quo* in the UK.

Clearing

37. Clearing services, interposed between trade execution and settlement, comprise the process of transmitting, reconciling and confirming payment orders, or security transfer orders, prior to settlement and the establishment of final position for settlement. Such services are complements to both trading and settlement.

38. Of the functions associated with the term clearing, two have assumed particular relevance for this inquiry.

- Central counterparty (CCP) function allows the CCP to act as the counterparty for both buyer and seller, providing a guarantee function in respect of default by the other party. This provides anonymity between buyers and sellers (because each party concludes the trade with the CCP itself) and lowers overall or 'systemic' market risk of default.

- Netting allows all buy/sell orders between the same parties to be off-set: this reduces the number of trades requiring settlement and thus lowers the total cost of settlement, including credit risk exposure, margin requirements, and liquidity needs.

[16] See Communication from the European Commission on clearing and settlement in the European Union, COM(2004) 312 final. The earlier Giovannini Group Reports (Brussels November 2001, April 2003) explicitly identify access to clearing and settlement as a strategic bottleneck to enable efficient cross-border trades.

39. As with trading and listing, network externalities play a key role at the clearing level: in this case by lowering costs, rather than raising liquidity. The clearing guarantee/CCP function has the effect of lowering overall market risk of default, saving users cost of margin (exposure) requirements. The netting function reduces the number of settlements, which are charged on a per-unit basis. Accordingly, the CCP and netting functions tend to concentrate in a single provider.

40. In relation to the UK, the LSE determines which clearing house will provide services in respect of equities trades executed via the LSE. Its current and historical provider is LCH, which acts as CCP, and offers netting to customers, albeit via an outsourcing arrangement with the UK's CSD, Crest.

41. CCP and netting are distinct functions on the demand side, and Crest is currently the supplier of netting to LCH in the UK. Accordingly, the relevant frames of reference for present purposes are the respective provision of CCP and netting services for equities traded on-exchange in the UK.

Settlement

42. Settlement entails the transfer of ownership of the relevant security in return for payment. This function is carried out in the UK by Crest (and in other countries by the relevant national CSD; if the trade is cross-border, an intermediary provider will have a relationship with Crest). Settlement is a complement to both trading and clearing services.

43. When a trade takes place the CSD will transfer funds from the buyer's account to the seller's account and, simultaneously, alter its database of ownership to transfer ownership from seller to buyer.

44. The CSD holds a register of the ownership of all securities listed on the LSE. The logic of having a single registry at the national level explains why Crest (and in parallel, national CSDs in other countries) is under UK law the sole provider of this function.

45. For present purposes, the relevant frame of reference is the provision of settlement services for equities traded on-exchange in the UK.

Horizontal analysis

Listing competition

46. The Issuer Fees Report concluded that '[w]hile there is a small class of IPO's for which the LSE competes with other overseas exchanges (typically IPOs of non-UK

based companies), for most UK issuers, the LSE is the obvious exchange of choice ... in practice, most companies issue in their domestic markets'.[17]

47. As regards primary listing, third party inquiries in this case confirm liquidity as the key driver of this 'home bias'; relative levels of listing fees across exchanges do not appear significant. While some speculative concerns were raised by third parties in this case, the weight of evidence strongly suggests that the merger will have no material impact on competition to be the primary listing venue for UK-based issuers.

- The OFT is unaware of any examples of: (i) the parties competing to be the primary listing venue for a UK-based company; or (ii) a switch of primary listing by a UK customer between the parties.

- The fact that a firm might have a dual-listing on the LSE and a DBAG market does not indicate competition. Evidence in this case suggests that the principal purpose of secondary listing, as noted, is access to capital from a wider, and seemingly complementary, pool of investors. Again, liquidity is the decisive factor, and competitive variables directly within the control of the exchange do not appear significant. As a result, customers listing on both the FWB and the LSE may well regard the parties as complements rather than substitutes.

- Even if the parties are substitutes for certain customers, the overall overlap is minimal: only 10 out of 457 of the LSE's non-UK listed companies have a primary listing in Germany.

- There may be a degree of competition between the parties to be the primary listing venue in respect of certain third-country (e.g., Indian, Chinese, Russian) companies. However, the loss of such competition, to the extent it has a UK nexus, appears to be insubstantial: again, the primary dynamic of such competition appears to be between the LSE and U.S. venues (NYSE, NASDAQ).

48. A similar conclusion applies to secondary listing for the following reasons.

- As explained above, to the extent that secondary listing is considered by UK-listed firms, that does not indicate competition for listings between the LSE and DBAG. Secondary listing is mainly undertaken by blue chip companies which may consider listing on one or more non-European exchanges depending on their sales, profile, location of analysts, and relevant pools of

[17] Issuer Fees Report, para. 3.39. This Report found that this domestic 'bias' in listings gave the LSE market power over the issuing of UK equity: Issuer's Fees Report, para. 3.53.

capital. The most prevalent incidence of secondary listing competition is between the LSE and U.S. venues (NYSE and NASDAQ).

- There may be a degree of competition between the parties to be the secondary listing venue in respect of certain third-country (e.g., Indian, Chinese, Russian) companies. However, the loss of such competition, to the extent it has a UK nexus, appears to be insubstantial: again, the primary dynamic of such competition appears to be between the LSE and U.S. venues (NYSE, NASDAQ).

49. Finally, in relation to both primary and secondary listings, it has been suggested that the merger raises concerns insofar as it could lead to a larger pool of liquidity, drawing liquidity away from rivals. This would result in the larger exchange attracting more listings at the expense of the remaining independent exchanges. However, the network externalities of liquidity already present undermine any conclusion that pre-merger market power of the LSE over UK issuers would be enhanced through the merger.[18]

50. Accordingly, the evidence available to the OFT reveals no significant merger effect in relation to UK issuer customers.

On-exchange trading services competition

Prospects of a liquidity 'shift'

51. There is evidence that competition between exchanges to be the venue for equities trading in a given country does occur. However, such competition – when it occurs – tends to be episodic: this is because the network externalities of liquidity described above dictate that liquidity in a given equity will rarely if ever remain 'split' across more than one venue.[19] In other words, following the emergence of a new competitor, liquidity tends to shift to it or – perhaps because of a competitive response from the incumbent – remains on the incumbent exchange.

52. In these circumstances, instances of competitive interaction can be identified on (a) the few occasions when liquidity has actually shifted, and also (b) on those occasions when the rival exchange poses a sufficiently credible threat to liquidity that the incumbent exchange responds. In these latter cases, although no actual

[18] DBAG has asked the OFT to clarify that 'there is an important public law distinction in Germany in that, as regards companies' requesting the listing of their securities on the Official Market and Regulated Market, DBAG merely operates the exchange – with the FWB alone deciding on the admission or listing of such securities'. DBAG also submits that '[it] does not have within its control the key competitive parameter – prices – given the role of the independent Exchange Council in determining listing fees'.

[19] As a matter of theory, it is possible that a new exchange might be able to capture liquidity for a given class of equity (e.g., technology stocks).

liquidity shift is discernible, it is the rivalry to win/retain liquidity that prompted a change in commercial conduct by the incumbent exchange. For example, the following episodes of exchange competition are identifiable.

- The launch of Tradepoint, sponsored by a number of investment banks and brokers in the UK, as a UK RIE. Notwithstanding substantial user backing, Tradepoint did not succeed in attracting liquidity from the LSE. This is said to be because the LSE responded to the introduction of Tradepoint by introducing its SETS electronic order-book. Tradepoint was acquired by virt-X, and now is primary venue for trading of Swiss blue-chip equities.

- Liquidity in Bund derivatives shifted from LIFFE to Eurex (DBAG's derivatives exchange[20]) as the latter operated electronic trading at a time when LIFFE used floor trading.

- The launch of NASDAQ Deutschland in 2003, an electronic trading platform which achieved a share of equities trading in German of less than one per cent before it exited after five months.

- The launch of Eurex's US Futures Exchange in 2004 which, despite revenue commission agreements arranged with several large brokerage firms and a further incentive programme introduced by Eurex five months after launch, has only managed to achieve a share of 1.7 per cent.

- The launch of DBAG 'Xetra Dutch Stars' (Dutch Stars) in November 2003 and the LSE's Dutch trading service (EuroSets), which ultimately went live in March 2004, which both overlap in coverage with Euronext Amsterdam. Both new services are still in operation.

53. Although a handful of historical examples of a shift in liquidity exist – mainly outside the equities field – these appear to have derived from transformational events, principally the technology shift from floor-based (open outcry) to electronic automated trading. Where such transformational events were not present, liquidity tended not to shift. In this respect, both parties already operate electronic order books for trading (i.e., DBAG's Xetra; LSE's SETS). As such, the above examples alone of exchange competition leading to liquidity shifts provide a limited evidence base for concluding that the merger between DBAG and the LSE would preclude potential competition in the form of a liquidity shift from one to the other.

54. Similarly, although both parties quote a number of shares listed on other exchanges (i.e., they are a venue for trading that stock), liquidity for any given

[20] The Eurex derivatives exchange is distinct from Eurex Clearing (which is discussed further below).

share will reside with the one party (i.e., UK stocks on the LSE; German stocks on DBAG). Accordingly, there is no basis for concluding that this dynamic may materially affect pricing and other variables set by each exchange, and loss of this 'competition' appears insubstantial.

55. In light of the above, DBAG argues that any competition between the parties is immaterial as any changes in the LSE's or DBAG's trading fees, or variables directly controlled by the exchange, are wholly negligible in terms of total trading costs (implicit and explicit). Hence, it is said that they would not prompt a liquidity shift nor make credible a threat to liquidity located on an incumbent exchange. However, the OFT's investigation has indicated that, when coupled with customer support, substantial reductions in trading fees might pose a sufficiently credible threat to liquidity that the incumbent exchange might respond.

- First, liquidity notwithstanding, the LSE's trading and broker customers may be quite sensitive to trading fee levels.[21] If best-execution requires that a trade take place on-exchange (explained above), explicit trading costs, including the trading fee, assume proportionately greater significance, because while the client investor is interested in overall (implicit + explicit) trading costs, the trader's margin is directly impacted by the level of explicit trading costs alone. This exposure to explicit trading costs may explain the relatively intense degree of debate and interaction between users (traders, brokers) and European exchanges as to the level of trading fees, among other explicit costs.

- Second, an important customer strategy in response to dissatisfaction with trading fees may be to encourage another exchange to offer a rival platform to trade equities traded on the incumbent exchange (this may in a loose sense be described as 'sponsoring entry'). This is possible because a large number of trades are conducted by a relatively small circle of internationally active investment banks.

56. In this connection, this decision now examines the most notable recent example of competitive entry: Dutch equities trading.

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[21] Liquidity requirements may oblige traders to trade on-exchange to fulfil the best execution mandate. In turn, this would suggest that a stock exchange with liquidity for a portfolio of shares has some market power (or at least a high margin of discretion) in its ability to set trading fees relating to that portfolio, absent regulatory constraints. However, profit-maximisation by an exchange in relation to trading fees appears to take into account a certain demand elasticity: liquidity is stimulated (i.e., trading volumes increase) as explicit trading costs (including trading fees and/or post-trade charges) fall. The evidence available to the OFT is far from clear as to degree: some third parties suggest that exchanges are still exploring the issue of optimal fee-setting in relation to elasticity (as many exchanges have not been private for-profit organisations for very long; as noted, the LSE went public only in 2001). This relationship appears to be most evident in relation to low-margin 'arbitrage' trading (automated high-volume low-margin trades).

Lessons from recent competition in Dutch equities

57. During 2002-2003, traders in Dutch equities (both in the Netherlands and internationally-active players based in London and other financial centres) became increasingly dissatisfied with what they perceived as excessively high trading fees charged by Euronext Amsterdam, as well as sub-optimal post-trade infrastructure. A group of customers turned to DBAG and the LSE. While the OFT cannot rule out that customers also turned to other exchanges, the available evidence indicates that only the LSE and DBAG actually responded with a concrete proposition, as each began to offer an alternative exchange venue to trade Dutch blue-chip (AEX 25) equities – DBAG's Dutch Stars and LSE's EuroSets.[22] To date, both DBAG and Euronext continue to offer these services.

58. LSE's fees undercut Euronext by a large degree; estimates put to us were around 40-50 per cent lower. Third parties attribute the attraction of the LSE proposition (relative to DBAG's) not to this fee reduction alone, but to the fact that EuroSets allows trading participants to use the incumbent post-trade infrastructure (provided by Clearnet and Euroclear). This had two key consequences: first, it required no investment in migration costs to another post-trade infrastructure; second, it overcame the network externalities of post-trading, allowing fungibility – and in particular cross-netting – between trades on the LSE and Euronext.

59. The response by the incumbent, Euronext, is instructive: it swiftly reduced its trading fees by up to 30 per cent through two discount initiatives. Notwithstanding LSE's relative post-trade advantages over DBAG, both LSE's and DBAG's respective shares of trading have generally not exceeded 1-2 per cent since launch. DBAG submits that this demonstrates that liquidity did not shift, even under the unusual and favourable conditions present in the Dutch example in relation to the LSE (substantial customer dissatisfaction, aggressive LSE pricing, post-trade commonality). However, this begs the question of whether liquidity would have shifted absent Euronext's substantial price response. Indeed, the speed with which Euronext reacted and the level of its discount tends to support the conclusion that it feared a liquidity shift, and that it sought to neutralise, from the outset, what was otherwise a highly credible threat.

60. The medium and longer term effects and lessons of Dutch equities competition are unclear. DBAG, in essence, argues that it is simply the latest in a series of failed liquidity shifts, and that this exception merely reinforces the general rule. More specifically, it argues that the Dutch episode, together with the other episodes of competition above, underline the difficulty of attracting trading flows away from the incumbent exchange, confirming that such 'competition' is unlikely to be pursued in the future (i.e., the 'stickiness' of liquidity is a strategic barrier to

[22] Dutch shares could thus be traded on the Regulated Unofficial Market in Germany and on the LSE's Main Market.

entry). It further states that it has at no time had any plans to compete with the LSE in the UK. In other words, while there has been evidence of episodic competition between exchanges, DBAG argues that the lesson of the Dutch experience is that it will not occur again.

61. However, several factors suggest caution in interpreting the totality of the evidence of episodic competition in this way.

- Both DBAG and LSE are only recently demutualised (since 2001), and Euronext is only a recently a merged entity of various national exchanges; accordingly, the individual profit- and revenue-maximising strategies of the three principal EU exchanges may still be at a relatively formative stage, and may include growth by expansion outside their home 'market'.

- As suggested, by focusing merely on the limited timespan since the three exchanges have been public companies, the actions of Dutch traders, LSE and Euronext are consistent with the notion that a liquidity shift is a real threat, absent a major reaction by the incumbent.

- Third party comment tends overall to favour the proposition that the Dutch equities example may herald a new dimension of actual and potential competition between European exchanges – including both DBAG and the LSE – and customers appear to value this competition (though some also support exchange consolidation).

- Euronext Amsterdam's fees remain below the level prior to launch of the LSE's EuroSets offering, though there are questions as to the interpretation of this evidence.

- Moreover, the Dutch example may still provoke 'retaliatory' responses. In March 2004, Euronext announced that it intended to aggressively enter the UK market for the quoting of UK securities, by setting up a rival platform to the LSE. Euronext has recently indicated that it is not currently pursuing this project.[23]

In these circumstances, the historic episodes of competition seen thus far may not be a good guide to evolving competitive dynamics in the sector. Assessment of the evidence should therefore be approached with caution.

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[23] '*Euronext has dropped plans to set up a service to trade UK shares to rival the London Stock Exchange, the bourse Euronext wants to buy. 'This project is not written in our budget for next year because even with a very optimistic vision, you don't find break even before a sizeable number of years,' Jean Francois Theodore, Euronext's chief executive, told a news conference to mark the exchange's annual results on Tuesday. Euronext's original plan, unveiled before it declared its interest in buying the LSE, was a tit-for-tat move in response to the LSE's decision to begin trading Dutch shares in competition with the Amsterdam bourse, a core Euronext market*.' See *Euronext drops plans for UK share trading service*, Reuters (Paris), 15 March 2005.

62. After reviewing the available evidence, the OFT believes, on balance, that the parties are potential competitors. The fact that price cuts have persisted in the Netherlands suggests that, even without a shift in liquidity, DBAG, the LSE and Euronext are potential competitors, with the threat of entry continuing to exert downward pressure on prices (i.e., trading fee levels). However, any realistic prospect of a substantial lessening of competition in respect of DBAG's proposed acquisition of the LSE depends not merely on this proposition, but also on the proposition that the parties are important potential competitors, and that elimination of the competitive dynamic between them may be regarded as a material reduction in the overall degree of competitive constraint faced by the LSE. This requires an evaluation of other constraints cited by DBAG.

DBAG as a constraint on LSE, relative to other constraints

63. DBAG argues that to the extent it is regarded as a potential rival to the LSE or a potential 'UK entrant', it is no more significant than various other alternatives (discussed below) to which the sophisticated customers at issue could turn.

- *virt-X.* As a RIE, virt-X is already operating 'in' the UK albeit with a Swiss equities focus. UK equities liquidity could in theory shift to it if customers were willing to do so. Indeed, as noted above, virt-X is the successor to Tradepoint, a failed attempt by a consortium of UK customers to shift liquidity from, and thus discipline, the LSE. It has been put to us that, because the LSE responded at the time with a switch to an electronic rule book, this shift did not occur. While the OFT appreciates that virt-X may well be an alternative that customers could deploy, no third party cited it as a credible potential alternative.

- *U.S. players.* The overall evidence calls into question both NYSE and NASDAQ as constraints.[24] Third parties identified two principal issues. First, time zone differences mean that many of these players would have a large incremental cost to provide a trading service due to the need to hire additional staff to cover the extended opening times for the periods over which the UK and their domestic country's trading times do not overlap (although outsourcing may cover this). Second, the NYSE, being a floor-based trading venue, may lack the tools and know-how to operate an electronic order book, which would be a prerequisite in order to compete with the LSE.

- *Other European exchanges.* In theory other European exchanges, such as those in Italy or Spain, could attempt to enter the UK. The OFT has no evidence to support this idea, however. Third parties do not believe that entry is really credible other than by either DBAG or Euronext, the entrants

[24] NASDAQ is an ATS rather than an exchange equivalent to an RIE.

in the Dutch example. While Euronext appears to be a credible alternative to DBAG, it cannot be excluded that the threat posed by DBAG is sufficient to materially affect the LSE's competitive conduct at present and in the foreseeable future.[25]

- *Off-exchange methods of trading.* For the reasons given above, the evidence does not permit the conclusion that these methods are a sufficient constraint as to offset any loss of competition caused by the merger.

Conclusion

64. Third parties have raised significant concerns as to the merger's potential to reduce competition at the trading level in the UK.

65. On the supply side, there is nothing to prevent DBAG from competing with the LSE beyond Dutch equities: it could offer an integrated solution using its own post-trade system (as with Dutch equities) or, given the apparent significance of post-trade fungibility, could potentially negotiate with LCH and Crest to offer UK customers the same post-trade infrastructure but with a more attractive trading proposition. But the Dutch example tends to suggest that the relevant customers – many of whom are apparently active LSE customers – considered their prime alternatives to Euronext to be LSE and DBAG. As such, the merger may reduce the principal credible alternatives to the LSE from two (DBAG and Euronext) to one. A reduction in the number of important European exchanges from three to two will further limit, perhaps to a critical level where the constraint is less credible, the levels of competition in the market for on-exchange trading services for equities in the United Kingdom. This loss is exacerbated by the fact that the evidence received by the OFT suggests that other potential constraints (other exchanges, off-exchange) are questionable.

66. Any entry depends less on supply-side considerations, however, than on customer willingness to divert volume to the new platform, i.e.. shift a critical mass of liquidity. It could be argued that customers thus have various levers at their disposal to threaten credibly to discipline the incumbent exchange, including the providers cited above. To the extent customer concentration might be characterised as 'countervailing buyer power', this might in turn be said to depend critically on customers' ability to leverage these two particular alternatives to the LSE.

67. From the LSE's perspective, its price-setting and other decision-making on competitive variables could be quite sensitive – perhaps increasingly so – to potential incursions by DBAG or Euronext into its UK trading business. To the

[25] As discussed further below, it is possible that the merger may affect post-trade arrangements in the UK. This might itself impact on the ease with which a new entrant could rival an

extent LSE may or would engage in pre-emptive defensive action (e.g., limit pricing) on competitive variables due to the perceived threat from DBAG, the merger will eliminate this potential threat.

68. The overall record of evidence exhibits substantial ambiguity, reflected by the divided opinions of DBAG on the one hand, and many customers on the other. While DBAG's arguments have merit, on balance and in light of all the evidence, the OFT believes there to be a realistic prospect that the merger may eliminate important potential competition between the parties in respect of on-exchange trading of UK equities.

Vertical analysis

69. As noted above, network externalities at the clearing level and the centralised nature of settlement functions in the national CSD may have ramifications for competition at the trading level, because these post-trade services are close complements to trading. In particular, the Dutch example suggests that a rival may need to offer post-trade fungibility as a necessary (if not sufficient) condition to being a credible alternative to the incumbent exchange.

70. A variety of third parties have put this point to the OFT, and have raised concerns that DBAG will internalise a range of post-trade functions not only for the profit gains that will accrue to it at these levels, but also for the strategic benefit of raising rivals' costs, or barriers to entry, at the trading level.

Internalisation of CCP services for equities traded on exchange

71. Currently, the LSE is independent of any economic interest in providers of clearing services. As clearing is a close complement to trading services, the LSE currently has an incentive to choose the lowest-cost provider of clearing services (notably CCP and netting functions). In other words, because economic theory predicts that demand for a product rises as the price of its complement falls, lower clearing costs should stimulate demand for trading services and hence will have a positive impact on LSE trading revenues. (This is consistent with third party contentions in this case that total 'frictional' (explicit) costs of trading must be lowered to increase trading.)

72. The LSE's recent tender of the LCH contract may be regarded as introducing contestability for CCP services for UK equities as its preferred method of placing downward pressure on price. During the course of the LCH merger with Clearnet in 2003,[26] the LSE threatened to move its clearing business away from LCH, and to this end entered into discussions with both Eurex Clearing AG (Eurex Clearing)

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incumbent exchange in the UK.

[26] See OFT decision in *Banque Centrale de Compensation SA/London Clearing House Ltd* decision dated 11 August 2003.

and the US Depository Trust and Clearing Corporation. Although the contract remained with LCH, this competitive tendering process resulted in a 25 per cent reduction in the fees charged by LCH.

Third party concerns

73. Third parties have raised concerns as to the possible effects of a merger between LSE and DBAG on the CCP function for equities traded on-exchange in the UK and in turn on trading.[27] The main concern is that DBAG has an incentive to internalise CCP revenues and profits, i.e., that it would force users to clear via its subsidiary, Eurex Clearing (in which it has a 50 per cent legal, but 85 per cent economic, interest[28]) thus replacing LCH and eliminating contestability that may be said to exist in UK clearing. Support for these arguments is drawn from the fact that DBAG has publicly stated its intention to provide an alternative to LCH's clearing guarantee at a 50 per cent lower price and to renew LCH's contract for only one year.

74. If DBAG becomes the incumbent exchange operator, third party concerns form the basis for a number of propositions.

- DBAG would have no incentive to re-tender the contract in the future. By foreclosing future tendering, the benefits of competition (demonstrated by the last tender) would be eliminated.

- Even assuming re-tendering (DBAG argues that it will have the same incentive as LSE to keep clearing prices low to stimulate trading), the merger will alter bidding dynamics: rivals may not bid (or not credibly) as they anticipate the real or perceived bias of the exchange towards Eurex Clearing.

- The corporate governance of Eurex Clearing (as a 'for profit' organisation) will not represent and/or safeguard user interests in the way that LCH currently does (user governed with a corporate purpose and rules that focus on users' as well as shareholders' interests, including a reverse invoice to users beyond a given profit cap).

75. Third parties argue that all of the above will allow DBAG to raise CCP prices to the monopoly level or fail to cut them at the rate LCH would have, to the

[27] Parallel concerns exist in relation to netting, addressed below.
[28] Eurex Clearing is a 50/50 joint venture with the Swiss Exchange (SWX). DBAG and SWX hold 85 per cent and 15 per cent economic interests, respectively.

detriment of users.[29] They are further concerned that DBAG's vertically-integrated structure and potential lack of transparency (in terms of its pricing for trading, clearing and settlement[30]) will render it difficult for users to detect whether the prices charged for services reflect the true cost of provision (and that cross subsidisation between services is not taking place[31]). Furthermore, users state that, even if they become aware of such conduct, they would be unable to resist or discipline such a change by not clearing at all or by using an alternate clearing house (due to the network externalities inherent in CCP and netting functions).

76. In addition, third parties argue that because new entry to the provision of on-exchange equity trading services is considerably easier when the rival is using the same post-trade structure as the incumbent exchange (because liquidity can thus switch more easily), DBAG may be able to make such future potential competition less likely (and so mute any competitive threat from potential entry) by denying a rival exchange access to Eurex Clearing.

DBAG's response

77. DBAG disputes the existence of competition concerns in respect of the CCP function for the following primary reasons.

- It has no over-arching strategic interest in clearing. It is interested in providing the clearing services for LSE to the extent that, by doing so, it believes that it can lower costs of trading, and thus stimulate trading. In this context, DBAG questions the benefits associated with so-called 'contestability', given that it believes that it can undercut current LCH fees by 50 per cent on a profitable basis.

- Implementation of DBAG's clearing proposal is wholly dependent upon extensive customer consultation and the approval of various bodies – including the post-merger LSE board – with significant customer representation. Furthermore, governance arrangements proposed for the merged entity will allow for significant leverage by customer representatives, including the possibility of seeking future re-tenders of the clearing contract.

[29] Third parties also fear the imposition of certain conditions, such as rendering use of a CCP obligatory (sometimes known as 'mandatory netting') which may result in the highest possible volume of cleared transactions and hence the highest possible monopoly price in clearing. The introduction of mandatory netting would necessitate a change in the LSE rule book. This would require regulatory approval from the FSA and the OFT. As such it is unlikely that DBAG would be able to introduce such a measure without further *ex ante* scrutiny.
[30] DBAG un-bundled its fee structure in January 2005 as a result of user demand.
[31] Third parties allege that cross subsidisation has already occurred in Germany where tariffs for trading have been reduced whereas tariffs for clearing have increased roughly by the same proportion at the same time. DBAG denies this, arguing that changes in the levels of fees at the two levels were attributable to changes in relative costs.

- DBAG's vertically integrated structure (in Germany) does not reduce its incentives to choose the lowest cost clearing provider. On the contrary, it increases them, because the gains from minimising clearing costs in the form of higher trading revenues are accrued by one and the same entity. The OFT notes that certain strands of standard economic theory would indeed suggest this.[32]

- SWX's 50 per cent legal and 15 per cent economic stake in Eurex Clearing would inhibit its ability or incentive to engage in any below cost pricing or cross-subsidisation, since SWX would suffer a profit loss from Eurex Clearing without deriving any offsetting competitive or economic benefit.

78. DBAG further argues that, even if it did internalise clearing functions in the way alleged, such conduct would not result in any consumer harm.

- As regards the benefits of contestability, arguments relating to anti-competitive effects rest on the notion that contestability delivers price reductions. Since DBAG is offering to deliver 50 per cent price reductions on fees for the part of the clearing services carried out by LCH (i.e., CCP only), it says that these benefits are overstated. The OFT notes that while this might be true in the first year of the contract switch to Eurex Clearing, any further price pressure exerted by contestability of the contract would be lost.

- Governance arrangements may to some degree protect users. But the evidence on this point is uncertain.

- To the extent that this amounts to a foreclosure argument, DBAG points out that LCH is unlikely to exit the provision of clearing services solely as a result of loss of the LSE CCP contract. This contract accounts for only a small proportion of LCH's total UK revenues from clearing services.

- Third-party concerns suggesting that DBAG might be able to raise barriers to entry to the equity trading level by preventing rival exchanges from using the same downstream clearing system are said to be without merit. DBAG argues that rival exchanges would always be able to turn to LCH, which would still be active in London. While this may be true, it does not account for the network externalities present at the clearing level which may make users unwilling to split equity trading between two exchanges utilising different post-trade systems.

[32] In particular, standard Chicago school economic theory predicts a lower post-merger price, as the profit-maximising price of a single monopoly provider of complements will be lower that the sum of the individual profit-maximising prices of two separate monopoly providers of each respective complement. This is sometimes referred to as the Cournot effect, or elimination of double marginalisation.

Conclusion

79. From the evidence available to it, the OFT believes that DBAG's arguments may have merit, but are insufficient to dispel the evidence received and the substantial weight of third party concern at this stage of the investigation.

80. DBAG appears to have the ability to install Eurex Clearing as the LSE's clearing house post-merger; given the network externalities in the CCP function, customers may be unable or unwilling to resist this, notwithstanding user governance. DBAG may also have the incentive to do so, as profit streams at the clearing level would accrue to it. For similar reasons, DBAG may have the ability and incentive to internalise this function in the long-run, rather than put the function out to tender and preserve contestability that appears to exist pre-merger. In terms of its pricing incentives, it is at present unclear whether this would result in higher prices than absent the merger (i.e., a loss of consumer welfare) but the evidence raises a realistic prospect of it so doing.

81. The analysis is complicated by the argument as to DBAG's strategic incentives: by internalising critical post-trade functions that have network externalities (notably CCP and netting functions), and refusing access to rivals (entirely, or on competitive terms), it will raise the costs of rivals seeking to compete at the trading level in the UK. Indeed, it may discourage any such 'entry' as customers would be unwilling to divert liquidity to the rival.

82. On the basis of the available evidence, the OFT regards it as a realistic prospect that DBAG may install Eurex Clearing as the post-merger CCP provider, thereby (i) raising rivals' costs and deterring entry at the trading level and (ii) allowing it to set clearing fees higher than they otherwise would have been had contestability not be eliminated.

Internalisation of netting and settlement functions

Third party concerns

83. Third parties argue that – analogous to DBAG's alleged internalisation of the CCP function at the expense of LCH and ultimately customers – the merger will enable DBAG to internalise netting, along with certain settlement functions performed by Crest. It would allegedly do so by diverting this business from Crest to its own settlement provider, Clearstream. Here, aside from the profit opportunities internalisation would bring, a strategic value of such a strategy is said to be raising rival's costs in another market – as Crest's parent, Euroclear, is Clearstream's principal competitor for cross-border settlement. The *Clearstream*

Article 82 (abuse of dominance) case decided by the European Commission against DBAG's subsidiary, is said to be precedent in this regard.[33]

84. From a regulatory perspective, it is not feasible simply to replace Crest in the way LCH could be 'replaced' as regards equities clearing. Crest, as the UK's CSD, is the sole securities registry and collector of UK stamp duty; like LCH, it also provides functions in relation to instruments other than equities.[34] Nonetheless, third parties allege that DBAG would effectively gain control of the proprietary information flow from the LSE, and so effectively take over the majority of Crest functions, i.e., interpose Clearstream between the clearing and settlement layers of the value chain. As a result, it would control the flow of trades into and out of Crest. In practice, it is said that users would have an account with Clearstream instead of Crest and Crest would have one client account with Clearstream. Settlement functions currently performed by Crest would be carried out across Clearstream's books, with only the netted down residual trades and net changes in the position of Clearstream recorded on Crest. (Netting functions in Germany are carried out by Eurex Clearing, not Clearstream.)

85. Third parties further contend that this gradual replacement would be facilitated by certain 'soft biases' from DBAG in favour of its vertically-integrated downstream players. For example, when Eurex Clearing makes system changes or upgrades its services, it could ensure that these changes are more compatible with the infrastructure of Clearstream than that of Crest and that the former has earlier notice of changes in order to make the necessary adaptations.

86. If Crest was replaced by Clearstream, third parties argue that:

- since Clearstream, like Eurex Clearing, is not constrained by corporate governance provisions which limit its ability and incentive to profit maximise, it would be likely to charge more for settlement

- a significant reduction in volumes put through Crest would result in diseconomies of scale for Crest and necessitate an increase in their fees for equities (to residual retail customers) and for settlement of other instruments, and

[33] Case COMP/38096, Commission decision of 2 June, 2004. Clearstream Frankfurt, the German national CSD, was found to have refused to supply, and applied discriminatory pricing toward, Euroclear, in relation to certain 'primary' settlement services in which it was found to be dominant. DBAG is appealing market definition in this case to the European Court of Justice, and also points out that no fine was imposed due to the novel nature of the issues in this sector.
[34] Crest settles bonds, and gilts, for example, while LCH also clears other instruments for other exchanges.

- with effective control over LSE trading volumes, there may be an incentive, as noted, for Clearstream to foreclose its rival Euroclear and other competing settlement agents in the cross-border settlement of UK equities.

DBAG's arguments

87. DBAG argues it has neither the ability nor incentive to internalise the activities currently undertaken by Crest. At the technical level, DBAG argues that it cannot simply replicate Crest's services, and that the costs of adapting its existing systems would be significant with no prospect of a profitable return. Furthermore, DBAG argues that there is a high level of customer satisfaction with Crest and a strong desire for its continuation and that the services provided by Crest are considered to be cost effective.[35] DBAG also points to the fact that it has extensive experience of working with other independent settlement providers (including Crest itself as regards Irish equities, for which DBAG provides trading infrastructure) and that discussions have already taken place with Crest in relation to continuing with its services in the event of a DBAG/LSE merger.

Conclusion

88. The OFT notes that the division of the CCP and netting functions in the UK (i.e., LCH outsources netting to Crest) is unlike that of certain other EU Member States; for example, in Germany, Eurex Clearing performs both CCP and netting functions.

89. In the OFT's view, in light of realistic foreclosure concerns by virtue of internalisation of the CCP function, these concerns may be exacerbated by internalisation of netting, the other post-trade function with substantial network externalities and thus potential to facilitate foreclosure of trading rivals. In short, if Eurex Clearing were installed as CCP for on-exchange equities trading in the UK, there is a realistic prospect that it would internalise the netting function also. Accordingly, this issue supplements the concern raised in relation to foreclosure effects at both the CCP and trading levels as a result of internalisation of the CCP function.

90. As regards the settlement functions proper undertaken by Crest, the OFT's assessment is as follows.

[35] Crest cut its headline netting fee by 67 per cent (announced on 17 February 2005).

- Responses from third parties, the parties and the FSA indicate that the alleged foreclosure strategy outlined above is technically feasible. However it is far from clear that such a strategy would both practically be feasible and/or that DBAG would have the incentive to do so.

- Overall, the concerns appear relatively speculative, given the number of steps involved, the likely customer resistance, and the regulatory consents and/or scrutiny that such conduct would entail.

- In conclusion, the Office does not believe that there is a realistic prospect of foreclosure effects as a result of DBAG's alleged post-merger internalisation of settlement functions currently performed by Crest.

DERIVATIVES

91. EDX's business is focused on Scandinavian equities, and the overlap with DBAG is marginal. The principal competitive dynamic in on-exchange derivatives trading in Europe appears to be between Eurex (DBAG's derivaties exchange) and LIFFE,[36] although the bulk of such trading is done bilaterally (OTC). Third parties did not raise material concerns in this regard. On the basis of the evidence received, and as substantiated by third party comment, the Office has no basis to believe that the merger will raise any material competition concerns in terms of the trading of derivatives in the UK.

INFORMATION SERVICES

92. Trading is largely reliant on the supply of market information upon which an investment decision can be based. Stock exchanges are active in collecting, processing and disseminating market information. This information is either proprietary (such as real time market data - prices, trading volumes of securities listed on the exchange) or non-proprietary (such as indices for sectors or exchanges, historical market share statistics on trading volumes and daily reports).

93. An exchange is a monopolist of its proprietary market information. Of necessity the available market data sets will vary as between exchanges. As such, information from other exchanges is complementary and cannot substitute for exchange-specific information. Therefore the supply of each exchange's proprietary market information constitutes a discrete product and geographic frame of reference.

94. Supply of non-proprietary information is likely to be part of a wider financial services data product frame of reference. Alternatively, there may be narrower

[36] See advice of the Director General of Fair Trading regarding *Euronext NV/LIFFE Holdings plc*, 13 December 2001.

product frames of reference for specific types of information such as the supply of index compilation services, or the supply of daily reports on listed companies. However, since the supply of non-proprietary information raises no competition concerns, it is not necessary to reach a definitive conclusion.

95. There is no overlap or competition for proprietary market information. Following a merger between DBAG and LSE, two separate exchanges will continue to exist and supply distinct information relating to trading that takes place on their respective platforms. This information is exclusive to each exchange and cannot be distributed by other exchanges.

96. Exchanges and businesses in which the exchanges have interests can in theory compete for the rights to compile an exchange's 'official' index (non-proprietary market information). Competition in this area, however, is not limited to European exchanges and includes specialised index providers.

97. Conglomerate concerns (relating to anticompetitive bundling of information services) raised by third parties appear speculative. In the absence of substantiating evidence (which has not been put to the OFT), the OFT does not believe there to be a realistic prospect that the merger will substantially lessen competition in the UK in relation to exchange-provided information services.

ASSESSMENT

98. DBAG's proposed bid is one of two competing offers to acquire the LSE; the other is from Euronext. The OFT has considered each proposed offer on its merits. This has necessitated consideration of the prospects for competition in listing, equities trading (on-exchange trading services, clearing and settlement), derivatives trading and information services. In respect of listing, derivatives trading and information services, the OFT has identified no evidence that the merger would substantially lessen competition. The focus of this decision has therefore been on equities trading.

99. Competition to provide on-exchange trading services for equities in the UK (and indeed elsewhere) can be best be described as episodic. Episodes that appear to have prompted a competitive response from an incumbent exchange are characterized by a sufficiently credible threat (e.g., because of a better technology offering, lower prices or customer support) that liquidity might switch from one trading platform to another. Recent competition in the Netherlands among DBAG, the LSE and Euronext is consistent with this conclusion. It may be the case that the prospect of such competition acts as a stimulus to LSE at present, or has the potential to do so in the future. The current importance of DBAG in this regard is uncertain and the potential threat from DBAG may not be unique. However, historic episodes of competition may not be a good guide to evolving competitive dynamics in this sector, so that the OFT considers that the evidence should be

assessed with caution. On balance and in light of all of the evidence, the OFT considers that the merger may eliminate important potential competition between the LSE and DBAG in respect of on-exchange trading of equities in the UK.

100. In relation to clearing, it may well be the case that DBAG's economic interest in lowering overall costs of trading to stimulate an expansion in equities trading, together with related corporate governance provisions, would outweigh any incentive to favour its own clearing capability, Eurex Clearing. However, the evidence is mixed: there is a substantial body of third-party concern; the arguments on incentives are difficult to unravel; and predictions as to the level of clearing fees with or without the merger are hard to make. In these circumstances, the OFT considers there to be a realistic prospect of a substantial lessening of competition in clearing. Further, the proposition that DBAG would have an incentive to foreclose access to clearing services to rival exchanges/trading platforms as a strategic barrier to entry at the equities trading level warrants further investigation.

101. Third party concerns in relation to settlement appear to the OFT to be largely speculative. While concerns regarding DBAG's incentive to internalise Crest's netting functions have some more grounding (for the reasons identified in relation to clearing above), concerns regarding the interpolation of Clearstream between the existing clearing and settlement levels are not considered to be realistic given the costs involved, the infrastructure re-organisation required, the customer cooperation needed, and the degree of regulatory oversight.

102. On balance and on the basis of the evidence available to it, the OFT believes that there is a realistic prospect that the anticipated merger would substantially lessen competition in the supply of on-exchange trading services for equities in the UK and in the supply of clearing services for such equity trades.

EXCEPTIONS TO THE DUTY TO REFER

Customer benefits

103. Since most exchanges run off a primarily fixed cost base, consolidation can be expected to generate major cost savings for the merging parties. The vast majority of these benefits are expected to arrive due to the reduction in technology costs that will ensue from the creation of a single trading platform.

104. DBAG has claimed that a merger between itself and the LSE would yield cost savings of around €75 million per year, and revenue synergies of €25 million per year.

105. The Office recognises that these efficiencies are more than plausible and notes that several third parties are not against consolidation *per se*. Certain third parties

recognised the benefits that might flow from consolidation of European stock exchanges. The OFT considers that the merger might be expected to realise certain cost-savings that would not otherwise be achieved. However, the fixed cost nature of the business means that it is speculative to what extent any of these cost savings would be passed on to customers (as is more likely in a merger which entails savings in marginal cost) and further that, if they are not passed on, consumers will have any means by which to discipline the absence of pass-on.

Undertakings in lieu of reference

106. DBAG has proposed various undertakings in lieu of reference, aiming to resolve competition concerns that the Office may have in relation to the merger. DBAG's offer may be summarised as follows.

- In relation to the supply of on-exchange trading services, DBAG has offered to undertake to: (a) cut trading fees by 10 per cent immediately; (b) maintain fees at these levels for at least five years; and (c) more generally, guarantee that trading fees will never exceed current nominal levels.

- In relation to clearing, DBAG has offered to undertake to keep the 50 per cent price reduction for the clearing guarantee function in place for the (unspecified) duration of the 'initial contract' (i.e., for the period immediately after LSE's users accept DBAG's offer in this regard). Further, DBAG has offered to maintain contestability of the clearing contract on a regular basis (say, every five years), to be implemented by an independent trustee to ensure that the tender is free and open. In the event that Eurex Clearing did become the provider of clearing guarantee services to the LSE, DBAG has offered to provide those services to another equities exchange on the same terms as are currently offered by LCH as regards cash equities traded on other UK equity exchanges.

- In relation to settlement (including netting), DBAG has offered to undertake not to internalise any of the functions currently provided by Crest.

107. Since the duty to refer is not enabled in relation to settlement, there is no need to consider DBAG's offer of undertakings in that connection.

108. As regards DBAG's offer of undertakings in regard to on-exchange trading services, the OFT is not confident that the undertakings are sufficient to resolve clearly the identified competition concerns. In a sector with generally declining fee levels, a price cap is unlikely to replicate the outcome of a competitive process: it will not exert the same continuous downwards pressure on prices that would result from rivalry – potential or otherwise.

109. In these circumstances, there is no need to express a definitive view on DBAG's offer of undertakings in respect of the provision of a clearing guarantee function.

DECISION

110. Consequently, the OFT believes that it is or may be the case that the merger may be expected to result in a substantial lessening of competition within a market or markets in the United Kingdom. For the reasons given, the undertakings proposed cannot be accepted in lieu of reference.

111. The merger is therefore referred to the Competition Commission under section 33(1) of the Act.